

**KUMAR P.,**  
*Assistant Professor, Dept of Physical Education & Sports,*  
*Central University of Haryana*  
**SINGH R. RAM MOHAN,**  
*Associate Professor, Dept of Physical Education & Sports,*  
*Pondicherry University*  
*(India)*

## **SPORT AS A PHYSIOTHERAPEUTIC TREATMENT FOR OBESITYINDUCED FORWARD HEAD POSTURAL DEFORMITIES**

*Кумар П. Сінгати Р. Рам Мохан. Спорт как фізіотерапевтичне лікування при ожиренні, що визване опасною деформацією постави голови вперед.*

*Ключові слова: бадмінтон, спалювання жиру, постава.*

***Abstract.** Physical activity is the only source that can effectively reduce the accumulated excess fat in an individual. Though sufficient awareness is created among people suffering from obesity, their approach towards the same isn't promising at all. Obese people are willing and on many occasions forced to offer time for any kind of clinical treatment, irrespective of the time and money. Some of the sports involve rigorous physical activity. These activities are rigorous enough to burn the excess fat stored in the body and when followed as per recommendations, can reflect in the form of improved health and fitness. This paper insists on one such practice of suggesting physical activity as an equivalent for clinical treatments for obesity-induced forward head postural deformities.*

***Keywords:** Badminton, Fat burning, Posture.*

**Introduction.** Presently three out of four people are found to be suffering from overweight (obesity) which is due to the excess amount of accumulated fat in adipose tissue. This may be because of high Junk food intake or less or no physical activity. The lack of awareness of the benefit of a fit physique and little or no physical activity are also major causes of the increased number of obese people.

Obesity could be caused due to various other problems such as genetic disorder, acquired autoimmune disorder, physical challenges, etc, but, all type of obesity creates many health issues for people which reduces their moral, and ethical values, resulting in depression and other mental issues. Along with these, obesity also restricts individuals from performing regular activities such as jumping, mobility, walking, and climbing stairs, onset of arthritis and problems in vital joints of the body. One of the joints that get affected during such repeated overload is the neck joint. The ache at the neck joint, developed due to obesity matures into a forward head posture deformity.

To correct this problem wide range of clinical cum physiotherapeutic tools are available but, these are effective only for a short duration. For permanent recovery, a longer duration of appropriate physiotherapy treatment such as traction may be frequently required which demands utmost cooperation from the patient

due to its time-consuming and intense nature. These long sessions could lead the patient to depression leading to further psychological issues.

Thus, I suggest a competitive treatment through sports training. The game of Badminton is suggested as treatment for obesity induced forward head posture. The same has been validated through our research findings. The future elucidation through our study is presented via treating two obese people with neck joint ailments.

**Obesity.** Obesity is a medical condition in which excess body fat has accumulated to the extent that it may have a negative effect on health. People are generally considered obese when their body mass index (BMI), a measurement obtained by dividing a person's weight by the square of the person's height, is over  $30 \text{ kg/m}^2$ , with the range  $25\text{--}30 \text{ kg/m}^2$  defined as overweight.

**Forward Head Posture (FHP).** Normally the center of the ear should align with the center of the shoulder in the vertical axis (Sagittal plane) and that position is accepted as a normal head posture. When there is a forward tilt of the head from the accepted normal head position to any degree it is called a forward head posture.

**Causes of FHP and Obesity.** The head is mostly at a pronounced forward/downward flexion position during simple routine jobs like handling a cell phone, handling a laptop / PC, bending down to pick up or drop weights, sleeping position, driving vehicles, less or no physical activity, etc. Certain occupational hazards put immense strain on the muscles and joints. Particularly the delicate joints of the vertebral column. Generally, obese people may have more stress and strain on their neck region. This could be due to improper weight distribution on their body during sitting, standing, walking, etc., therefore it is imperative that the stress and strain sustained by such joints need to be analyzed so that suitable remedial exercise could be suggested to counter the overload or strain. Most of the studies prove physical activity has a positive effect in reducing obesity.

The human body was not designed for prolonged periods of sitting or a sedentary lifestyle. Our bodies automatically adapt to our environment and when we continually place ourselves in sub-optimal positions such as hours of sitting and so on, certain muscles that are responsible for good posture will weaken and tighten.

As the body follows where the head moves, when one is affected by forward head posture, one shoulder is also most likely to hunch forward with it.

**Conventional clinical method.** *Methods of treating obesity and FHP.* *Bariatric surgery*, which involves sealing off most of the stomach to reduce the quantity of food one could consume, can be an effective method for morbidly obese people to lose weight and maintain a lower weight. **Gastric Sleeve** – makes one feel less hungry & full much sooner while eating. **Gastric Bypass** – makes one feel full quicker while eating & absorbs fewer minerals. **Duodenal Switch** – Makes one feel less hungry & full sooner while eating, and absorbs fewer calories and minerals. **Lap-Band** – makes one feel full sooner while eating (but is said to have a high failure rate). **Gastric Balloon** – makes one feel full temporarily and much sooner while eating (balloon would be removed after 6 months).

**Bloc Therapy** – makes one feel full between meals & less hungry while eating. **Aspire Assist** – It drains a portion of stomach contents after eating. **Ayurvedic treatment helps** in weight loss. **Homeopathic** medicines are available for the control of obesity. **Naturopathy** is also an alternative method to treat obesity. **Unani** medicines too are available for treating obesity.

