

# Knowledge, Attitudes, and Practices of Public Sector Primary Health Care Physicians of Rural North Karnataka Towards Obesity Management

Manjunath S. Somannavar, Jayaprakash S. Appajigol<sup>1</sup>

Departments of Biochemistry, and <sup>1</sup>Medicine, KLE University's, Jawaharlal Nehru Medical College, Belgaum, Karnataka, India

## ABSTRACT

**Introduction:** Obesity is a risk factor for cardiovascular disease (CVD), diabetes mellitus (DM), and hypertension (HTN). In an era of rapidly growing prevalence of obesity, it is important to explore the current knowledge, attitude, and practices of primary care physicians. **Materials and Methods:** Study participants were medical officers (MOs) of primary health centers in three districts of North Karnataka. The questionnaire was developed by a review of literature in the field and validated with five participants for scope, length, and clarity. **Results/Discussion:** Of the 102 participants, only 15% were aware about the burden of obesity in India. HTN, DM, and CVD were indicated as comorbidities by 73, 78, and 60 participants, respectively. Only 25 and 12 participants indicated appropriate body mass index (BMI) cut-off values for overweight and obesity diagnosis. Of the 102 participants, 54 were not aware of the guidelines for obesity management. Practices and attitudes of the participants were encouraging. Nearly all of them felt that the adults with BMI within the healthy range should be encouraged to maintain their weight and, three-fourth of them agreed that most overweight persons should be treated for weight loss and small weight loss can achieve major medical benefit. However, nearly half of the participants' responses were stereotypical as they felt only obese and overweight with comorbidities should be treated for weight loss. Two-thirds of them use BMI to diagnose overweight/obese and nearly all of them advice their patients to increase physical activity and restrict fat. Most of the participants were advising their patients to restrict sugar intake, increase fruits and vegetable consumption, reduce red meat, and avoid alcohol consumption. **Conclusion:** Present study exposed the lack of knowledge regarding obesity. However, practices and attitudes of the participants were promising. There is a need of in-service training to MOs to further improve their knowledge and practices towards management of obesity.

**Keywords:** Attitude, knowledge, obesity, practices, primary care physicians

## Introduction

Obesity has reached epidemic proportions globally, with more than 1.4 billion adults overweight—200 million men and nearly 300 million women obese—and is a major contributor to the global burden of chronic disease and disability. Often coexisting in developing countries with undernutrition, obesity is a complex condition, with serious social and psychological dimensions, affecting virtually all ages and socioeconomic groups.<sup>[1]</sup> India is undergoing an epidemiologic transition in which chronic conditions replace communicable disease as major causes of morbidity and death. Evidence indicates that adiposity is increasing in India that

it is associated with cardiometabolic risk factors, diabetes, and cardiovascular disease (CVD),<sup>[2,3]</sup> and that mortality from these conditions is increasing.<sup>[4]</sup> Obesity is a particular concern, both as a risk factor for CVD and for the development of diabetes mellitus (DM) and hypertension (HTN). Obesity has reached epidemic proportions in India in the 21<sup>st</sup> century, with morbid obesity affecting 5% of the country's population.<sup>[5]</sup> India is following a trend of other developing countries that are steadily becoming more obese. National Family Health Survey (NFHS-3, 2005–2006) shows around 15% of women and 12% men are overweight or obese. Although the proportions of obese are more in urban population, the rural population is not far behind.

Secondary as well as primary prevention is an essential part of primary care physician's work in accordance with the current

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Website:  
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DOI:  
10.4103/2249-4863.148126

**Address for correspondence:** Dr. Manjunath S. Somannavar, Department of Biochemistry, Karnataka Lingayat Education University's, Jawaharlal Nehru Medical College, Belgaum - 590 010, Karnataka, India. E-mail: manjunathsomannavar@gmail.com

recommendations.<sup>[6,7]</sup> The primary care physician is in a unique position of influence, which may lead to the adoption of healthy lifestyles and prevent obesity.<sup>[8]</sup> Advice from the family physician (FP) may prompt weight loss attempts<sup>[9]</sup> and may encourage other health-promoting behaviors.<sup>[10]</sup> FPs' awareness and diagnosis of the obese and overweight is low and may contribute to its undermanagement.<sup>[11]</sup> There is also reluctance to treat patients without comorbidities,<sup>[12]</sup> as there is to treat the overweight as opposed to the obese.<sup>[13]</sup> In an era of rapidly growing prevalence of obesity, it is important to explore the current attitudes and practices of primary care physicians.

