

# HALTING THE RISE IN OBESITY AND DIABETES

## Life Stage: Young Adult (18 – 44 years)

### INTERVENTION POINTS

<p><b>1. Social Determinants/Health Promotion</b></p> <p>National food and nutrition policies (support for exclusive breastfeeding, taxing sugary foods, food labelling etc)</p> <p>National policies on provision of community spaces for physical activity</p> <p>Health Education/Promotion on avoidance of risk factors for obesity &amp; diabetes</p> <p>Adult Preventive Health Services and guidelines</p> <p>Social mobilization and media &amp; informational campaigns</p> <p>Public awareness and education on obesity</p>	<p><b>2. Primary Prevention/Risk Reduction</b></p> <p>Adult Preventive Health Services</p> <p>Screening for risk factors for NCDs and referral for risk reduction</p> <p>Lifestyle and behaviour change interventions</p>
<p><b>3. Screening &amp; Early Detection</b></p> <p>Adult Preventive Health Services protocols and standards</p> <p>Work- and community-based weight and blood glucose screening guidelines (18-44 years)</p> <p>Referral resources for behavioural intervention, family support and health education</p> <p>Statutory reporting for Diabetes Register</p>	<p><b>4. Care and Treatment</b></p> <p>Clinical Protocols for management of excessive weight gain, overweight and obesity; and management of impaired glucose metabolism</p> <p>Referral resources for development of diabetes self-care skills, family support and health education</p> <p>Accessible treatment and care services for obesity &amp; diabetes</p> <p>Statutory reporting of diabetes diagnoses for National Register</p>
	<p><b>5. Quality of Care</b></p> <p>Adherence to national guidelines for clinical management</p> <p>Clinical Care Quality Reporting system with monitoring and accountability mechanisms</p>

### Defining Adult Overweight and Obesity

Weight Category	BMI	COMMENTS
Underweight	<18.5	<p>An individual is considered <i>morbidly obese</i> if he/she is <b>100 pounds over</b> his/her ideal body weight, has a <b>BMI of 40 or more</b>, or <b>35 or more and experiencing obesity-related health conditions</b>, such as high blood pressure or diabetes.</p> <p><b>Waist circumference</b>, in addition to BMI, indicates higher risk of developing obesity-related conditions if:</p> <ul style="list-style-type: none"> <li>A male has a waist circumference of more than <b>40 inches</b></li> <li>A non-pregnant female has a waist circumference of more than <b>35 inches</b></li> </ul>
Normal Weight	18.5 - 24.9	
Overweight	25.0 - 29.9	
Obese	≥30	

HEALTH PROMOTION	EVIDENCE
<p><b>Supportive Policies</b></p> <ul style="list-style-type: none"> <li>Preconception care of women (before and during child-bearing years)</li> <li>Total Worker Health programmes integrating injury and illness prevention.</li> <li>National policies on comprehensive health promotion incl. campaigns &amp; informational, behavioural/social and environmental/policy interventions and approaches.</li> <li>Nutrition policies for food labelling.</li> </ul>	<p>The evidence shows strong risks of obesity are associated with several factors that impact upon women of childbearing age:</p> <ul style="list-style-type: none"> <li>large for gestational age (LGA) infants to be born to women who are overweight or obese when they become pregnant,</li> <li>women who gain excess weight during pregnancy,</li> <li>women who smoke during pregnancy,</li> <li>women who develop gestational diabetes or</li> <li>women who are older at first pregnancy</li> </ul> <p>Therefore, a focus on helping women from becoming overweight or obese before pregnancy, from gaining excess weight during pregnancy, preventing and controlling GDM has been shown effective in reducing obesity in offspring.</p>
PRIMARY PREVENTION	EVIDENCE
<ul style="list-style-type: none"> <li>Measure height &amp; weight; calculate BMI at all health care visits; waist circumference is also a useful measure.</li> <li>Social media and app-based interventions to improve diet and physical activity.</li> <li>Lifestyle/Behaviour Change Interventions for diet and physical activity</li> <li>Behavioural Counseling Interventions (5-As): <b>Assess, Advise, Agree, Assist, Arrange.</b></li> </ul>	<ul style="list-style-type: none"> <li>Multi-component social media interventions can lead to improved diet, physical activity behaviours. Use of mobile phone apps showed reductions in participants' bodyweight, BMI, waist circumference and body fat, based on frequency of programme use. Benefits accrued to persons taking a proactive approach to everyday problems. Important features of effective apps were frequent self-recording of weight, personalisation of the intervention (counselling and individualized feedback), and a social support system which acts as a motivational tool.</li> <li>Lifestyle/behaviour change interventions for diet and physical activity, emphasizing motivational interviewing, and self-determination theory are associated with long-term effects.</li> </ul>
SCREENING AND EARLY DETECTION	EVIDENCE
<p><b>Obesity</b></p> <ul style="list-style-type: none"> <li>All adults should be screened for obesity.</li> <li>Adults with BMI of 30 or higher, should be offered referral to intensive multi-component behavioural interventions.</li> </ul>	<p>Referral to intensive behavioural intervention programs that include a variety of activities, are successful in helping people manage their weight. These programs:</p> <ul style="list-style-type: none"> <li>include 12 to 26 sessions in the first year</li> </ul>

