

Different Indigenous Techniques Practiced for Tackling Obesity among Children in China and India

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ABSTRACT

In the present times, obesity has been considered one of the major hindrances to the health and beauty and productivity of a person along with its other known problems and once it turns to epidemic face, it becomes difficult and complex to handle. Obesity among children is now becoming a global cause of concern covering all aspects such as economical, psychological as well as socio-cultural aspects of life and work. It is already an epidemic in the western world and now encroaching rapidly the developing countries such as India. India and China are old civilizations among eastern countries and share many common practices, food habits and approaches to health and wellbeing. Both the countries have a long and rich history in their indigenous health practices. Therefore, the present article explores the indigenous methods and techniques, lifestyle and food habits, do's and don'ts related to the cause, effect, and treatment of obesity among children. There are many treatments and techniques of obesity available and suggested in the literature. The present paper focuses only the indigenous treatment and techniques to address obesity among children.

Keywords: *Obesity amongst children, Indigenous techniques to cure obesity, Yoga, Panchkarama, Tai-Chi, Qi, Ancient Therapy, Ayurveda*

Obesity is already an epidemic in developed countries and now developing countries are also gradually engulfed by it because of several reasons such as sedentary lifestyle and faulty eating habits and the prevalence rate is rising rapidly (Butcher, Mineka, & Hooley, 2013). Estimates of the global and national prevalence of overweight and obesity in adults and children during 1980 to 2013 show that the USA is listed on the top with 13 per cent of obesity, and China followed by India together amount to 15 per cent of the population in obesity. Globally looking at the obesity population number has risen from 858 million in 1980 to 2.1 billion in 2013. This accounts a one- third population of the globe (Sharma, 2014). In urban and sub-urban parts of

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India, the estimates vary between 30 and 65 per cent of adults and children being obese or having abdominal obesity have been reported in a survey (Misra & Khurana, 2008).

Today's overweight and obese children will turn tomorrow's obese adults, destined to suffer from all the future health problems and bear costs related with obesity (Anderson & Butcher, 2006). The future generation of China and India is going to be obese and bulging, with the countries on the mark to have the highest percentage of obese children aged five to eighteen years by coming 2025 (Li, 2016). In a report, it was suggested that if the current scenario of childhood obesity continues in China the land could be filled with 48.5 million obese children in 2025. The numbers are hazardous and higher than the population of Spain (Li, 2016). India is also racing on track with 19.3 per cent of childhood obesity which was a steep rise from the previous rates of 16.3 per cent recorded in 2001-2005 (Mohan et al., 2016). The steep rise in childhood obesity has gained the attention of health care trainers, health policy experts, parents, teachers as well as children themselves.

Looking at the contributory factors of childhood obesity, the factors of obesity are similar across the globe and among many individual (Raj & Kumar, 2010). Factors such as unhealthy food pattern involving eating and drinking of sugary beverages, soft drinks, frequent snacking, skipping meals etc. (Byrne & Baron, 2008) screen time are other contributing factors of childhood obesity. It is reported that every additional hour of television and video games played by children per day raises the risk and prevalence of obesity by 2 per cent (Ball, Mishra, & Crawford, 2003). Studies have also suggested that lack of sleep or disturbed sleep could also lead to a risk of obesity among children and adolescents (Miller, Lumeng, & Bourgeois, 2015). Late bedtimes are found to be associated with adiposity and risk of obesity, independent of sleep duration among school children and adolescent of age 8-17 years (Miller, Lumeng, and Bourgeois, 2015). Disturbed sleep among 14 to 18 years of adolescence increases BMI level as compared to adolescence having normal sleep and lack of physical activity is another major factor in childhood obesity ("Drugs to treat overweight and obesity," 2012). Lack of engagement of children in physical activity leads them to increased chances of obesity (Singh Chahar, 2014). Societal architecture, the infrastructure of buildings and houses are also reported as some factors responsible for increasing percentage of obesity amongst children in developing countries (Raj & Kumar, 2010). Obesity sets its appearance early in childhood and causes short-term as well as long-term detrimental effects on health, happiness, efficiency and satisfaction at home and at work place. Since it is a severe health problem worldwide and is spreading like an epidemic among children with the declining age of onset it needs to be addressed timely.

