Overview of national strategies on noncommunicable disease and adolescent health in South-East Asia Region countries

JS Thakur1, Neena Raina2, Priya Karna2, Preeti Singh1, Gursimer Jeet1, Nidhi Jaswal1
1Department of Community Medicine, School of Public Health, Postgraduate Institute of Medical Education and Research, Chandigarh, 2Reproductive, Maternal, Newborn, Child and Adolescent Health Unit, WHO/SEARO, New Delhi, India

ABSTRACT
Research shows that risk factors for noncommunicable diseases (NCDs) are associated with behaviors that either begin or are reinforced during adolescence. Yet, focus on this age group in national NCDs policies globally or regionally in South-East Asia Region (SEAR) has not been adequately addressed. This overview of strategies to prevent NCDs among adolescents in SEAR countries provides a benchmark against which policy response can be assessed and strengthened. We reviewed all publically available documented strategies issued by governments in the 11 SEAR member countries of the World Health Organization on NCDs, published between January 1, 2002, and December 31, 2015. NCDs are currently a policy priority in many of the countries with school-based campaigns on healthy lifestyles; alcohol and tobacco-free environment and public ban on advertisements glamorizing unhealthy food among others. However, major challenges such as lack of specific focus on adolescents, lack of recognition of all major risk factors in national policies/programs, weak surveillance, availability of age disintegrated data, inefficient program management, low community awareness, and absence of multistakeholder policies persist. Of the countries reviewed, only 54.5% (6/11) proposed a policy that addressed all four of the main NCD risk factors - alcohol and tobacco use, physical inactivity, and obesity. This review demonstrates the disconnection between NCDs, adolescent health, and national policies.

Key Words: Adolescent health, noncommunicable diseases, World Health Organization South-East Asia Region countries

Introduction
Noncommunicable diseases (NCDs) accounted for 38 million people deaths of the 56 million deaths (68%) in 2012, of which more than 40% (16 million) were untimely and preventable.[1] Over half of these deaths are associated with behaviors that begin or are reinforced during adolescence.[2] Adolescent health is the outcome of interactions which occur in the prenatal and early childhood periods.[3] Specific biological, psychological and psychological changes along with puberty molded by social determinants of health determine the impact of risky and protective factors that ultimately affect health-related behaviors in adolescents.[4] Global trends indicate that NCD-related risk factors are on rise among young people, and they establish patterns of behaviors that persist throughout life and are often hard to change.[2] The World Health Organization (WHO) defines adolescents as the population in the second decade of life - 10–19 years.[3]

We have the epidemiological evidence establishing the linkages between inappropriate fetal nutrition, risky adolescent behavior patterns leading to adult incidence of chronic diseases, reiterating that risk factors persist through the life course, especially for adolescent girls. If adolescents are healthy, they can adequately use their skills and energy to become responsible citizens and contribute
optimally socially, economically, and politically.\textsuperscript{[2]} To accomplish this and interrupt the intergenerational cycle of NCDs, national strategies and political will focusing on adolescent health are imperative.

During 2011–2025, the expected cumulative economic losses due to the burden of NCDs under the current scenario in low- and middle-income countries like those in South-East Asia Region (SEAR) according to the WHO is estimated at US$ 7 trillion, and the annual cost of implementing a set of high-impact interventions to reduce the NCD burden worldwide is only US$ 11.2 billion.\textsuperscript{[1]} There are 1.2 billion adolescents (243 million of which are in India alone), which is 18% of the global population; this clearly suggests that targeting adolescents to prevent NCD is indeed a smart and necessary investment.\textsuperscript{[1]} Keeping these in mind, in 2013, the World Health Assembly adopted a comprehensive global monitoring framework with 25 indicators and 9 voluntary global targets for 2025 under the Global NCD Monitoring Framework of which 6 indicators are directly related to adolescents.\textsuperscript{[3]} This review assesses current strategies and identifies gaps needed for strengthening adolescent health services as a part of comprehensive approaches for prevention and control of NCDs. To achieve the global NCD targets, governments and international partners along with the WHO will need to work together, sharing and exchanging evidence and information, and taking necessary steps for reducing gaps in resources and capacity.

\section*{Methods}

The review on the status of NCD strategies and associated parameters addressing adolescent health was undertaken in 11 countries of the WHO-South-East Asia Region, namely, Bangladesh, Bhutan, DPR Korea, India, Indonesia, Maldives, Myanmar, Nepal, Sri Lanka, Timor–Leste, and Thailand. We searched the Internet using key words (“Adolescents” OR “Adolescence” OR “Youth” OR “Adolescent health” OR “NCD” OR “Chronic diseases” OR “Lifestyle Disease” OR “Physical inactivity” OR “Obesity” OR “Tobacco control” OR “Alcohol” OR “Smoking” OR “Nutrition” OR “NCD”) AND (“Policy” OR “Strategies” OR “Actions” OR “Guidelines” OR “Programme”) for all publicly available English national policies related to diet nutrition, NCDs, alcohol, tobacco, physical activity, and health. The search was limited to the 11 countries. We searched open access websites of national ministries involved in nutrition or NCD prevention (i.e., ministries of health, public health, sports, welfare, social affairs, education, or agriculture) and government portals. For those countries for where no public document was available or retrieved through the web search, an e-mail request with the study objective was sent to the respective governing body. A similar e-mail request was also sent to the WHO Regional Office and to one to two experts from each of the countries based on personal contacts and author affiliations. For those countries that we were unable to get information either through the web search or formal request, for that particular policy, we listed the country as ‘unable to assess related policies’. In addition to our online search, we used the policy database of the WHO MindBank to assess policy availability. Regional WHO publications were also included. The following inclusion criteria were used to catalog the policies/strategic/action plan/program/guidelines in the analysis:

i. Is from a SEAR country

ii. Is officially approved by the national government

iii. Is a publicly available document, published between January 1, 2002, and December 31, 2015, and

iv. Relates directly or indirectly to prevention of NCDs among adolescents

v. For the purpose of the present review, we used a broad definition for strategy such as “plan,” “policy,” “standard,” “guidelines,” and or “program,” and all national documents that included the national objectives action on diet and/or physical activity and/or alcohol and/or tobacco and/or adolescent health and/or prevention of NCDs were included.

\section*{Results}

Through our search, we found that policies or policy-related public documents for our topic were inconsistently available for all countries contrary to what has been mentioned in global reports. In comparison to the WHO reports, we were unable to assess the availability of policy documents of all countries. We found that direct policies for adolescents were available on each of the four domains that we examined sporadically:

- All 11 countries that had policies on alcohol use directly related to adolescents, especially on ban on consumption of alcohol in educational institutes and to minors
- Of the 8 countries that had direct policies on physical activity, but all had an advocacy or adolescent health promotion component
- Only 2 countries in SEAR have not ratified the WHO-Framework Convention on Tobacco Control (FCTC) on tobacco control
- Strategies on food/nutrition, overweight, and obesity were very varied with reference to adolescents with no clear national level policy directly addressing obesity.
Policies and provisions that protect adolescents from these harmful factors must be at core of national programs if we were to adequately address them. The findings are summarized in Table 1.

### Alcohol use

The harmful use of alcohol results in millions of deaths every year including young lives lost. It is not only a direct causal factor for diseases but also more dangerously acts as a precursor to injury and violence. Despite all having some form of ban/restriction on access to alcohol; only four countries: Bhutan,[6] Indonesia,[7] Sri Lanka,[7] and Thailand[8] have adopted a written policy on alcohol. All countries under SEAR have some policy for formulating, implementing, monitoring, and evaluating the use of alcoholic beverages. Countries such as Bangladesh[9]

### Table 1: Summary of key strategies against selected noncommunicable diseases risk factors among adolescents in 11 World Health Organization South-East Asia Region countries

| Countries | Alcohol | Physical Inactivity | Tobacco | Overweight and obesity | NCD policy |
|-----------|---------|---------------------|---------|------------------------|------------|
| Bangladesh | Awareness through school curriculum; life skill training of students; ban on consumption of alcohol in educational institutes; employment for substance dependent youth; ban on advertisements on alcoholic beverages | Advocacy for suitable environment for PA in school; health promotion in school and community; safe open spaces, parks for physical exercises and walk in urban areas | Ban on smoking in all educational institutes and their premises; antitobacco campaigns targeting adolescents in schools and community at large; on sales of tobacco products within 500 meters of schools; ban on sale to minors; ban on distribution of free sample of tobacco products to the minors and general public; ban on the sale of tobacco products in small packets; ban on the manufacture and sale of sweets, snacks, toys, toothpaste, tooth powder, or any other objects in the form of tobacco products; graphic health warnings on tobacco packs that cover at least 50% of each principal surface area; ban on misleading descriptors such as “light,” “mild,” and “low tar” | Raising awareness in schools; publish diets for different age groups; raising awareness on healthy lifestyle such as healthy eating habits among school children (leaflet publication, distribution, demonstration, etc.); school board cafeteria policies to ensure young people eat more nutritious food and less junk food | - |
| Bhutan | Prohibition of sale of alcohol in or near educational institutes; alcohol counselors in all training institutes; promoting awareness on harmful effects of alcohol; ban on advertisements on alcoholic beverages; prohibition of sale to minors | Promotion of PA in school; playgrounds in all schools; physical training and sports in school curriculum; life skills training; providing supportive environment in school; surveillance system to monitor environment and actively for school children; mass participation of children in school sports culture under School Sports Program; footpaths for people to walk | Ban on smoking in all educational institutes and their premises; supportive group sessions, and telephone counseling (Quit Line); developing teaching materials for the training institutes and schools; teaching prevention of tobacco abuse in schools through life skill education; regulation/notification on pictorial health warnings covering at least 30% of the principal display areas of packages of smoking and smokeless forms of tobacco products | Introducing healthy food items in school cafeterias; prohibition of junk food in school canteens; educating adolescents on importance of healthy food through life skills training; developing separate guidelines for educating teachers and parents on healthy eating; involving adolescents, teachers, and parents to develop healthy eating behavior by group efforts, for example, having healthy tiffin competition; engaging adolescents in translating healthy habits developed in schools to their homes and communities; dietary guidelines for all age groups; food labeling on packed food products | Establishment of guidelines to control marketing and advertisement of fatty foods, especially to children; increase tax on food items that are health-harming; restrict fast food licenses are under process |
| DPRK | Health propaganda on impact of heavy drinking on health; prohibition of sale to minors | Intensify health education on PA in schools; active dissemination of Taekwondo for health and rhythmic gymnastics among pupils | Awareness of the minor and students about the hazard of smoking | Food labeling; raising awareness on healthy dietary life at community level | - |