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<p><b>Diabetes</b></p> <ul style="list-style-type: none"> <li>• <b>All asymptomatic adults:</b> Screen for type 2 diabetes with an informal assessment of risk factors, or use a validated tool.</li> <li>• Blood glucose testing in adult clients of any age considered if overweight or obese (BMI <math>\geq 25</math>) and having one or more risk factors (test using either fasting plasma glucose, 2-hr plasma glucose after 75g oral glucose tolerance test, or HbA1c).</li> <li>• <b>All persons should be tested beginning at age 45 years.</b> If normal, repeat at a minimum 3-year interval. Those with prediabetes should be tested yearly.</li> </ul>	<ul style="list-style-type: none"> <li>• include 12 to 26 sessions in the first year</li> <li>• include group and/or individual sessions</li> <li>• help people make healthy eating choices</li> <li>• include physical activity</li> <li>• address issues that make it difficult to change behaviors</li> <li>• help people monitor their own behaviors</li> <li>• help people develop strategies to maintain healthy eating and physical activity behaviors.</li> </ul> <p><b>Patients with HIV</b> should be screened for diabetes and prediabetes (fasting glucose) every 6-12 months before starting ART; and 3 months after starting or changing ART. If normal, check fasting glucose annually. If prediabetic, measure fasting glucose every 3-6 months.</p>
<p style="text-align: center;"><b>CARE AND TREATMENT</b></p>	<p style="text-align: center;"><b>EVIDENCE</b></p>
<ul style="list-style-type: none"> <li>• Obesity management:             <ul style="list-style-type: none"> <li>- Behavioural Interventions (minimum 12 weeks' duration)</li> <li>- Combined pharmacologic and behavioural intervention</li> </ul> </li> <li>• A complete medical evaluation should be performed at the initial visit to confirm the diagnosis and classify diabetes.</li> <li>• Diabetes care and treatment should be provided by a team to improve lifestyle management.</li> <li>• Statutory reporting for Diabetes register</li> </ul>	<p><i>The comprehensive medical evaluation should ideally be done on the initial visit, although components can be done as appropriate on follow-up visits.</i></p> <ul style="list-style-type: none"> <li>• <i>History, Physical examination and Laboratory investigations (e.g. HbA1C, lipids, microalbuminuria, GFR )</i></li> <li>• <i>Referrals for initial care management</i> <ul style="list-style-type: none"> <li>- Eye care professional</li> <li>- Family planning for women of reproductive age</li> <li>- Registered dietitian for medical nutrition therapy</li> <li>- Diabetes self-management education and support</li> <li>- Comprehensive oral health examination</li> <li>- Mental health professional, if indicated.</li> </ul> </li> </ul>
<p style="text-align: center;"><b>QUALITY OF CARE</b></p>	<p style="text-align: center;"><b>EVIDENCE</b></p>
<ul style="list-style-type: none"> <li>• Routine vaccinations according to age-related recommendations             <ul style="list-style-type: none"> <li>- Annual influenza</li> <li>- Pneumonia vaccine</li> <li>- Hepatitis B</li> </ul> </li> </ul>	<p><i>Complete medical evaluation of Diabetic:</i></p> <ul style="list-style-type: none"> <li>• <i>Detect diabetes complications and potential comorbid conditions.</i></li> <li>• <i>Review previous treatment and risk factor control in patients with established diabetes.</i></li> <li>• <i>Begin patient engagement in the formulation of a care management plan.</i></li> <li>• <i>Develop a plan for continuing care.</i></li> </ul> <p><i>Health professionals <b>treating obesity</b>, should utilize disciplines that offer expertise in dietary counseling, physical activity, and behavior change through direct, formal relationships or an indirect referral.</i></p>

