

Roles of Family Physicians in Diagnosis of Obesity: Review

¹Hanadi Hezam AL-Thobiati, ²Afnan Abdullatif Al-Namankany, ³Bayan Talal Zamil, ⁴Najwa Ali Alzahrani, ⁵Gophran Talal Zamil

Abstract: Main goal of our study was to evaluate the diagnostic process of obesity performed by family doctors in primary care setting. We searched MEDLINE, Cochrane Central Register of Controlled Trials, and Embase for literature published up to August, 2017. Most important and recent studies related to the roles of family physicians in diagnosis and management of obesity were retracted to this review. That family doctor calculates and also document BMI in few overweight and also overweight patients as well as less regularly include the medical diagnosis of obesity to the patient's medical problem list. Studies have revealed that exercising family doctor as well as resident doctors failed to manage as well as identify weight problems in a large percentage of overweight patients. A number of prospective obstacles to weight management exist in family medicine. There are obstacles on the doctor's component such as lack of expertise should deal with excessive weight, time constraints, downhearted sights regarding weight-loss leads, as well as lack of reimbursement within the medical care system. The majority of obese patients did not have a diagnosis of weight problems or an obesity management strategy made by their health care doctor. Diagnosis of weight problems causes a greater chance of formula of an excessive weight strategy.

Keywords: obesity, weight problems, BMI.

1. INTRODUCTION

Overweight and obesity are defined by a body mass index (BMI) of 25–29.9 and ≥ 30 kg/m², specifically. An estimated one billion grownups are overweight and a minimum of 300 million are overweight around the world, with frequency increasing in most countries [1]. Overweight adults are at raised danger for establishing significant conditions, such as type 2 diabetes, coronary artery condition, stroke, clinical depression and certain cancers [2,3]. It is approximated that a person in 10 early adult deaths is straight attributable to obese and excessive weight [4].

Physicians have considerable obstacles to offering obesity care, consisting of lack of time, poor training in weight therapy, as well as the need to put greater concern on comorbid conditions [5]. Numerous studies have actually likewise documented unfavorable doctor mindsets (e.g., weight stigma, doubt that therapy will certainly have an effect on patient actions [6,7,8] as well as feeling that weight problems is the duty of the patient [9]). These lack of confidences could impact usage as well as experiences of care amongst obese patients. Study amongst patients with excessive weight has documented health care evasion [10,11] as well as lowered precautionary solutions, particularly cancer screenings [12].

The duty of the physician has been clearly defined in the referrals of different consultatory groups. The Canadian Task Force on Preventive Health Care (CTFPHC) has actually supplied meanings of exactly what we should do, and also ought to refrain from doing, for our overweight patients. According to the CTFPHC, we ought to be supplying, or supplying a reference for, an organized behavioural treatment for fat burning to every one of our overweight patients [13].

Regardless of countless research studies that have specified optimum body mass index (BMI) targets for patients, various provider-level obstacles exist to the efficient management of obesity in primary care. These barriers consist of lack of official training of health care practitioners in nourishment, weight problems, and also counseling on weight-related subjects [14], regarded lack of ability to alter patient habits [14], lack of known effectiveness of treatments [15,16], lack of confidences toward obese patients, ideas that patients are not interested or ready for therapy [14,17,18], and also ideas

that excessive weight is the duty of the patient [19]. On top of that, although previous research has actually identified that patients have much more self-confidence in weight therapy made by nonobese physicians, vegetarians, and also those that used to be overweight [18] and that nurse's weight influences attitudes in the direction of excessive weight and its therapy [17], it is unclear just how service provider's personal weight and exercise techniques influence their obesity-related patient techniques.

Main goal of our study was to evaluate the diagnostic process of obesity performed by family doctors in primary care setting.

2. METHODOLOGY

We searched MEDLINE, Cochrane Central Register of Controlled Trials, and Embase for literature published up to August, 2017. Most important and recent studies related to the roles of family physicians in diagnosis and management of obesity were retracted to this review.