Contd..
| Countries   | Alcohol                                                                 | Physical Inactivity                                                                 | Tobacco                                                                 | Overweight and obesity                                           | NCD policy                                               |
|------------|-------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------|-------------------------------------------------------------------|-----------------------------------------------------------|
| India      | Ban on advertisements on alcoholic beverages; ban on consumption of alcohol in educational institutes; prohibition of employment to person (male under 25 years of age or any female) at any place where alcohol is consumed by public; prohibition of sale to minors | Increasing PA through promotion; creating a conducive environment at school; physical education as a part of school curriculum. A consensus group recently formulated India-specific physical activity guidelines | Increasing adolescents’ awareness of the adverse effects and consequences of tobacco use, life skill education. School interventions such as project MYTRI. Ban on smoking in all educational institutes and their premises; anti-tobacco campaigns targeting adolescents in schools and community; ban on sales of tobacco products within 100 meters of schools; ban on sale to minors; ban on distribution of free sample of tobacco products to the minors and general public | National Nutrition Guidelines publish diets for different age groups; guidelines for promoting wholesome and nutritious food and restricting/limiting the availability of foods high in fat, sugar and salt (HFSS foods) among school children have been formed. Additional guidelines on food safety, hygiene, and sanitation for food available in school canteens have also been prepared | -                                                         |
| Indonesia  | Ban on advertisements on alcoholic beverages; prohibition of sale to minors; ban on consumption of alcohol in educational institutes | Increasing PA through promotion; creating a conducive environment                   | -                                                                       | -                                                                | -                                                         |
| Maldives   | Total ban on sale, advertisement, promotion and sponsorship of alcohol; awareness program among adolescent; life skills training in school; carry out GSHS after every 5 years; prohibition of sale to minors | Physical education as a part of school curriculum; engaging students in PA; daily 30 min PA at schools; awareness activities for parents; organizing World Physical Activity Day (April 6) in schools; promoting walkability near schools and promoting bicycles to substitute motorbikes and cars; advocacy on sports by national sport celebrity; 5 yearly GSHS; raising awareness at community level by implementing BCC, massmedia national campaign and social marketing; free PA sessions by professional instructors in society grounds | Ban on smoking in all educational institutes and their premises; schools will develop specific programs to enhance life skills of students with special focus on prevention of tobacco; schools will ensure that school community is not exposed to second-hand smoke by strictly observing regulations on tobacco control in the school environment including canteens; de glamorizing and empowering for the avoidance of tobacco on social media | National dietary guidelines for all age groups; promotion of healthy food and food habits in schools and general population; ban on sale of unhealthy food in school canteens or brought into school by students or staff; school to regular monitor nutritional deficiencies in students; banning foods high in saturated fat, sugar, and salt from school premises and workplace catering facilities; banning on advertisement and sponsorships by companies selling unhealthy food; developing pricing and taxation of unhealthy food products; carrying out 5 yearly national school health surveys | Plans to introduce policies to reduce food marketing to children for nonalcoholic beverages and food high in saturated fatty acids, trans fat, high sugar or salt and decrease in advertisement of nonalcoholic beverages and food high in saturated fatty acids, trans fat, high sugar or salt decreased |
| Myanmar    | Ban on advertisements on alcoholic beverages; health promotion activities in community; prohibition of sale to minors | After school programs on PA; health education message on PA; enhancing capacity for HPS program; mass contact “Aerobic Camp” program for girls; awareness at village level by celebrity endorsed walks | Ban on smoking in all educational institutes; inclusion of topics on dangers of tobacco in the main curriculum of all basic education schools; prohibits sale of tobacco products within the school compound and within 100 feet from the compound of the school; prohibits sale by vending machine; prohibits sale of cigarettes in loose forms; health warning and labels on tobacco products; ongoing health promotion activities in the community; ban on sale to minors; prohibition of tobacco advertisement | Strengthening HPS programs; incorporating healthy diet as a key component of ongoing health promotion activities in communities | In process of adopt traffic light food labeling system and inhibit selling red segment foods and prohibiting irresponsible marketing of junk foods by giving away toys and other cheap incentives to children |

