

Home, school, and retail food environments driving obesity among adolescent girls in South Asia

Urgent action is required to tackle the rising prevalence of overweight and obesity among adolescent girls in South Asia by improving food environments and countering the influence of powerful commercial organisations, argue **Kathryn Backholer and colleagues**

Across South Asia (Afghanistan, Bangladesh, Bhutan, India, Maldives, Myanmar, Nepal, Pakistan, and Sri Lanka) the prevalence of overweight and obesity among adolescent girls is rapidly increasing, particularly for those living in urban areas or belonging to a family of relatively high socioeconomic status.¹ According to data from the Non-Communicable Disease Risk Factor Collaboration, between 2000 and 2022, the number of overweight adolescent girls increased in South Asia by 7.65% a year, while the number of underweight adolescent girls decreased by 19% a year.¹ Adolescence is a critical period for establishing lifelong healthy dietary practices and a time when interactions with the food environment become more common, owing to increasing autonomy and responsibility with food choices.² This is especially true for adolescent girls, whose nutritional

needs are heightened, as discussed in another article in this collection on adolescent girls' nutrition in South Asia,³ and who often have an important role in family food preparation.⁴

Food environments—the point at which consumers make decisions about acquiring, preparing, and consuming food—have undergone a rapid transition across South Asia in recent years. Globalisation and urbanisation are bringing transnational food companies into the region, resulting in the proliferation of highly processed foods that are readily available, affordable, and heavily promoted.² These food environments at home, school, and in retail are negatively affecting food choices for too many adolescent girls in South Asia.²

How powerful commercial organisations drive food environments

The expansion of transnational food and beverage corporations into emerging South Asian markets manifests in food environments that promote the availability, affordability, and attractiveness of high calorie, processed foods.⁵ These corporations, which predominantly manufacture and sell unhealthy processed foods, often expand into lower and middle income countries through a combination of widespread manufacturing efforts, expansive supply chains and distribution networks, and increasingly pervasive marketing campaigns, commonly targeted at children and adolescents.⁵ For example, purchasing local beverage manufacturers gave the Coca-Cola Company a foothold in India from which they then expanded, accompanied by aggressive political lobbying and marketing activities.⁶ Marketing strategies by large food and beverage companies in India reinforce gender biases by portraying mothers in stereotypical, domesticated homemaker roles, with little representation of mothers

working outside the home, and as primary approvers of food choices.⁷ These marketing activities that reinforce gender norms can limit employment opportunities for adolescent girls and undermine their autonomy in making food choices, leading to suboptimal nutritional outcomes.⁸ Other marketing campaigns have specifically targeted adolescent girls with the intention of influencing their consumption. For example, Cadbury promoted their brand and chocolate through the #GoodLuckGirl marketing campaign in India in 2021 to “address gender inequality in cricket,” which reportedly reached more than 100 million viewers.⁹

The power and influence of these large, local, and transnational food and beverage corporations in South Asia, combined with other external pressures, are shaping home, school, and retail food environments, as described below.

Home food environments

Despite dietary shifts towards greater consumption of takeaway and restaurant meals, most food in South Asia is still eaten at home.¹⁰ Therefore, the types of foods and beverages available at home, social norms pertaining to eating at home, as well as what is accessible within a close distance from home all influence what is eaten. This is especially true for adolescent girls, who are often responsible for preparing household meals yet often eat last, particularly in times of severe food insecurity or when they are living in their marital home.⁴

The food and beverage industry has great influence over home food environments in South Asia. For example, marketing techniques by the food and beverage industry, whether on pre-packaged foods, on television, in magazines and newspapers, or through digital devices, is increasingly infiltrating adolescent lives, including when they are at home. In India, in 2017, across 900 food and beverage advertisements on children's television

KEY MESSAGES

- The prevalence of overweight and obesity among adolescent girls in South Asia is low, but it is increasing rapidly across all countries in the region
- Data describing food environments across the region are patchy and inconsistently reported
- Where data do exist, they show that food environments in the home, school, and retail commonly promote highly processed foods, high in salt and sugar or fat, or both; this is largely driven by large transnational food corporations
- To support the health and nutrition of adolescent girls in South Asia, governments must act to counter the influence of powerful commercial actors to improve food environments and protect food and nutrition policy processes

channels, 120 in magazines, and 180 in newspapers, 90% were for unhealthy foods and beverages high in fat, salt, and sugar.¹¹ Access to digital devices creates new opportunities for targeted and personalised food marketing messages; however, across the region girls' access to digital devices is much lower compared with boys, so this may be less influential for girls than boys. Nevertheless, the influence of unhealthy digital marketing should be addressed for children of all ages and genders.¹²

International published work shows that unhealthy food marketing builds brand awareness, shapes food preferences and norms, and increases intake of highly processed, unhealthy foods and beverages.¹³ As outlined above, these advertisements perpetuate gender norms and stereotypes.⁷ In the home, this reinforces adolescent girls' responsibility for domestic work and family food decisions, potentially reducing opportunities for employment and education, which are key determinants of good nutrition. There is some international evidence that adolescent girls are aware of this gendered marketing, but awareness is unlikely to negate their susceptibility.¹⁴