## Materials and Methods

### Study period

Present study was conducted during the period of July 2012–March 2013.

### Participants

The study participants were primary care physicians of Health and Family Welfare Department, designated as medical officers (MOs) of health, working at rural primary health centers of three districts in North Karnataka. The list of primary care physicians working in rural primary health centers was obtained from the district health office.

### Survey procedure and measurements

Self-administered questionnaire was developed by a review of literature in the field and it was validated with five MOs for scope, length, and clarity. The questionnaire comprised GPs' knowledge, attitudes, and practices regarding managing and preventing overweight and obesity and designed to be completed in 10–15 min. MOs were met during monthly taluka meetings and explained about the study in detail. Questionnaire was administered after taking informed consent.

### Data analysis

The completed questionnaires were hand-checked for completeness and coded before data entry. As the primary aim of this study was to find out the knowledge, attitudes, and practices of GPs; the data was examined by simple frequency counts.

## Results

A total of 102 MOs working in rural primary health centers participated in this survey after giving informed consent. Their work experience ranged from 3 to 25 years.

### Knowledge section

Out of 102 participants, 99 (response rate 97.1%) responded to question on approximate prevalence of overweight and obesity in India. Only 15 participants (15.2%) answered correctly, whereas, 20 (20.2%) indicated as don't know. Any response between 5 and 15% was considered correct.

HTN, DM, and CVDs were indicated as comorbidities associated with obesity by 73 (71.6%), 78 (76.5%), and 60 (58.8%) participants, respectively. Ischemic heart disease, osteoarthritis, sleep apnea, infertility, renal disorders, fatty liver, and cholecystitis were also indicated as comorbidities by 9 (8.8%), 21 (20.6%), 4 (3.9%), 5 (4.9%), 8 (7.8%), and 4 (3.9%) participants, respectively; whereas, 10 (9.8%) answered "others" and 8 (7.8%) were unaware of the comorbidities.

Out of 102, 94 (response rate 92.2%) participants responded to questions on cutoff body mass index (BMI) value for overweight and obesity. Only 25 (26.6%) and 12 (12.8%) participants indicated appropriate BMI cutoff values for overweight and obesity diagnosis, whereas, 32 (34%) and 35 (37.2%) participants had no idea about this, respectively.

Out of 102 participants, 54 responded that they were not aware of the guidelines for obesity management. Most common treatment option for overweight/obesity was to decrease caloric intake indicated by 73 (71.6%) participants followed by increased physical activity 63 (61.7%). Drugs, surgery, lifestyle modification, liposuction, and yoga/stress management were mentioned by 21 (20.6%), 15 (14.7%), 12 (11.7%), 9 (8.8%), and 7 (6.9%) participants, respectively.

Attitude section: More than half of the participants (57%) agreed that obesity is a disease. Most of the participants (90%) felt that the adults with BMI within the healthy range should be encouraged to maintain their weight and 75% of them agreed that most overweight persons should be treated for weight loss. However, nearly half of the participants (48 and 45%) felt that only obese and overweight with comorbidities should be treated for weight loss, respectively. Many participants (75%) agreed that small weight loss in obese/overweight can achieve major medical benefit and most of them (88%) felt that doctors should maintain ideal body weight. Sixty percentage of them felt that they are professionally well-trained to treat overweight/obese people. Seventy percentage participants felt that overweight/obese people are generally lazier and nearly half of them (52%) also felt that they lack willpower and motivation. Responses are shown in Table 1.

### Practices section

Many (67%) of the participants use BMI to diagnose overweight/obese people whereas 12, 5, and 19 respondents also mentioned appearance, abdominal circumference, and standard weight chart, respectively. Ten of them (9%) did not respond.

Non-adherence to lifestyle modification (9%), food taboos (8%), lack of motivation (22%), lack of knowledge towards obesity (13%), and comorbidities (3%) were the barriers/problems encountered in managing overweight/obese persons. Twenty-three participants did not respond.