Restriction to English language published studies with human subjects included was applied to our search strategy.

3. DISCUSSION

• Assessment and Monitoring of patient's weight:

Annual assessment of weight status through the use of BMI compared to age-sex BMI percentiles in growth charts in children and adolescents is commonly acknowledged as a requirement of care in the health care setting [20,21]. Although a healthy weight analysis regularly entails some form of determining body weight, evidence recommends that a complete assessment should likewise consist of indications of healthy diet regimen, energetic living, as well as child and also household health and wellness history [21]. A lot of treatments evaluated consisted of an evaluation of the patient's total health through patient and/or parent conversations or surveys along with analysis of weight status by use of BMI or development charts. Techniques made use of to analyze or monitor weight consisted of BMI, BMI -scores, as well as comparisons to reference growth graphs and criteria for obese as well as weight problems. McKee et al. [22] incorporated parent-completed surveys into routine health care visits to examine family history of diabetic issues and also heart disease, moms and dads'elevation and weight, child's tv and also play habits, and also youngster's intake of dishes before the tv; information collected from moms and dads was utilized to educate weight assessment and guide the content of counseling and also goal setting for overweight patients. Recommendations mention that PCPs must track yearly BMI evaluations

in time to help medical professionals in acknowledging major modifications in weight about height [21]. Two write-ups reviewed suggested that combination of BMI assessment into frequently utilized electronic medical record(EMR)systems or hand-held personal digital assistants might assist in raised use BMI as a screening device and as a method of properly tracking BMI with time for the objectives of checking [23, 24]. Just one write-up reviewed especially talked about combination of BMI collection into EMR systems. Savinon et al. [25] located that personalized EMR templates developed to help with assessment of BMI and screening and also counseling for obese patients raised the frequency of kids evaluated for BMI, in addition to the analysis price for overweight and weight problems. Articles assessed suggest that multiple obstacles may limit the assessment and monitoring of BMI in the facility setting, consisting of lack of experience with the use of BMI; lack of contract regarding the utility of BMI as a testing and also treatment device; lack of office time to gather background information from family members; as well as absence of practice-level sources for simple, regular use of BMI [23, 24]. A number of posts noted the value of familiarizing clinicians with weight evaluation devices, consisting of BMI evaluation calculators, Centers for Disease Control and also Prevention standards for BMI analysis, and also academic products to boost uniformity of screening and also boost clinician self-efficacy [24] Perrin et al. [24] suggested that age-specific office-based devices could assist specialists in interacting results of BMI analysis to family members as well as in examining the patient's readiness to change. Another research study that promoted use BMI devices located a significant decrease in BMI at 5 months, yet not 12 months, amongst kids joining a primary care-based program that integrated clinician training in weight analysis with an eight-week, family-based behavioral intervention [26].

Physician's Role Diagnosis:

The USPSTF advises that all grownups be evaluated for obesity. Hence, BMI should be gauged and also videotaped at each visit, as with any other essential indicator [27]. Although BMI correlates with the amount of body fat, it needs to be recognized that BMI does not directly gauge body fat, nor does it set apart fat from muscle mass. This limits the precision of BMI in diagnosing excessive weight, especially in the intermediate array, in addition to in men and older adults as a

whole. A BMI cutoff of 30 kg/m² or better has good specificity, however, misses lots of patients with excess body fat [28,29]. BMI is recommended for use in professional technique as a sensible method to recognize individuals that are obese or overweight. Determining BMI is still a great way to examine adjustments over time since step-by-step boosts most likely represent gains in body fat [29,30].

Individuals with larger waistline areas have more than a fivefold higher danger of multiple cardiometabolic threat elements, after changing for BMI, compared to individuals with waist dimensions in the regular variety [31]. Similar to BMI, midsection circumference ought to be assessed frequently. While some physicians could hesitate to gauge midsection size due to an assumption that it might embarrass patients, this is not a worry articulated by lots of patients. Rather, patients desire a description regarding exactly what the measurement includes and also why it is required [32]. There is no universally approved approach for determining midsection circumference, government standards advise determining at the superior border of the iliac crest [33,34,35].