Obesity a serious hazard to health may lead to much co-morbidity in adolescence and adult's .e.g. Type 2 diabetes metabolic syndrome favouring cluster of conditions that can put children at risk of developing heart disease, high blood pressure, high blood sugar, high triglycerides, cholesterol and excess abdominal fat, hormone imbalances causing early puberty or

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menstruation, asthma (Staff, 2015). Sleep disorders including obstructive sleep, non-alcoholic fatty liver disease (NAFLD), Bone trouble, just to mention a few (Levi, Rayburn, Segal & Martin, 2015). Aside from all the physical problems associated with being obese, there is a host of mental issues to be aware of as well. Some of the major and commonly mental health issues with obesity among children e.g. low self-esteem, loneliness, depression, nervousness and social isolation (Devi, 2009). Obese children, especially girls, are also at greater risk of developing an eating disorder (Devi, 2009).

It is rightfully said that “prevention is better than cure”. To control childhood obesity, the prevention should start by care takers at an early age (Raj & Kumar, 2010), so that the problem of obesity in childhood does not occur and a child may not turn into an obese adult. The need of the hour is to lower the rate of obesity, ensured with step by step process of weight maintenance and achieving improvement in Childs BMI level. The techniques to control obesity and overweight in children requires a holistic and sustainable approach.

Though, worldwide there are many practices and drugs to control obesity (e.g. diet books, internet-based interventions, dietary aids, and weight-loss programs etc.) some of very commonly practised alternatives are weight-loss groups and workouts - A number of weight-loss group programs are conducted by the organization such as Overeaters Anonymous and Weight Watchers. These programs provide education, encourage record keeping diaries in the form of food diaries, and also provide support and encouragement to people suffering from obesity. Weight loss programs and workouts in gym need a higher will power, punctuality, strict diet. Due to these reasons a chance of drop outs are higher and for obese, losing weight remains a formidable challenge (Butcher, Mineka, & Hooley, 2013). Medication- medications that are used for controlling obesity fall into two categories. The first group of medications reduces overeating by suppressing hunger, typically by increasing the neurotransmitters in the stomach. The second group of medications works by preventing some of the nutrients in food from being absorbed. Sibutramine and Orlistat are two medicines approved by FDA for obesity control. Weight loss and Diet pills have some side effects (e.g. blood pressure, fast heart rate, restlessness, gas, and soft stools, headache, nausea and vomiting, constipation, dry mouth, and dizziness etc.) which are not suitable for every obese individual (Aderson, 2016). Weight loss medicines are available in the market at high cost and are not in reach of every individual (Aderson, 2016). Gastric Surgery- one increasingly popular method for treating obesity involves bariatric or gastric bypass surgery. The surgery takes a couple of hours and the cost is very high plus the chance of relapse occur after some years if an individual does not control his/her eating habits (Peter, n.d.). These surgeries have various after effects such as – hair loss, kidney stones, indigestion, dental problems, palpitation etc. depending on individual to individual (Peter, n.d.). Apart from these, there are some common effective techniques which are less expansive, natural, primitive and effective for public health and obesity in specific in general in India and China. These techniques are getting popular day by day and claim to work wonders. This article aims to know, accept and

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practice and transfer these techniques to address obesity among children for a healthy adult and a prosperous future.

The lifestyle of people some decades back used to be very health-friendly and physical and mental illness such as diabetes, depression, tension, high blood pressure were far away from them and if found, prevalence was very few (Bhardwaj, M, Sharma, & C, 2016). The older lifestyle included walking and hard manual labor and indigenous food habits (Kalra, Garg, & Unnikrishnan, 2012). In times immemorial Indian people used to walk miles away to fetch water, food and other useful things. The cycling was the mode of transportation about three decades back (Kalra, Garg, & Unnikrishnan, 2012). People used to work hard in agricultural activities, household works, and other daily activities. Ancient Indian sports included hunting, fencing, and wrestling (Sharma, Amin, & Prajapati, 2015). These activities helped them to maintain their body weight and strengthen their physique. These habits also helped them to increase the immunity systems which guarded the body against diseases. Similarly, Chinese also worked in fields and walked miles away from work. Chinese ancient sports were kickball, football, wrestling and archery which needed loads of physical exercises (Mark, 2016).