| Contd.. |
| Countries | Alcohol                                                                 | Physical Inactivity                       | Tobacco                                                                                           | Overweight and obesity                                                                 | NCD policy |
|-----------|-------------------------------------------------------------------------|-------------------------------------------|---------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------|
| Nepal     | Prohibition of sale to minors; ban on consumption of alcohol in educational institutes | -                                         | Educating adolescents in schools through curriculum or noncurriculum approaches; ban on sale and consumption of tobacco products in educational institutes. Smoking in public places was banned since 1992. Nepal ratified the WHO (WHO FCTC) following which Tobacco Products (Control and Regulatory) Act 2011 and its regulation was introduced | Conducting national school health surveys every 5 years to generate data on overweight and obesity | -          |
| Lanka     | Community involvement through alcohol free society; restriction of glamorizing alcohol use; training school children, adolescents 7 youth to resist the alcohol use pressure; health promotion among adolescents, parents 7 teachers; training at primary health care centers to prevent initiation of alcohol by adolescents and youth and screen and refer the alcohol-dependent individuals for counseling; prohibition of sale to minors; ban on consumption of alcohol in educational institutes | 20 min early morning exercise program at school; health promotion on PA in school clubs; “Move for health” program, distribution of education materials at adolescents/youth clubs or seminars; engaging primary health care workers to disseminate “engage in moderate PA for 30 min every day” at community level | Educating about ill health effects of smoking; Quitline services. NATA Act established | Dietary guidelines for all age groups have been prepared keeping in mind the overweight/obesity as well as malnutrition | -          |
| Thailand  | Controlling financial and physical availability of alcohol by 2 in 1 taxation method; prohibition of sale and consumption in educational institutes, recreational clubs; regular patrolling to monitor the implementation of bans; ban on sale of alcoholic beverages as free samples; prohibition of sale to minors; ban on consumption of alcohol in educational institutes | After school program with industrial estates and after school sports program with ministry of education; campaigns to promote PA at community level at large | Health education to adolescents; development of anti-smoking networks to increase awareness; ban on sale in educational institutes; ban on all kinds of tobacco advertisement; prohibition of sales of single sticks or small packs (< 20 sticks) or loosies; ban of importation of flavored/fruity cigarettes; ban on all misleading terms like “cool,” “ice,” “frost,” “crisp,” “fresh,” etc. | Carbonated beverage free schools; free of snacks school program; food guidelines on proper portions of cereals and other complex carbohydrates, fruits, vegetables, animal foods, legumes and pulses, sugar, salt, and fat; obesity management program in schools | Limited the advertisement periods of foods for children from television prime times for children and family (12 min/h); ban on selling a toy along with foods for children, and warning sign as “eat less, exercise more” is required on the label of the product classified as unhealthy | -          |
| Timor-Leste | Alcohol-free schools; ban on advertisement, promotion, and sponsorship on alcohol; prohibition of sale to minors; ban on consumption of alcohol in educational institutes | School health committees and PTA to raise awareness and promote PA at schools; increase availability of public space for PA; health promotion through mass medias | Prohibit sale of tobacco to and by minors | Nutrition education for students and parents; annual nutrition assessment of children; considers provision of fruits and vegetables in School Lunch Program | -          |

NATA - National Authority on Tobacco and Alcohol, FCTC - Framework Convention on Tobacco Control, HFSS - High in fat, sugar and salt, EHO - World Health Organization, NCD - Noncommunicable diseases, PA - Physical activity, HPS - Health promoting school, BCC - Behavior change communication, GSHS - Global school-based student health survey, WHO - World Health Organization, FCTC - Framework Convention on Tobacco Control
and Maldives have a total ban on sale, advertisement, promotion, and sponsorship of alcohol. Sri Lanka has a unique model of training primary health-care workers to prevent adolescents/youth to initiate alcohol use and screen and refer alcohol-dependent individuals to counselors. Thailand has proposed to implement pictorial health warnings on manufactured or imported alcohol beverages. Timor-Leste is the only country with no ban of any means of advertisement on alcoholic beverages.

The common strategies to reduce the harmful use of alcohol are:

- Regulating marketing (on television, radio, print media, cinema, billboards, on point of sale, internet, or social media) of alcoholic beverages, for example, advertising alcoholic beverages is banned in India as per the Cable Television Network (Regulation) Amendment Bill effective September 8, 2000.
- Making educational institutes alcohol free
- Restricting availability of alcohol to adolescents by prohibition of sale of alcohol to minors (minimum 18 years) in Bhutan, whereas the legal age for drinking in Myanmar, Nepal, Sri Lanka, and Indonesia is 21 years
- India being diverse has state-specific legislative policies on sale and service related to alcohol
- Reducing demand through taxation and pricing mechanisms
- Raising awareness on harmful health impacts caused by the use of alcohol among adolescents, parents, and teachers
- Providing accessible and affordable counseling and treatment for alcohol-use disorders, and implementing screening and brief interventions programs for hazardous and harmful drinking in health services.

Recognizing the rising public health burden of disease and injury-related alcohol use among its people, the SEAR member countries adopted resolution SEA/RC54/R2, in 2001, to enhance the development of national policies and programs on Mental Health and Substance Abuse including Alcohol. Two policy documents associated with the same came out of the WHO in 2004 on the global evaluation of alcohol consumption patterns and national alcohol control policies that contained information from countries of the Region. In May 2005, the 58th World Health Assembly reviewed the global situation and adopted a resolution WHA58.26 which covered the public health problems caused by harmful use of alcohol.