A metabolic disorder is a constellation of risk factors, including abdominal weight problems, atherogenic dyslipidemia, elevated high blood pressure, as well as elevated plasma glucose degrees, that boost the threat of cardiovascular disease. [Fig. 1] [36] lists five standards for metabolic syndrome, three which have to be present to make the diagnosis [37,38] The predominant underlying threat variables for the metabolic disorder are abdominal excessive weight and insulin resistance. Several patients could be genetically prone to metabolic syndrome, it hardly ever creates in the absence of obesity and also physical lack of exercise. The crucial focus in management is mitigation of modifiable threat factors, especially obesity, physical lack of exercise, atherogenic diet plan, and smoking cigarettes, through lifestyle adjustments [39]

Measure (any 3 of 5 criteria constitute diagnosis of metabolic syndrome)	Categorical Cut Points
Elevated waist circumference	>102 cm (>40 in) in men >88 cm (>35 in) in women
Elevated TG	>150 mg/dL (1.7 mmol/L) or drug treatment for elevated TG
Reduced HDL-C	<40 mg/dL (1.03 mmol/L) in men <50 mg/dL (1.3 mmol/L) in women or drug treatment for reduced HDL-C
Elevated BP	>130 mm Hg systolic >85 mm Hg diastolic or drug treatment for hypertension
Elevated fasting glucose (or treatment for elevated fasting glucose)	>100 mg/dL (5.6 mmol/L) or drug treatment for elevated glucose

BP = blood pressure; HDL-C = high-density lipoprotein cholesterol; TG = triglycerides.

Fig.1: Diagnostic Criteria for Metabolic Syndrome

The rising prevalence of obesity in the United States has offered physicians an increased role in its recognition and also management. Thinking about the general public health and wellness implications of weight problems, it is crucial that physicians raise their expertise of excessive weight as well as relevant comorbidities as well as identify it as a complex disorder that needs long-term follow-up and also care. To give clinically audio advice regarding weight management or weight maintenance to their patients, medical professionals are urged to enhance their understanding of the nature of obesity, the problem of treating this problem and the importance of counseling patients regarding practical goals for weight reduction [40,41].

Numerous health companies advise that medical professionals examine their patients for overweight and that patients receive suitable therapy about secure weight management as well as the benefits of physical activity and a healthy diet regimen [27,42]. If therapy is suggested, physicians can assist patients establish weight reduction or management strategies tailored to individual demands; this includes setting reasonable weight reduction goals; picking appropriate weight loss programs; referring patients to secondary personnel when suitable; and also offering inspiration, assistance and also surveillance [35,36,39]. In determining the suitability of any weight-loss program, it is important for doctors and also patients to understand that the objective of therapy is not always weight reduction alone, however weight management to attain the best possible weight for improved health.⁴ Physicians participating in weight loss therapy additionally should consider their very own weight and also established an example for their patients by showing healthy weight management [33,39].

4. CONCLUSION

Very important that family doctor calculate and also document BMI in few overweight and also overweight patients as well as less regularly include the medical diagnosis of obesity to the patient's medical problem list. Studies have revealed that exercising family doctor as well as resident doctors failed to manage as well as identify weight problems in a large percentage of overweight patients. A number of prospective obstacles to weight management exist in family medicine. There are obstacles on the doctor's component such as lack of expertise should deal with excessive weight, time constraints, downhearted sights regarding weight-loss leads, as well as lack of reimbursement within the medical care system. The majority of obese patients did not have a diagnosis of weight problems or an obesity management strategy made by their health care doctor. Diagnosis of weight problems causes a greater chance of formula of an excessive weight strategy.