In earlier decades foods we consumed were more fibrous, raw and energy giving foods such as beans, fruits, vegetables, milk, whole grains etc. rather than fat accumulating. People used to eat those kinds of foods which had less fatty acids, more nutritious and high calories (“Global hunger,” 2012). The food habits of ancient India and China did not vary much as both emphasized vegetarianism as a humane and healthy way of eating. Non-vegetarians were few and food was always cooked on low flame. Moreover, many kinds of food were taken in its raw form. Chinese used to eat tea leaves with rice and vegetables to guard against obesity (Mark, 2016).

Due to westernization and globalization, today diets and food habits have changed dramatically all over the world. Indigenous food habits are losing their importance due to the sensitivity to delicious taste by taste buds and this has been one of the leading consequences of today’s health and weight problems.

Ayurveda has its roots in India over 5000 years (Ayushakti, 2016). It has been passing onto generations through verbal or through literature. Ayurveda practices and suggests many indigenous ways of treatment of obesity in India. Ayurveda has an endless variety of treatments for several and severe health problems (Ayushakti, 2016). “Medorog” that is obesity is one of them. According to Ayurveda, there are three dhosh (imbalance) present in human body namely- Vatta, Pitta, and Kapha. Obesity takes place in an individual due to increase in Kapha doash in the human body (Kumari, Nishteswar, & Pushpan 2013). Numerous Ayurvedic drug therapies are there, which may prove successful in managing obesity among children. There are several groups of drugs for obesity which could be suggested for a child in according to his weight and

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dosha present in a thin body. Ayurveda anti-obesity drugs suggest the restriction of consumption of some particular foods and drinks such as jaggery (Gur), buttermilk (chach), pickle (achar) and other strong spices for some period of time because they might have the adverse reaction with the Lekhaniya drugs (Kaviratna, Sharma, & Sigdell, 1996).

The lists of drugs include some single drug or the combination of certain drugs. Single drugs such as Mustaka, Kushtha, Haridra, Vacha, Katu, Rohini, Chitraka, and chirbilva, Ativisha, Daruharidra and Haimva are proved to be effective in managing body weight and controlling obesity (Kumari, Nishteswar, & Pushpan 2013). Compound drugs such as Triphala churna, vidangadi, bilvadi panchamula, phala trikadi, guduchyadi, vidangadi churna and madhu udaka (Kumari, Nishteswar, & Pushpan 2013) are also suggested to address the problem of obesity and enhancement of general well-being. Guggulu preparations- amritadi guggulu, navaka guggulu, panchtika guggulu, triushnadi guggulu and dashanga guggulu (Kumari, Nishteswar, & Pushpan 2013) are found to be effective in controlling obesity. Arishta- Takrarishta and Lauharist , Ghrita-Panchitikta ghrita , Avaleha- Lauha rassayana, Kwatha- triphaladi, mustadi, triphala with honey . triphala di tail , trimurti rasa , saktu- vyoshadi saktu , chavyadi saktu (Kumari, Nishteswar, & Pushpan 2013) are also suggested to address the problem of obesity and enhancement of general well-being.

Role of basti (Ruksha and lekhan basti and triphaladhya tail basti) has positive impact on controlling obesity. Dhupa- malyanila dhupa and Lepa- Haritakyadi angaraga lepa, deha daurgandhyanhar udravartan, haritakyadi pralepa, kakshadi and shilaiyadi udvartana are some of important Ayurveda drugs used for treating obesity since ancient times and are still very effective in the present time (Kumari, Nishteswar, & Pushpan, 2013). Lekhan drugs are taken during early morning in empty stomach and before meals to guard against obesity (Bhardwaj, M, Sharma, & C, 2016). If any other physical complications (other than obesity) are present in body. Then the doses of these drugs are given alternatively with combination of other illness drugs (Bhardwaj, M, Sharma, & C, 2016).

In Ayurveda, due importance has been given to the concept of Pathya and Apathya. Acharya Charka has defined Pathya as such type of food article, drug and regimen which are helpful in maintain the healthy state of body and mind. Whereas, Apathya means all those articles which effects body and mind of a person in unhealthy way. There are various pathya – apathya ahara – vihara described in Ayurvedic text (Bhardwaj, M, Sharma, & C, 2016). Some of the very common home remedies are also described in Ayurveda for treating obesity. Remedies such as drinking boiled water every day early morning with empty stomach, taking seeds of arhar with chkr mud and awala, drinking lime and honey juice (Cleetus, 2014). Triphala, haritaki (terminalia chebula linn), vidan (embelia ribes burn), soth, shar and kallohraaj may be taken with honey after surynamaskar for faster results in obesity (Ranade, 2005).