Physical activity

The national policies/guidelines/action plan on physical activity which enumerates examples of moderate and vigorous-intensity aerobic and muscle- and bone-strengthening activities for children, adolescents, and young people is not available in almost all countries. Awareness on benefits of regular physical activity through school curriculum is the main strategy around promoting physical activity in policies in the SEAR. Adolescents’ education and sensitization through comprehensive life skills-based education on improving health and well-being, provision of safe, and supportive environment for adolescents promote a practice of physical activity in institutes are other common strategies adopted by majority of the countries. Countries such as Bangladesh, Bhutan, DPR, India, Maldives, Myanmar, Sri Lanka, and Timor-Leste targeted educational institutions as well as communities to address the burden of physical inactivity among adolescents, others, such as Indonesia and Thailand targeted the community. Some specific references to more specific nongovernmental policy/strategy related to physical activity in SEAR were:

- SEANET-NCD (SEAR Network for NCD Prevention and Control) was set up in October 2005: Currently, the network has been formalized, and the regional plan for implementation has been finalized for ministry review in SEAR countries
- National implementation workshops for ministries for NCD and adolescent health policy development was held in India and Nepal; Sri Lanka to hold a workshop soon. Indonesia is also developing a Plan of Action on the same
- Community-based Intervention Projects in Bangladesh, India, Indonesia, Sri Lanka, and Thailand.

Strategies such as physical education in curriculum, availability of a playground, 20–30 min of physical activity period, and awareness activities for parents were the main health promotion strategies planned by countries at school level. Only one country, Maldives, proposed national policy targets for physical activity. Two countries’ policy documents Bangladesh and Bhutan contained detailed actions and elaborated an implementation plan for multiple stakeholders. The need to develop satisfactory sports infrastructure and urban planning (e.g. bicycle lanes and recreational centers) was featured in policy documents of Bangladesh, Bhutan, Maldives, and Timor-Leste. While all countries plan to work on physical activity through government sector, India documented explicit actions around involving the private sector in the
Overweight/obesity

According to the WHO, people body mass indexes (BMIs) of 25.0 kg/m² to 29.9 kg/m² are overweight, and BMIs of 30.0 kg/m² and more are considered as obese. Nationwide, obesity has nearly doubled since 1980, many low- and middle-income countries like those in SEAR countries are now facing a “double burden” of disease, whereas they continue to deal with the problems of infectious disease and under-nutrition, and they are experiencing rapid upsurge in NCD risk factors such as obesity and overweight, particularly in urban settings and among adolescents. National nutrition programs in all SEAR countries have historically focused mainly on the problem of undernutrition. However, over the last decade, countries have introduced strategies to address the risk of overnutrition and unhealthy lifestyle, with strategies targeting the general public and consumers via public education and awareness creation. There was, however, no clear pattern of insufficient physical activity among schoolgoing adolescents across income groups in SEAR countries.

The use of dietary guidelines and food labeling were specifically mentioned as means of public education. The objective of increasing fruit and vegetable consumption was also addressed through school and public education and demonstrations to the same. Thailand was one country which proposed research on problems associated with obesity at individual level, for example, growth, development, and potential occurrence of disease and at population and society level, for example, economic and social loss. Thailand also mentioned specific national fat intake targets. School gardening was another strategy by Bhutan to promote healthy eating habits among children and adolescents. Bangladesh proposed the development of special diet books in this regard. Other strategies, as found in Sri Lanka, for instance, targeted the catering services in educational and government institutions to ensure strict inclusion of fruits and vegetables in the meals. Policy measures outlining responsibilities for the private sector were less frequently encountered than those detailing actions to be implemented by the government or targeting the general public. According to the Global Burden of Disease Study 2013, North Korea has the world’s lowest prevalence of overweight and obesity among boys and girls (age < 20 years) at 1.0%.

Most of the work on regulating the marketing of food and nonalcoholic beverages in SEAR countries is under process. Only one country Thailand has policy to regulate commercialization of unhealthy food. These policies which are in place in other developed countries regulate advertising and marketing of junk food, limiting the advertisement periods of foods for children from television prime times for children and family, and ban on sale of toys with foods for children. There is evidence that illustrates potential benefits for, for example, a sugar-sweetened beverage (SSB) tax could help mitigate the rise in obesity and Type 2 diabetes rates in India among both urban and rural populations, according to a study published by Sanjay Basu et al. “It estimated that a 20% SSB tax across India could avert 11.2 million cases of overweight/obesity and 400,000 cases of Type 2 diabetes between 2014 and 2023, based on the current rate of increases in SSB sales, but if SSB sales were to increase more steeply than the current rate, as predicted by drinks industry marketing models, the researchers estimate that the tax would avert 15.8 million cases of overweight/obesity and 600,000 cases of diabetes.”