REFERENCES

- [1] *Obesity and overweight* Geneva (Switzerland): World Health Organization; 2014. Available: www.who.int/mediacentre/factsheets/fs311/en/ .
- [2] Eckersley RM. Losing the battle of the bulge: causes and consequences of increasing obesity. *Med J Aust* 2001;174:590-2.
- [3] Mokdad AH, Ford ES, Bowman BA, et al. Prevalence of obesity, diabetes, and obesity-related health risk factors, 2001. *JAMA* 2003;289:76-9.
- [4] Flegal KM, Graubard BI, Williamson DF, et al. Excess deaths associated with underweight, overweight, and obesity. *JAMA* 2005;293:1861-7.
- [5] Forman-Hoffman V, Little A, Wahls T. Barriers to obesity management: a pilot study of primary care clinicians. *BMC Fam Pract.* 2006;7:35.
- [6] Price JH, Desmond SM, Krol RA, Snyder FF, O'Connell JK. Family practice physicians' beliefs, attitudes, and practices regarding obesity. *Am J Prev Med.* 1987;3:339-345.
- [7] Kushner RF. Barriers to providing nutrition counseling by physicians: a survey of primary care practitioners. *Prev Med.* 1995;24:546-552.
- [8] Laws RA, Jayasinghe UW, Harris MF, et al. Community Health SNAP Project Team. Explaining the variation in the management of lifestyle risk factors in primary health care: a multilevel cross sectional study. *BMC Public Health.* 2009;9:165.
- [9] Hash RB, Munna RK, Vogel RL, Bason JJ. Does physician weight affect perception of health advice? *Prev Med.* 2003;36:41-44.
- [10] Merrill E, Grassley J. Women's stories of their experiences as overweight patients. *J Adv Nurs.* 2008;64:139-146.
- [11] Drury CA, Louis M. Exploring the association between body weight, stigma of obesity, and health care avoidance. *J Am Acad Nurse Pract.* 2002;14:554-561. [
- [12] Amy NK, Aalborg A, Lyons P, Keranen L. Barriers to routine gynecological cancer screening for White and African-American obese women. *Int J Obes (Lond)* 2006;30:147-155.