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In China Thunder god vine is a Chinese herb (*Tripterygium wilfordii*) its extract could lower appetite and reduce body weight. The experiment is done on obese mice and researches are still going for successful treatment on humans as it may be a successful remedy for obese people (Osborne, 2015). Studies show results for losing weight with help of green tea (Wang et al., 2009). Pu-erh tea (Chinese black-tea) is another herb helpful to maintain weight it may be used as anti-obesity herb also (Oi, Hou, Fujita, & Yazawa, 2011). Other Chinese herbs such as hibiscus tea, ginseng, guggul, Chinese hawthorn, solomons seal etc. are being traditionally used herbs in china for weight loss and are proved to be successful for preventing obesity (Hodder, Agarwal, & Niemuth, 2017). These herbs have found utility used worldwide.

Today, these herbs have worldwide acceptance people are now aware and know the importance of Ayurveda medicines. Popular Ayurveda institutions such as Patanjali, Sri Sri Ayurveda and Maharishi Ayurveda, AYUSH from India are few most popular institutions in the world (MR, 2014). Herbs such as green tea and black tea from China are now some of the favourite and popular remedy for weight loss all over the world especially in eastern parts of the globe (NA, 2009).

Another unique and indigenous technique of ancient India which is now gaining attention of the health professionals and is accepted worldwide also is Yoga. Yoga is a uniquely robust technique of healthy living it is a five thousand year old Ancient Indian frame of knowledge (Iyengar & Menuhin, 2001). Though, many consider yoga just as a physical practice, where individuals turn, extend, and take in the unpredictable ways, but such attitudes are trivializing the significance of the technique (Iyengar & Menuhin, 2001). Murugesan (2001) have found and suggested that yoga is one of the best methods to stay fit and reduce weight and stress of individual suffering from obesity (Bodas, Ollendick, & Sovani, 2008). Some very effective Yogasanas for controlling childhood obesity are: Tadasana, Katichakarasana, Padhastasana, Halasana, Bhujangasana, Dhanurasana, Paschim Uttanasana, Matayāsana, Ardhamatsyasana, Ustraasna, Suryanamaskar and Pawanmuktasana (Kaviratna, Sharma, & Sigdell, 1996). Out of these, asanas, Suryanamaskar has proved as the best yogic posture for obesity (Patel, 2011).

Panchkarma is another traditional approach of ancient India coming from the roots of Ayurveda which is primary purification and detoxification treatment (Singh & Jawaid, 2012). It is a five therapeutic process which eliminate acids and toxins from the human body, they are: Vamana, Virechana, Nasya, Basti and Raktamoshana. The arrangement of these five therapies help in removing deep rooted anxiety and illness which causes toxins from the body while maintaining the doshas-energies that govern all bio-natural functions (Singh & Jawaid, 2012). Ramachandran, Prasad & Jonah (2010) found that Panchkarm medicines such as lekhan vatti and lekhan basti are useful in loosening weight and give relaxation to body and mind. Panchkarma not only reduces weight but is also helpful in revealing mind and body stressors such as tension and anxiety (Towers et al., 1994).

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China also has its indigenous and unique technique to control obesity that is acupressure and acupuncture and Chinese exercise which are now practised globally for loosening weight and maintaining fit body. Acupressure and acupuncture is a form of ancient Chinese therapy. It has been practiced as a healing art for at least 5,000 years. Acupressure involves placing physical compression by hands, elbow, or with the help of various tools on different acupuncture on the surface of the body. Acupressure is a system with many facets to it. It is useful in diagnosing illnesses as well as curing them (Amera, 2016). Hsieh, (2010) reported that Auricular acupressure is widely used to reduce body weight. A using acupressure point on ears for 10-20 mins before meal help to reduce appetite and maintains body weight (Hodder, Agarwal, & Niemuth, 2017). Whereas, acupuncture is a complementary medical practice that imposes stimulating certain points on the body, most often with a needle penetrating the skin, to relieve pain or to help treat various health conditions (Frank, 2015). Traditional acupuncturists activate the body through the insertion of needles in to specific areas (acupoints) of the body (Niemtzow & Oleson, 2014).