Tobacco

Nearly, 1 million tobacco-related deaths have occurred in the region in the last decade alone, with India and Indonesia are among the top ten tobacco-consuming countries in the world. Even though cancers, respiratory diseases, and other similar complications are already major health problems in most member countries of the region, research shows that tobacco use accelerates them. The WHO FCTC is the first legally binding international treaty to reduce harm due to tobacco. All countries, except Indonesia and DPR Korea, have ratified the WHO FCTC and are implementing the various elements of MPOWER, a package of effective tobacco control policies. Tobacco legislation is available in all SEAR countries (except Indonesia). Countries have adopted strategies such as ban on advertisement (except North Korea, Indonesia, and Timor-Leste), cigarette pricing policy, adolescent smoking prevention policy, support for smoking cessation therapy, smoking prohibition in educational institutes and public spaces, career incentives, economic incentives, sale prohibition in and near educational institutes (except Timor-Leste), health warnings on tobacco products, and ban on misleading words like “low tar,” “light,” “ultra-light,” or “mild.” Myanmar and Timor-Leste are two countries which have textual health warning on the tobacco products. Countries such as Bangladesh, India, Indonesia, Maldives, Nepal, Sri Lanka, and Thailand have both textual as well as pictorial warning on tobacco products package as well as rotated the health warnings on packages. Mandatory quitline number on packaging is provided only by Thailand. Only...
From our review, we have found that there are very few policies that directly address NCDs and among them, there are even fewer policies comprehensively plan to tackle NCDs through integrated action on risk factors despite the global commitment to address the burden of NCDs. Our results show that most SEARS are averagely prepared to tackle the rising burden of behavioral risk factors for NCD among adolescents. Another important concern is that national documents are not easily accessible. Additional platforms such as an open-access, global repository of initiatives, and policies at the level of WHO SEAR to address NCDs would be a useful initiative toward shared accountability in the global fight against NCDs an issue that is long overdue. Connecting such a policy database to surveillance data on main NCD risk factors, could enable monitoring and facilitate adequate progress in the coming years.

We found that community participation is mostly ignored; prevention underutilized and underemphasized. Parents and adolescents are often not aware of national programs and provisions on adolescent health. Furthermore, population-based surveillance system and registries covering entire adolescent age group for major NCD-related risk factors are not present; and no repository of NCD-related data in the present national health system. There is limited research done on various NCD risk factors among adolescents, especially in SEAR.

Legislation that bans promotion of risk factors (e.g., smoking) is enforced, but there are no resources to monitor its compliance; this is partly because of the lack of strong leadership and commitment to lead concerted action involving various stakeholders; national documents lack clear guidance for action plan to address individual risk factors to prevent NCDs in general and among adolescents; ways of adaptabilities to keep pace with changing market technology, knowledge, social, political, and environment conditions are insufficient; strategies give the general importance of the issue of rising burden; however, the burden is not considered in terms of equity or fairness; community support during document development was missing which may lead to community nonacceptance. Priority setting and clear expression on roles of stakeholders are another key issues. There is a lack of implementation because of vague coordination, monitoring, and evaluation guidance makes them somewhat ineffective for actual implementation.

In the present analysis, level of detail and outlining of organization of policy actions to undertake was discouraging. Only a few countries cover description of policy actions and included a budget, implementation plan, time frame, and devolvement of responsibility for strategies to combat specific risk factors in their policies. Various policies reviewed describe strategies and actions for NCD prevention using generic statements such as “development of food-based dietary guidelines” or “establishment of fiscal measures for a healthy diet” or “create awareness of healthy eating lifestyle to control NCDs.” Such general statements are not informative, and clear actions with responsible stakeholder need to be outlined in policies to mobilize stakeholders for effective action. However, before engaging with private sector, government agencies should be aware of the need to manage potential conflicts of interest between government and private sector and should try to address these by defining clear roles, responsibilities, and targets to be achieved as a result of their collaboration.

Most strategies encountered in the policies were directed toward government agencies and consumers, and few were targeted at the business community.
international agencies, or civil society. The United Nations Political Declaration on NCDs makes a strong call for multistakeholder partnerships to be leveraged for effective prevention of NCDs.[41-43] Parents are potential stakeholders for adolescent health, and only minority of the countries covers them under their policies.

Studies have shown that habits such as alcohol drinking and eating unhealthy food among adolescents are developed at home. Strategies to increase fruit and vegetable intake are the most common dietary action for NCD prevention due to early uptake of this strategy primarily to address existing micronutrient deficiencies such as Vitamin A deficiency and anemia.[44] Policy measures to achieve better results will require active engagement with a wider range of stakeholders and intersectoral coordination, in particular with education, health, sports, food industry, retail, mass media, film industry, and the catering sector. Most strategies encountered in policy documents focused on consumers and aimed to prevent NCDs through awareness creation, education (i.e., labeling), or changing individuals’ behavior. School-based interventions and settings-based approach in health promotion, especially school settings are crucial for effective coverage. The traditional approach to addressing lifestyle changes in individuals has met with very limited success. It is widely accepted that the environmental context drives individual diets and lifestyle[41] and that programs need to incorporate environmental determinants (i.e., the quantity, quality, or price of healthy choices, or the built environment for physical activity, or legislatives measures such as ban on alcohol, tobacco, high-calorie drink, or enforcing tax) to be effective. Such policy measures, in particular, those addressing the private sector, were poorly elaborated.

