

depressor may be needed in addition to the flashlight for examining the throat. The visual acuity and skill of the examining physician are also important as the examination has to be quick with minimal discomfort to the child. When it becomes a difficult task for the child as well as the pediatrician, the throat examination is conveniently forgotten.

When examining children, when a conventional flashlight is not available, it is a common practice to use this facility in the mobile phone. We have been using a mobile phone where the flashlight option comes with the Optical Reader application. This application (app) captures visual information and translates the image into digital information the mobile phone is capable of understanding and displaying. Though we initially used

the light source alone for throat examination, we became comfortable using the optical reader as an interface as it served like a flashlight cum magnifying glass. The auto adjustment facility with the app helps in visualizing the throat with more clarity and in quick time. Older physicians with lesser visual acuity may find this method more useful. The image can also be captured and used for teaching. As mobile phones are commonly used, a mobile phone with an optical reader can serve as a useful interface for better throat examination in children.

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Lead Toxicity due to Use of Traditional Medicines in a Child with Type 1 Diabetes Mellitus

The management of Type 1 Diabetes Mellitus (T1DM) in children is a challenging process for the parents that involves understanding the complexities of insulin therapy, monitoring blood glucose, and following a nutritional and exercise plan. Due to the need of lifelong injections, parents often resort to the use of Complementary and alternative medicine (CAM) [1].

An 8-year-old boy was diagnosed elsewhere with T1DM, and initiated on premixed insulin therapy two months before presentation. However, parents started using ayurvedic drugs (Tablet Debix, Sandu Pharmaceuticals Ltd, Goa, and Tablet Chandraprabha Vati, Divya Pharmacy, Uttarakhand) bought over the counter along with insulin. Each tablet was given twice daily. Ten days prior to presentation at our hospital, he developed pain abdomen and non-bilious vomiting. There was history of constipation but no abdominal distension, fever or altered sensorium. There was no history of pica or environmental exposure to chemicals. He was operated for ileoileal intussusception elsewhere but pain abdomen persisted. Lead toxicity was suspected in view of ayurvedic medication use. Blood lead level (BLL) was 73 µg/dL (normal <5 µg/dL). He was then referred to our hospital. The general physical examination was unremarkable, except for pallor. The repeat BLL was 63 µg/dL. A conservative plan was

followed as he showed symptomatic improvement. Chemical analysis of Debix and Chandraprabha Vati tablets revealed lead content of 2.87 and 2.29 µg/g, respectively; the total lead intake amounted to 6.1 µg/day. On day-9 of hospitalization, BLL was 20 µg/dL. Other laboratory investigations showed hemoglobin of 7.8 g/dL, HbA1c 11.8% and positive GAD-65 autoantibodies. He was discharged on basal bolus insulin regimen after two weeks of hospital stay. At follow up 3 months later, the BLL was 2 µg/dL and HbA1c was 8.2%.

The use of CAM is common (18% and 56% in different studies) in children with T1DM [1]. Such products are often promoted as 'natural' or 'safe', and relatively inexpensive 'cure' [2]. However, several CAM including ayurvedic products available over the counter or on the internet contain lead, mercury, or arsenic much above their acceptable levels, and their use may result in potentially serious complications [2]. There are several reports of lead toxicity after the use of ayurvedic drugs in adults with diabetes [2-5]. The usual gastrointestinal manifestations of lead toxicity are abdominal pain, nausea, vomiting and constipation.

The use of CAM is largely unregulated in India [2]. There is an urgent need for rigorous pharmacological and toxicological studies to ensure purity, safety and efficacy of these widely available products.

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REFERENCES

1. Uslu N, Bayat M. The use of complementary and alternative medicine in children with type 1 diabetes mellitus. *J Tradit Med Clin Natur*. 2018;7:265.
2. Kesavadev J, Saboo B, Sadikot S, Das AK, Joshi S, Chawla R, *et al*. Unproven therapies for diabetes and their implications. *Adv Ther*. 2017;34:60-77.
3. Desai A, Staszewski H. Ayurvedic remedy for diabetes as a cause of lead poisoning: a case report. *Am J Med*. 2012;125:e3-4.
4. Gupta N, Goswami B, Singh N, Koner BC, Garg R. Lead poisoning associated with ayurvedic drug presenting as intestinal obstruction: A case report. *Clin Chim Acta*. 2011;412:213-4.
5. Mathee A, Naicker N, Teare J. Retrospective investigation of a lead poisoning outbreak from the consumption of an ayurvedic medicine: Durban, South Africa. *Int J Environ Res Public Health*. 2015;12:7804-13.

War Against Childhood Obesity: Traction Towards Family's Aspect

The prevalence of obesity in children is on steep rise, and strong relationship exists between childhood obesity and non-communicable diseases in their adulthood. This rise in obesity intensifies the need to increase the level of physical activity and healthy eating among children [1]. The 2016 Indian Report Card discussed best practices among developed nations and what India can learn from their practice [1,2]. This complex issue should be addressed through multifactorial intervention involving all stakeholders [1]. These interventions should be culture-specific, considering socioeconomic status, initiated at home, and carried out in school.

Researchers have stated the importance of family in healthy behavior-modelling of the child [3]. As India is a family-centric country, there is no doubt on its role in the child's wellbeing; however, involvement of family has not been evident in the study interventions conducted in India. Family communication can be pivotal in increasing physical activity, healthy eating patterns and decreasing sedentary time [4,5].

The beliefs and Indian culture perceives child's weight to be connected with prosperity. Parents do not consider an obese child to be unhealthy, which possibly leads to reduced family involvement, thereby decreased motivation of child towards a healthy lifestyle.

Hence, there is a strong need, to include family education and participation in childhood obesity interventions. These interventions should begin with assessing the knowledge and awareness among family members regarding healthy eating and regular physical activity. The next step should be education and implementation of these lifestyle modifications. This will help families to encourage increased physical activity at

home, discourage sedentary time by spending less time in the digital world. Educating families and stakeholders about healthy eating pattern will help in cutting down on junk food in home and school, and increase healthy eating, thereby decreasing the risk of developing early non-communicable diseases. These lifestyle modifications can be achieved only when there is intention driven collaboration among policy makers, teachers and family members, so as to locally and globally advocate and implement policies to curb obesity.

Therefore, 'war' against this national and critical health issue should be initiated where the family will have to be the commander of one of the battalions in the war zone. The notion of collaborative effort should be emphasized to promote healthy lifestyle in our children, our hope for the future.

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REFERENCES

1. Katapally T, Goenka S, Bhawra J, Mani S, Krishnaveni G, Kehoe S, *et al*. Results from India's 2016 report card on physical activity for children and youth. *J Phys Act Health*. 2016;13:S176-S182.
2. Kar S, Kar S. Prevention of childhood obesity in India: Way forward. *J Nat Sci Biol Med*. 2015;6:12.
3. Sung-Chan P, Sung Y, Zhao X, Brownson R. Family-based models for childhood-obesity intervention: A systematic review of randomized controlled trials. *Obes Rev*. 2012;14:265-78.
4. Skelton J, Buehler C, Irby M, Grzywacz J. Where are family theories in family-based obesity treatment?: Conceptualizing the study of families in pediatric weight management. *Int J Obes*. 2012;36:891-900.
5. Ewald H, Kirby J, Rees K, Robertson W. Parent-only interventions in the treatment of childhood obesity: A systematic review of randomized controlled trials. *J Public Health*. 2014;36:476-89.