**Physical Activity Method.** The game of Badminton is suggested as a treatment for obesity-induced forward head posture.

Badminton is a racket sport that can be played individually against a single opponent (singles) or between two teams of two players each (doubles). The player uses a badminton racket to hit a shuttle cock across a net and into the opponent's court. The nature of the game is such that the player's head movement is mostly in an upward and posterior backward direction (Hyper extension of the neck). frequently (long duration) doing this movement which can help reduce (cure) the FHP. A minimum of 45min playing (hitting the shuttle) the game, can induce our body to spend more energy and also help to switch over to fat as an energy source, ultimately helping one control or reduce obesity.

**The Yoga Asana method as a treatment for obesity-induced forward head posture.** Practicing certain Yoga asanas could help in reducing FHP namely Bhujangasana, Machasanam, and Piraiasana, etc., some studies have proved that Suryanamaskar helps in the reduction of fat, therefore, controlling obesity. Regular and slow stretching also could help in the reduction of FHP.

**Conclusion.** Obesity is a serious and highly prevalent disorder associated with increased morbidity and mortality. Healthcare providers must take an active role in the identification, evaluation, and treatment of high-risk individuals. FHP is a fairly common condition characterized by forward placement of the head and neck, ahead of the shoulders. Finally, physical activity or/and sports is one of the best tools which help to prevent, reduce and cure both obesity and FHP or at least manage it effectively. A healthy diet combined with regular exercise at least two to three times a week is key to keeping obesity and other related problems at bay. It's time to change the trend of increasing obesity/FHP-related disorders by living a healthy life and building a healthy nation.

#### **References:**

1. Bernstein, A. M., Bar, J., Ehrman, J. P., Golubic, M., & Roizen, M. F. (2013). Yoga in the management of overweight and obesity. *American Journal of Lifestyle Medicine*.
2. Jakhota, K. A., Shimpi, A. P., Rairikar, S. A., Mhendale, P., Hatekar, R., Shyam, A., & Sancheti, P. K. (2015). Suryanamaskar: An equivalent approach towards management of physical fitness in obese females. *International Journal of Yoga*, 8 (1), p. 27.
3. Joshi, S., Deole, Y. S., Vyas, G. H., & Dash, S. C. (2009). Management of Overweight and Obesity through specific Yogic procedures. *AYU (An international quarterly journal of research in Ayurveda)*, 30 (4), p. 425.
4. Gokal, R., Shillito, L., & Maharaj, S. R. (2007). Positive impact of yoga and pranayam on obesity, hypertension, blood sugar, and cholesterol: a pilot assessment. *The Journal of Alternative and Complementary Medicine*, 13 (10), pp. 1056-1058.

5. Lee, J. A., Kim, J. W., & Kim, D. Y. (2012). Effects of yoga exercise on serum adiponectin and metabolic syndrome factors in obese postmenopausal women. *Menopause*, 19 (3), pp. 296-301.
6. Shinde, N., Shinde, K. J., Khatri, S. M., & Hande, D. (2013). A Comparative Study of Yoga and Aerobic Exercises in Obesity and its Effect on Pulmonary Function. *J Diabetes Metab*, 4 (257), p. 2.
7. Özbek, M. M., Miyamoto, K., Lowe, A. A., & Fleetham, J. A. (1998). Natural head posture, upper airway morphology and obstructive sleep apnoea severity in adults. *The European Journal of Orthodontics*, 20 (2), pp. 133-143.

**MIDHUN KUMAR M. A.,**

*Ph.D. Scholar, Department of Physical Education & Sports,  
Pondicherry University*

**NITHIN B. S.,**

*Ph.D. Scholar, Department of Physical Education & Sports,  
M.Phil., Pondicherry University*

**G. VINOD KUMAR,**

*Professor, Department of Physical Education & Sports,  
Pondicherry University  
(India)*

## **REVOLUTIONIZING FOOTBALL TRAINING: THE BENEFITS AND USES OF VIRTUAL REALITY TRAINING FOR FOOTBALL PLAYERS**

*Мідхун Кумар М. А., Нітін Б. С., Г. Вінод Кумар. Революційне футбольне тренування: переваги та використання тренування віртуальної реальності для футболістів.*

*Ключові слова: віртуальна реальність, футбол, тренування, розвиток навичок, тактична підготовка, реабілітація після травм, психологічна підготовка.*

***Abstract.** Virtual reality (VR) training is a rapidly evolving technology that significantly benefits football players. By immersing players in realistic game situations, VR training can help to develop skills, improve tactical awareness, and provide a safe and effective way to practice and prepare for game situations. This article explores the benefits and uses of VR training for football players, including skill development, tactical training, injury rehabilitation, and mental preparation. By incorporating VR training into football training programs, coaches and trainers can help players achieve their full potential on the field.*

***Keywords:** virtual reality, football, training, skill development, tactical training, injury rehabilitation, mental preparation.*

**Introduction.** Virtual reality (VR) training has emerged as a game-changing technology for football players, coaches, and trainers. While traditional training methods such as on-field practice, weightlifting, and running drills have long been used to improve players' physical and mental abilities, VR training offers a new and innovative way to enhance player performance.