Although an in-depth evaluation of actual implementation, monitoring framework, effects, and resources allocated has not been opportune to date, we hope that our findings provide baseline data and encourage countries to develop monitoring and evaluation mechanisms to assess policy response in due time. National multisectoral action plan for NCDs should clearly address adolescents to have desired results. Overall institutional mechanism should be established with nodal agency to ensure that multisectoral actions of all other departments and ministries related to NCD prevention and control are reported and monitored at regular intervals so that ministries can review and monitor their policies for effectiveness. Documenting the effectiveness of population-based NCD prevention policies, strategies, and activities including school-based interventions will be a critical factor for evidence generation to ensure effective action in SEAR.

Limitations
Although the review tried to capture local or regional activities or initiatives that emerged after the publication of the policies, the major focus was restricted to only national policies. The mere presence or absence of policies or strategies for NCDs in a policy document does not necessarily reflect concrete action in implementation. The findings from a survey in countries with a high burden of NCDs, such as Thailand, illustrate this discrepancy.[39] In addition, it is important to point out that we extracted only actions that explicitly referred to one of the risk factors analyzed.

Moreover, adolescents in the age group of 10–14 years and 15–19 years are quite different and thus have a different need.[4] The policy makers should account for difference in needs of age groups within adolescent age group and equity differentials in the country while developing policies. Countries should have a parenting guide covering two age groups of adolescents. The present review shows that the policy response to address current NCD challenges in SEAR countries is in process. Countries have developed integrated policies that address various risk factors for NCD prevention through multistakeholder collaboration, and intersectoral involvement is yet to be clearly established. Implementation research with clear and prioritized actions is needed to harness the NCD epidemic among adolescent age groups. Documentation of evidence of such actions in policy documents is crucial to promote engagement of stakeholders, and replication of models in the fight against the burden of NCDs in adolescents in most of the countries. The establishment of an open-access and publicly accessible database of adolescent health-related policy documents and actions will be critical in this regard.

Conclusion
High-level commitment is required from all countries to address and reverse the increasing burden of NCDs among adolescents in the region. Key priority for tackling the NCDs in the age group of 10–19 years includes reducing risk factors for NCDs through multisectoral actions; strengthening surveillance system to map the risk, burden, and national responses, promoting life course approach; integrating component of NCDs in ongoing adolescent health programs; integrating strategies on adolescent in National NCD programs, and integrating NCDs into the
primary health-care system as a step toward universal health coverage and the same should be covered in every country’s policy. The paper can serve as a background document for reviewing, developing, and strengthening adolescent policies and strategies in SEAR countries.

Acknowledgment
Authors acknowledge the technical support provided by the WHO SEARO all technical experts who contributed to completion of the review.

Financial support and sponsorship
The study was supported by WHO SEARO, New Delhi, India.

Conflicts of interest
There are no conflicts of interest.