KEY: BMI = Body Mass Index      DOH = Department of Health      GFR = Glomerular Filtration Rate

### REFERENCES

1. R L Atkinson, A Pietrobelli, R Uauy and I A Macdonald (2012) Editorial. **Are we attacking the wrong targets in the fight against obesity?: the importance of intervention in women of childbearing age** International Journal of Obesity (2012) 36, 1259–1260
2. Mita G, Mhurchu CN, & Jull A. (2016). **Effectiveness of social media in reducing risk factors for noncommunicable diseases: A systematic review and meta-analysis of randomized controlled trials.** Nutrition Reviews, 74(4), 237-247
3. Schoeppe S, Alley S, Van Lippevelde W, Bray N, Williams S, Duncan M, et al. (2016). **Efficacy of interventions that use apps to improve diet, physical activity and sedentary behaviour: A systematic review.** International Journal of Behavioral Nutrition and Physical Activity, 13(1), 127
4. Feltner C, Peterson K, Palmieri Weber R, Cluff L, Coker-Schwimmer E, Viswanathan M, et al. (2016). **The effectiveness of total worker health interventions: A systematic review for a National Institutes of Health Pathways to Prevention workshop.** Annals of Internal Medicine, 165(4), 262-269
5. GW Heath (2009) **The role of the public health sector in promoting physical activity: National, state, and local applications.** J Phys Act Health. 2009 Nov;6 Suppl 2:S159-67.
6. Nikolaou CK, Hankey CR, & Lean ME. (2015). **Calorie-labelling: Does it impact on calorie purchase in catering outlets and the views of young adults?** International Journal of Obesity, 39(3), 542-545
7. Aguilar-Martinez A, Sole-Sedeno JM, Mancebo-Moreno G, Medina FX, Carreras-Collado R, & Saigi-Rubio F. (2014). **Use of mobile phones as a tool for weight loss: A systematic review.** Journal of Telemedicine and Telecare, 20(6), 339-349
8. Semper H, Povey R, & Clark-Carter D. (2016). **A systematic review of the effectiveness of smartphone applications that encourage dietary self-regulatory strategies for weight loss in overweight and obese adults.** Obesity Reviews, 17(9), 895-906
9. Samdal G, Eide G, Barth T, Williams G, & Meland E. (2017). **Effective behaviour change techniques for physical activity and healthy eating in overweight and obese adults; systematic review and meta-regression analyses.** International Journal of Behavioral Nutrition & Physical Activity, 14(1).
10. **ADA Diabetes Care 2017:** page S14; **S27, S33** [http://care.diabetesjournals.org/content/diacare/suppl/2016/12/15/40.Supplement\\_1.DC1/DC\\_40\\_S1\\_final.pdf](http://care.diabetesjournals.org/content/diacare/suppl/2016/12/15/40.Supplement_1.DC1/DC_40_S1_final.pdf)
11. **U.S. Preventive Services Task Force (USPSTF, 2012)** <https://www.uspreventiveservicestaskforce.org/Page/Document/RecommendationStatementFinal/obesity-in-adults-screening-and-management>
12. Hassan Y, Head V, Jacob D, Bachmann M, Diu S, & Ford J. (2016). **Lifestyle interventions for weight loss in adults with severe obesity: A systematic review.** Clinical Obesity, 6(6), 395-403.
13. NIH Guidelines (2013) **Managing Overweight and Obesity in Adults** <https://www.nhlbi.nih.gov/sites/www.nhlbi.nih.gov/files/obesity-evidence-review.pdf>