Majority of the participants advice their patients to increase physical activity (97%), restrict fat (97%), restrict sugar

**Table 1: Responses to attitude section aspects**

Aspect	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Obesity is a disease	10	24	7	38	19
Adults with BMI within the healthy range should be encouraged to maintain their weight	4	1	2	49	41
Most overweight persons should be treated for weight loss	2	17	6	53	22
Only obese should be treated for weight loss	9	37	6	43	5
Overweight should be treated only when associated with other comorbidities	17	39	0	37	8
Small weight loss can achieve major medical benefit in overweight/obese people	2	17	8	59	15
Doctors should maintain ideal body weight, as they are role models in the society	3	3	7	42	46
General practitioners should refer overweight and obese persons to specialists instead of attempting to treat them	9	41	8	29	12
I am professionally well prepared to treat patients who are overweight/obese	3	23	15	57	3
Overweight persons are generally lazier than normal-weight persons	3	18	9	57	13
Overweight/obese persons lack willpower and motivation compared to normal-weight persons	5	32	8	45	7

BMI: Body mass index

intake (85%), increase fruits and vegetable consumption (90%), reduce red meat (81%), and avoid alcohol consumption (90%). Two-thirds of the participants (66%) refer their patients for dietician's advice and quarter of them (26%) refers to alternative system of medicine. Responses are shown in Table 2.

## Discussion and Conclusion

Obesity is emerging as an important health problem in India, paradoxically coexisting with undernutrition. Many of the primary care physicians were unaware about the epidemiological burden of obesity and overweight in India. The rising prevalence of obesity is associated with the increasing prevalence of non communicable diseases like HTN, type 2 DM (T2DM), and CVD.<sup>[14-16]</sup> HTN, DM, and CVDs was indicated in 58–75% of the participants as major comorbidities associated with obesity and only few of them (8%) were unaware about these comorbidities. Striking finding was majority of the participants were unaware about the cutoff values of BMI for diagnosing the person as overweight/obese. Moreover half of the participants reported that they were not aware of the guidelines for obesity management; however, many of them indicated decreasing the calorie intake and increasing physical activity as the two most common guidelines.

Perceptions and attitudes of the participants were promising. Nearly all of them felt that the adults with BMI within the healthy range should be encouraged to maintain their weight, and three-fourth of them agreed that most overweight persons should be treated for weight loss and small weight loss can achieve major medical benefit. However, nearly half of the participants' responses were stereotypical as they felt only obese and overweight with comorbidities should be treated for weight loss. Nearly two-thirds of them had a perception that overweight/obese are generally lazier and almost half of them felt that such individuals lack willpower and motivation. Most of physicians agreed that doctors should maintain ideal body weight and slightly more than half of them felt that they are professionally competent to treat overweight/obese. Previous studies in other countries have shown that GPs do

**Table 2: Responses to practices aspect**

	Always	Often	Occasionally	Rarely	Never
Increase physical activity	82	15	0	0	0
Eat less during meals	60	24	5	2	4
Restrict fat intake	83	14	0	1	0
Restrict sugar intake	46	39	10	1	3
Increase fruits and vegetable intake	79	11	4	2	1
Reduce red meat	57	24	9	4	2
Referral to dietician advice	29	37	25	6	1
Referral to alternative system of medicine (AYUSH)	6	20	24	26	22
Advice to reduce alcohol	74	16	7	0	0
Weight reduction medication	19	20	28	19	12

AYUSH: Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homocopathy

not appropriately evaluate and manage overweight and obesity satisfactorily.<sup>[17-20]</sup> Participants' responses related to practice section were encouraging. Two-thirds of them use BMI to diagnose overweight/obese and nearly all of them advice their patients to increase physical activity and restrict fat. In a study, GPs were advising less than one-third of obese patients to lose weight.<sup>[21]</sup> Most of the participants were advising their patients to restrict sugar intake, increase fruits and vegetable consumption, reduce red meat, and avoid alcohol consumption. Interestingly, two-thirds of the participants refer their patients for dietician's advice and quarter of them to alternative system of medicine.

The present study assessed the knowledge, attitude, and practices towards obesity among primary care physicians working in rural health centers. Our results clearly indicate lack of knowledge regarding epidemiological burden and about guidelines for evaluating and managing obesity among primary care physicians. Though the perceptions and practices of the GPs were encouraging and promising, many of the responses were stereotypical and not consistent. This study has some limitations; we collected self-reported practices from the participants which were not validated with patient responses or outcomes,

included only public sector GPs. As per our knowledge, this is a first ever attempt in India in this regard. We recommend structured in-service training to primary care physicians to further improve their knowledge and practices towards management of overweight and obesity.

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**How to cite this article:** Somannavar MS, Appajigol JS. Knowledge, attitudes, and practices of public sector primary health care physicians of rural north karnataka towards obesity management. *J Fam Med Primary Care* 2014;3:400-3.

**Source of Support:** Nil. **Conflict of Interest:** None declared.