References

1. World Health Organization. WHO Global Status Report on Noncommunicable Diseases. Geneva, Switzerland: World Health Organization; 2014.
2. WHO. The World Health Report 2002: Reducing Risks, Promoting Healthy Life. Geneva: World Health Organization; 2002.
3. Resnick MD, Catalano RF, Sawyer SM, Viner R, Patton GC. Seizing the opportunities of adolescent health. Lancet 2012;379:1564-7.
4. Blum RW, Bastos FL, Kabiru CW, Le LC. Adolescent health in the 21st century. Lancet 2012;379:1567-68.
5. World Health Organization. WHO Global monitoring framework Draft comprehensive global monitoring framework and targets for the prevention and control of NCDs. Geneva, Switzerland: World Health Organization; 2011.
6. The Royal Government of Bhutan. The National Policy and Strategic Framework to Reduce Harmful Use of Alcohol 2013-2018. Bhutan; 2011.
7. World Health Organization. WHO Global Status Report on Alcohol and Health. Switzerland: World Health Organization; 2014.
8. Thai Health Promotion Foundation. 60 Outstanding Performances 2001-2009. Bangkok: Thai Health Promotion Foundation; 2012.
9. Bangladesh Ministry of Health and Family Welfare. Strategic Plan for Surveillance and Prevention of Non Communicable Diseases in Bangladesh 2011-2015. Dhaka: Bangladesh Ministry of Health and Family Welfare; 2011.
10. Republic of Maldives Ministry of Health. Multi-sectoral Action Plan for the Prevention and Control of Non communicable Diseases in Maldives (2014-2020). Maldives: Republic of Maldives Ministry of Health; 2014.
11. WHO. Global Status Report: Alcohol Policy. Geneva: WHO; 2004.
12. Timor Leste Ministry of Health. Draft National Strategic Plan for School Health 2014-2018; 2014.
13. Lalwani S, Dogra TD. Legal aspects of drug abuse in India. In: Lal R, editor. Substance Use Disorder: A Manual for Physicians. New Delhi: National Drug Dependence Treatment Center, All India Institute of Medical Sciences; 2005. p. 181-9.
14. Dhital R. Alcohol and young people in Nepal. The Globe Special Issue 4. Globe Alcohol Policy Alliance, 2001-2002.
15. Bhutan Ministry of Health. The Physical Activity Guidelines. Thimpu: Bhutan Ministry of Health; 2011.
16. Democratic People’s Republic of Korea. Ministry of Public Health. Strategic Plan for Prevention and Control of Non communicable Diseases (2011-2015); 2010.
17. Misra A, Chowbey P, Makkar BM, Vikram NK, Wasir JS, Chadha D, et al. Consensus statement for diagnosis of obesity, abdominal obesity and the metabolic syndrome for Asian Indians and recommendations for physical activity, medical and surgical management. J Assoc Physicians India 2009;57:163-70.
18. Republic of Maldives. Ministry of Health and Quality of Life. National Action Plan on Physical Activity 2011-2014; 2009.
19. Government of Sri Lanka. Food Based Dietary guidelines for Sri Lankans. Nutrition Division Ministry of Health; 2011.
20. Indonesia National Development Planning Board. National Action Plan for Food and Nutrition 2006-2010; 2005.
21. Thai Health Promotion Foundation. Thai Health Annual Report-2009. Bangkok: Thai Health Promotion Foundation, 2010.
22. Government of India. Planning Commission. Eleventh Five Year Plan: 2007-2012. Social Sector. Vol. II. New Delhi: Oxford University Press; 2008. p. 237.
23. Cheong WS. Overweight and Obesity in Asia. GenRe 2014.
24. Basu S, Vellakklal S, Agrawal S, Stuckler D, Popkin B, Ebrahim S. Averting obesity and type 2 diabetes in India through sugar-sweetened beverage taxation: An economic-epidemiologic modeling study. PLoS Med 2014;11:e1001582.
25. Bhutan Ministry of Health. National Adolescent Health Strategic Plan 2013-2018. 2013.
26. Planning Wing, Ministry of Health and Family Welfare. Health Population and Nutrition Sector Development Program. Operational Plan for “NATIONAL NUTRITION SERVICES” 2011–2016. 2010.
27. Ng M, Fleming T, Robinson M, Thomson B, Graetz N, Margono C, et al. Global, regional, and national prevalence of overweight and obesity in children and adults during 1980-2013: A systematic analysis for the Global Burden of Disease Study 2013. Lancet 2014;384:766-81.
28. World Health Organization. WHO Report on the Global Tobacco Epidemic. Geneva: World Health Organization; 2015.
29. Aditama TY, Pradono J, Rahman K, Warren CW, Jones NR, Asma S, et al. Linking Global Youth Tobacco Survey (GYTS) data to the WHO Framework Convention on Tobacco Control: The case for Indonesia. Prev Med 2008;47 Suppl 1:S11-4.
30. Myanmar Ministry of Health. Brief Profile on Tobacco Control in Myanmar; 2009.
31. Democratic Republic of Timor-Leste. Health Warning Labels and Tax Control of Manufactured Tobacco Products. 2006.
32. McKay AJ, Patel RK, Majeed A. Strategies for tobacco control in India: A systematic review. PLoS One 2015;10:e0122610.
33. Government of Nepal. Multi-sectoral Action plan for the Prevention and Control of Non Communicable Diseases: 2014-2020. Nepal; 2013.
34. De Silva WD, Sinha DN, Kahandawaliyangag A. An assessment of the effectiveness of tobacco control measures on behavior changes related to tobacco use among adolescents and young adults in a district in Sri Lanka. Indian J Cancer 2012;49:438-42.
35. Thailand. The National Committee for Tobacco Consumption Control. National Strategic Plan 2010-2014.
36. Srihar D, Brolan CE, Durrani S, Edge J, Gostin LO, Hill P, et al. Recent shifts in global governance: Implications for the response to non-communicable diseases. PLoS Med 2013;10:e1001487.
37. Frenk J. Strengthening health systems to promote security. Lancet 2009;373:2181-2.
38. Beaghehole R, Bonita R, Alleyne G, Horton R, Li L, Lincoln P, et al. UN High-level meeting on non-communicable diseases: Addressing four questions. Lancet 2011;378:449-55.
39. Alwan A, Maclean DR, Riley LM, d’Espaignet ET, Mathers CD, Stevens GA, et al. Monitoring and surveillance of chronic non-communicable diseases: Progress and capacity in high-burden countries. Lancet 2010;376:1861-8.
40. Swinburn B, Egger G, Raza F. Dissecting obesogenic environments: The development and application of a framework for identifying and prioritizing environmental interventions for obesity. Prev Med 1999;29 (6 Pt 1):563-70.

41. General Assembly of the United Nations. The Universal Declaration of Human Rights. Palais de Chaillot, Paris; 10 December, 1948. Available from: http://www.un.org/en/documents/udhr/ [Last accessed 2009 Jul 23].

42. General Assembly of the United Nations. The International Covenant on Economic, Social and Cultural Rights. New York, USA. Available from: http://www.2.ohchr.org/english/law/cescr.htm. [Last accessed on 1966 Dec 16].

43. World Bank. 1993. World Development Report 1993: Investing in Health. New York: Oxford University Press. © World Bank. https://openknowledge.worldbank.org/handle/10986/5976 License: CC BY 3.0 IGO.

44. Lachat C, Otchere S, Roberfroid D, Abdulai A, Seret FM, Milesevic I, et al. Diet and physical activity for the prevention of noncommunicable diseases in low- and middle-income countries: A systematic policy review. PLoS Med 2013;10:e1001465.