Home food environments are also heavily influenced by social, economic, and environmental conditions, with disproportionate impacts for adolescent girls, who often already receive a lower disproportionate share of household food allocation.⁴ Household food insecurity in South Asia increased from 27.7% in 2015 to 40.3% in 2022.¹⁵ Covid-19 related lockdowns across South Asia are likely to have contributed to this rise through reduced agricultural output and increased prices of staple foods.¹⁶ Climate change exacerbates food insecurity through increases in global temperatures and the frequency of natural disasters.¹⁶ In South Asia, rising global temperatures could reduce annual wheat and rice production by up to 50% and 40%, respectively.¹⁶ India and Pakistan have had droughts at least once every three years over the past four decades, affecting over 35% of the agricultural area.¹⁶ While food insecurity and prices rise, the food and beverage industries maintain the availability and affordability of unhealthy processed foods.^{5,16} As a result, adolescent girls, who are often responsible for sourcing and preparing home meals, may increasingly rely on these products to feed themselves and their families.

School food environments

Most adolescent girls spend a considerable portion of their time in school.¹⁷ In 2022, 71% of adolescent girls were enrolled in school across South Asia, ranging from 41% in Afghanistan to 95% in Bhutan.¹⁷ The school food environment therefore has great potential to influence adolescent girls' diets. Schools have been a critical setting to tackle undernutrition across South Asia, with many countries having implemented school meals or school snack programmes, or both, to ensure that children, particularly those living with socioeconomic disadvantage, receive appropriate calorie and nutrition intake and to encourage school attendance.^{18,19} However, foods available as part of these school meal or snack programmes or within school canteens or cafeterias are often not subjected to nutritional standards or guidelines. It is not surprising that some studies across South Asia have shown these foods to be high in fat, salt, and sugar.²⁰

In addition to school meal programmes, many schools across South Asia sell foods in canteens or cafeterias, though foods available for sale in these outlets are often unhealthy. A study conducted in 2019 in the National Capital Region of India revealed that foods and beverages high in fat, salt, or sugar are often more available, affordable, and promoted in and near schools compared with healthier alternatives.²¹ One in five respondents to a recent (2023) survey of adolescent girls and boys across South Asia reported that unhealthy foods and drinks were available at their school and that unhealthy food brands and logos were visible within the school grounds.²² In Sri Lanka, school staff identified food outlets located near schools as a barrier to adolescents consuming a healthy diet.²³ Similarly, in Bhutan schools have been reported to sell unhealthy foods and beverages on campus.²⁴ This is despite some (albeit limited) regulations that prohibit the sale of unhealthy foods within school premises in Bhutan, India, Maldives, Nepal, and Sri Lanka.^{18,22,25}

Nutrition education is a relatively strong component of health education within the school curriculum across South Asia.¹⁹ However, given the heightened and unique nutritional requirements of adolescent girls, a greater focus on nutrition education that incorporates the distinct needs of growing adolescent girls would be a considerable improvement.²⁶

Retail food environments

Adolescent girls in South Asia often source food for their communities and families from both formal and informal retail environments.⁴ As such, the types of foods and beverages available in these retail environments have a major influence on their diets.

"Supermarketisation," the rapidly increasing presence and power of supermarkets and convenience stores, is widespread across South Asia.⁵ Growth in per capita modern grocery retail sales is estimated at 10.5%, 10.8%, 11.8%, and 15.9% per annum in Bangladesh, India, Pakistan, and Sri Lanka, respectively.¹⁰ Modern food retail outlets often stock imported unhealthy foods and beverages and engage in marketing strategies that target children and adolescents.²⁷ Sales of pre-packaged foods, including sugar sweetened beverages, sweet and salty snacks, and confectionary, have all been increasing across South Asian countries,¹⁰ highlighting the ready availability and popularity of these products. At the same time, 41% and 28% of adolescent girls in South Asia are reported to consume less than one serving of fruit and vegetables a day, respectively, whereas 100% and 94% consume salty snacks and soft drinks at least once a day.²⁸ The unavailability of fresh produce compared with the ready availability of unhealthy foods may partly contribute to this. For example, in the National Capital Region of India, just 13.3% of food establishments are reported to sell fruits and vegetables, compared with 53.3% selling unhealthy foods.²⁹

Informal retail outlets, such as street food vending, remain an important source of food throughout South Asia, particularly for low income households, as the products purchased here tend to be cheap and the outlets are widespread.³⁰ While some traditional foods sold from these retail outlets are healthy, many foods and drinks for sale are high in sugar, fat, and salt.^{30,31} Street stalls in rural areas and urban slums in India sell foods with a high content of saturated fats or trans fatty acids, or both.³¹ Informal retail outlets are often unregistered and therefore difficult to regulate. For example, freshly prepared, unpackaged foods are exempt from food labelling requirements in India.³¹ In Sri Lanka, "street food" is technically illegal yet remains popular, and the sector continues to expand.³² Where informal food retailers have been subjected to regulation, this has often focused on food safety.