- [13] Canadian Task Force on Preventive Health Care. Obesity in adults. Summary of recommendations for clinicians and policy-makers. Calgary, AB: Canadian Task Force on Preventive Health Care; 2015.
- [14] Kushner RF. Barriers to providing nutrition counseling by physicians: a survey of primary care practitioners. *Prev Med.* 1995;24:546–552.
- [15] Billington CJ. The challenge of obesity management in primary care. *J Am Board Fam Pract.* 2000;13:222–223.
- [16] Campbell K, Engel H, Timperio A, et al. Obesity management: Australian general practitioners' attitudes and practices. *Obes Res.* 2000;8:459–466.
- [17] Hoppe R, Ogden J. Practice nurses' beliefs about obesity and weight related interventions in primary care. *Int J Obes Relat Metab Disord.* 1997;21:141–146.
- [18] Epstein L, Ogden J. A qualitative study of general practitioners' views of treating obesity. *Brit J Gen Pract.* 2005;55:750–754.
- [19] Hash RB, Munna RK, Vogel RL, Bason JJ. Does physician weight affect perception of health advice? *Prev Med.* 2003;36:41–44.
- [20] J. Koplan, C. T. Liverman, and V. I. Kraak, *Preventing Childhood Obesity: Health in the Balance*, National Academy Press, 2005.
- [21] N. F. Krebs and M. S. Jacobson, “Prevention of pediatric overweight and obesity,” *Pediatrics*, vol. 112, no. 2, article 424, 2003.
- [22] M. D. McKee, D. Deen, S. Maher, J. Fletcher, A. Fornari, and A. E. Blank, “Implementation of a pilot primary care lifestyle change intervention for families of pre-school children: lessons learned,” *Patient Education and Counseling*, vol. 79, no. 3, pp. 299–305, 2010.
- [23] K. B. Flower, E. M. Perrin, C. I. Viadro, and A. S. Ammerman, “Using body mass index to identify overweight children: barriers and facilitators in primary care,” *Ambulatory Pediatrics*, vol. 7, no. 1, pp. 38–44, 2007.
- [24] E. M. Perrin, J. P. Finkle, and J. T. Benjamin, “Obesity prevention and the primary care pediatrician's office,” *Current Opinion in Pediatrics*, vol. 19, no. 3, pp. 354–361, 2007.
- [25] C. Savinon, J. S. Taylor, J. Canty-Mitchell, and J. Blood-Siegfried, “Childhood obesity: can electronic medical records customized with clinical practice guidelines improve screening and diagnosis?” *Journal of the American Academy of Nurse Practitioners*, vol. 24, pp. 463–471, 2012.
- [26] L. J. Ewing, P. Cluss, S. Goldstrohm et al., “Translating an evidence-based intervention for pediatric overweight to a primary care setting,” *Clinical Pediatrics*, vol. 48, no. 4, pp. 397–403, 2009.
- [27] U.S. Preventive Services Task Force. Screening for and management of obesity in adults. *Ann Intern Med.* 2012; 157(5):373-378.
- [28] Goacher PJ, Lambert R, Moffatt PG. Can weight-related health risk be more accurately assessed by BMI, or by gender specific calculations of percentage body fatness? *Med Hypotheses.* 2012;79(5):656-662.
- [29] Romero-Corral A, Somers VK, Sierra-Johnson J, et al. Accuracy of body mass index in diagnosing obesity in the adult general population. *Int J Obes (Lond).* 2008;32(6): 959-966.
- [30] Institute for Clinical Systems Improvement. Prevention and management of obesity (mature adolescents and adults). Bloomington, Minn.: Institute for Clinical Systems Improvement, 2011.
- [31] Ghandehari H, Le V, Kamal-Bahl S, et al. Abdominal obesity and the spectrum of global cardiometabolic risks in U.S. adults. *Int J Obes (Lond).* 2009;33(2):239-248.
- [32] Dunkley AJ, et al. Waist circumference measurement: Knowledge, attitudes and barriers in patients and practitioners in a multi-ethnic population. *Fam Pract.* 2009;26(5): 365-371.
- [33] Bray GA. Screening for and clinical evaluation of obesity in adults. www.UpToDate.com. Accessed Jan. 30, 2013.

- [34] Centers for Disease Control and Prevention. Healthy weight: Assessing your weight. www.cdc.gov/healthyweight/assessing/index.html. Accessed Feb. 3, 2013.
- [35] Bosy-Westphal A, Booke CA, Blocker T, et al. Measurement site for waist circumference affects its accuracy as an index of visceral and abdominal subcutaneous fat in a Caucasian population. *J Nutr.* 2010;140(5):954-961.
- [36] Reprinted with permission from Grundy SM, Cleeman JI, Daniels SR, et al. Diagnosis and management of the metabolic syndrome. *Circulation.* 2005; 112(17):2735-2752.
- [37] Ervin RB. Prevalence of metabolic syndrome among adults 20 years of age and over, by sex, age, race and ethnicity, and body mass index: United States, 2003–2006. *Natl Health Stat Report.* 2009 May 5;(13):1-7.
- [38] Grundy SM, Cleeman JI, Daniels SR, et al. Diagnosis and management of the metabolic syndrome: An American Heart Association/National Heart, Lung, and Blood Institute scientific statement. *Circulation.* 2005; 112(17):2735-2752.
- [39] Armstrong C. AHA and NHLBI review diagnosis and management of the metabolic syndrome. *Am Fam Physician.* 2006; 74(6):1039-1047.
- [40] Rippe JM, Crossley S, Ringer R. Obesity as a chronic disease: modern medical and lifestyle management. *J Am Diet Assoc.* 1998; 98:S9–15.
- [41] Frank A. A multidisciplinary approach to obesity management: the physician's role and team care alternatives. *J Am Diet Assoc.* 1998; 98:S44–48.
- [42] American Obesity Association. Guidance for treatment of adult obesity. 2d ed. Bethesda, Md.: Shape Up America! 1998. Retrieved September 2000 from: <http://www.shapeup.org/library/index-all.htm#guidance>.