As physical activity is the most important part of lifestyle to maintain body weight and balance body portion and size traditional Chinese health care system has some powerful exercise and therapy to manage obesity and overweight. Qi-gong exercise is recognized as part of China's cultural heritage and one of its national treasures that is based on the concept of Chinese qi physiology; the ancient Chinese believed that qi is the most fundamental and circulating life force making up the universe. Entirety in the universe is from the movement and change of qi. By improving, building up and concentrating on self-qi, a practitioner of qi-gong can activate up to all standards of life, they can move together or procreate new internal environments in the body. Further, from this kind of self-training exercise one may achieve a higher level of intellectual and spiritual states of mind (Bai, Hou, Jiang, & Gao, 2016). Studies have reported that qi-gong is very effective for managing obesity (Koithan, 2009). Another Chinese martial art that descends from qigong is Tai-chi. There are different types of Tai-chai such as yang style, which is comprised of twenty four movements in its pure and simple form (108 movements in the traditional form), The wu style, which is composed of twenty-four to thirty-six movements in its brief form (hundred movements in the traditional form), the tai chi chi approach has twenty movements (Weil, 2015). Tai chi helps in controlling many physical and mental imbalances in the body (Jahnke, Larkey, Rogers, Etnier, & Lin, 2010).

Comparing the China and India in its indigenous practices to address the problems of obesity it is evident that Ayurveda from India and Traditional Chinese medicine (TCM) both have remained the most ancient, sound , philosophical and experimental and scientific living traditions of respective countries and have gained worldwide acceptance (Patwardhan, Warude, Pushpangadan, & Bhatt, 2005). Both the traditions have many things in common (Patwardhan, Warude, Pushpangadan, & Bhatt, 2005).

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Similarity of Ayurveda and Traditional Chinese medicine	Differences of Ayurveda and Traditional Chinese medicine
1. TCM and Ayurveda both have 5000 years of ancient and rich scientific literature.	1. Diagnose TCM: By tongue. Ayurveda: Pulse
2. Primary concept emphasising on five elements: TCM: metal, wood, earth, fire and water. Ayurveda- air, water, fire and earth.	2. Treatment Internal: TCM uses processed powdered, herbs, pastes. Ayurveda uses simple dried herbs, oils and ghee before processing.
3. Taste of medicine and foods: TCM: sweet, sour, salty, bitter and pungent. Ayurveda: sweet, sour, salty, bitter, pungent and astringent (six rasa).	3. Treatment modalities: TCM- uses acupuncture, acupressure with needle and points of body. Ayurveda uses Panchkarama, oils, ghee, rasa, fermented liquid over body.
4. Both give emphasis on immunity that sustains life, holistic view of mind, body and soul.	
5. Diet pattern: to be natural and self-remedy, use of herbs etc.	
6. Treatment internal both use vital points of body. Use therapeutic massages.	
7. Both have breathing and meditative exercise qi-gong and yoga.	

Table: 1

CONCLUSION

Today due to globalization, modernization and faster communication methods all Indigenous Indian and Chinese techniques, practices, trainers and videos are available for comprehensive treatment. A wider scope of cross cultural-exchange in living standards, habit formations, practicing of the different techniques and acceptance of different ideas from different corner of the world is seen over the globe. Such as Yoga in the present time is getting a foothold in China and classes of training the traditional Indian discipline of Yoga, Panchakarama has been popularizing all over Shanghai in the past few years (Jingya, 2015). Sri Sri Ayurveda Panchkarama speciality centre at (Karnataka) people from different parts of the world come here for treatment of obesity and other weight-related issues (Panchakarma, 2017). Chinese martial arts and herbs like green tea are also consumed used worldwide including India and especially it is popularizing in Indians for controlling weight. If we could combine Indian and Chinese techniques e.g. Tai-chai, acupressure of China, yoga, and Panchkarama of India, some herbs of china and some herbs of India could be combined for synergic use and treatment of obesity. The use of these techniques among adults is popular but the use of indigenous techniques among children is to be experimentally and imperially tested. At what age, how early in age each of these herbs can be combined and suggested for children to guard against obesity. What are the side effects, feasibility, and the cost and availability dynamics of these herbs? The training centres for supervised use of these techniques, the quantity, specification, prognosis, duration of

these indigenous practices among children to address obesity should be studied and taken in action.

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