The prices of foods and beverages

available for sale at both formal and informal food retail outlets in South Asia have increased, particularly in recent times.³³ Across Sri Lanka, Pakistan, Afghanistan, and India the cost of a nutritious diet which met both energy and nutrient needs was 38% greater than the cost of a diet which met energy but not nutrient requirements.³³ Another report found that the cost of a nutritious diet was higher in Nepal and Bhutan relative to India, but most households in India were still unable to afford a healthy, recommended diet.³⁴ The covid-19 pandemic, national conflicts, and the economic crises affecting South Asian countries have exacerbated this through increased costs across the food supply chain and reduced incomes for food budgets (as discussed above). In Sri Lanka, growing foreign debt and inefficient economic management have resulted in financial and food crises that have reduced the capability of the food supply system to meet domestic demand.³⁵

Food retail environments across South Asia will continue to change, driven by an expanding global food industry,⁵ a continuing and often unregulated informal food retail system,^{30 31} and ongoing price shocks driving up food and beverage prices.³³⁻³⁵ Accompanying this, adolescent girls will continue to have a role in food preparation decisions,⁴ and so are likely to be disproportionately vulnerable to these unhealthy food retail environments, which undermine their nutritional health and wellbeing.

Recommendations for improving food environments

Urgent action is needed to support healthy and nutritious food environments for adolescents in South Asia, particularly adolescent girls. Firstly, governments must take action to curb the power and influence of large corporate actors. The activities of the food industry, which negatively influence food environments across South Asia, are mostly unregulated or are governed by self-regulatory codes of practice, and existing legal measures are often poorly implemented.²⁵ For example, existing legal measures that tax sugary drinks and school food and beverage guidelines are implemented inconsistently across the region, and few countries have government led controls to curb children's exposure to the marketing of unhealthy foods and beverages.²² Importantly, the food and beverage industry's political activities, which ultimately act to counter government action on food

environments, must also be regulated. In South Asia, a recent study interviewing policy makers in Bhutan, Maldives, Sri Lanka, and Nepal showed that the food and beverage industry commonly lobbies governments to oppose food environment policies and that strong conflict of interest policies are required to put health before food industry profits.²²

Secondly, while curtailing industry activities that negatively influence food environments will benefit adolescent girls who are responsible for food purchasing decisions,⁴ additional government action may be needed, especially when it comes to food security.³⁶ Potential actions include microcredit or cash transfer programmes to increase economic empowerment to access healthy and nutritious foods; social empowerment strategies, such as prevention of child marriage; programmes to improve freedom of movement; supporting adolescent girls to finish secondary education; and legal actions to limit gender based discrimination and protect the rights of adolescent girls.³⁶ Empowerment of adolescent girls and women will not only improve their health and wellbeing but will also likely support the health and wellbeing of other children and families who are dependent on these women.⁸

Thirdly, while we have presented the available evidence on the rapidly changing state of food environments in South Asia, overall data are limited and highly fragmented, with inconsistent data collection tools and reporting within and across countries. Systematic and comprehensive collection of food environment data, disaggregated by gender, is required to understand where governments, civil society organisations, and communities can prioritise their limited resources for affirmative actions for healthier food environments.

Food environments across South Asia are failing adolescent girls. Although rates of overweight and obesity among adolescent girls in the region are rapidly rising, prevalence is, for now, relatively low. Government led solutions will be critical, but they take time to develop, implement, and have impact. The urgency to act is now—delay risks worsening the unsustainable rising costs and consequences of overweight and obesity.

Other members of the South Asia Better Diets and Better Growth for Adolescent Girls Study Group are Zivai Murira, Dorina Andreev-Jitaru, Afrika Mukaneto, Aasha Chhetri, Khadheer Ahmed, Indrani Chakma, Abner Daniel, Kinley Dorji, Harim Humayun, Mithuni Jayawardana, Harshita Joshi, Tenzing Namste

Lama, Preetu Mishra, Ravinda Panchal Abeyinghe Wanninayake Mudiyanselage, Salamatu Muhammed, Naveen Paudyal, Amitayush Priyadarshi, Nishantha Subaschandrabose (Unicef); Ella Robinson, Cherie Russell, Christina Zorbas, Christine Drissen, Erica Reeve (Deakin University); Tina Rawal (Public Health Foundation of India); Tashi Choedan, Abhishek Kumar, William Joe (Institute of Economic Growth).

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Oliver Huse, research fellow

Vani Sethi, nutrition specialist²

Dhammica Rowel, health and nutrition officer³

Aishath Shahula Ahmed, health and nutrition specialist⁴

Navoda Liyana Pathirana, research fellow¹

Monika Arora, professor of public health⁵

Kathryn Backholer, professor of global public health policy; on behalf of the South Asia Better Diets and Better Growth for Adolescent Girls Study Group¹

¹Institute for Health Transformation, Global Centre for Preventive Health and Nutrition, Deakin University, Geelong, Australia

²Unicef Regional Office for South Asia, Kathmandu, Nepal

³Unicef Sri Lanka, Colombo, Sri Lanka

⁴Unicef Maldives, Male, Maldives

⁵Public Health Foundation of India, New Delhi, Delhi, India

Correspondence to: K Backholer kathryn.backholer@deakin.edu.au



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