Obesity and COVID - 19: National Obesity Management Clinical Programme

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Obesity and COVID 19 Disease Severity

There is emerging evidence that obesity may be linked with COVID 19 disease severity. This is important to consider given the prevalence of obesity in Ireland (23% adults overall, 34% aged 65-75, 28% over age 75).

- Experience from Italian anaesthesiologists is that obesity is the most frequent co-morbidity in critical care (https://www.lavocedinewyork.com/en/news/2020/03/15/handling-critical-covid-19-patients-a-guide-from-italian-anesthesiologists/)
- A retrospective report of 112 patients in China with cardiovascular disease who were admitted to hospital for COVID-19 infection showed that BMI was significantly higher in the group with critical illness, and 88% (18/95) of non-survivors had a BMI > 25, which was significantly higher than the BMI of survivors (https://pubmed.ncbi.nlm.nih.gov/32120458/?from_single_result=%28%28COVID%29+AND+BMI%29)
- Over 70% of 775 individuals admitted to critical care with confirmed COVID 19 in the UK have overweight or obesity. https://www.icnarc.org/About/Latest-News/2020/03/27/Report-On-775-Patients-Critically-Ill-With-Covid-19
- Persons with severe obesity who become ill and require intensive care (5% of infections) present challenges in patient management which may lead to poorer outcomes – more bariatric hospital beds, more challenging intubations and ventilation, more difficult to obtain imaging diagnosis (there are weight limits on imaging machines), more difficult to position and transport by nursing staff. And like pregnant patients in ICUs, they may not do well when prone. https://www.obesity.org/download/3327/
- Public Health England recommends people under 70 with BMI ≥40kg/m2 at higher risk of severe illness due to COVID 19 (https://www.gov.uk/government/publications/covid-19-guidance-on-social-distancing-and-for-vulnerable-people/guidance-on-social-distancing-for-everyone-in-the-uk-and-protecting-older-people-and-vulnerable-adults)
- The US Centers for Disease Control and Prevention recommend people of any age with severe obesity (BMI >40) are at high risk for severe illness for COVID 19 https://www.cdc.gov/coronavirus/2019-ncov/specific-groups/people-at-higher-risk.html
- We can expect to see parallels between influenza and COVID 19. During the 2009 H1N1 pandemic, obesity was recognized as an independent risk factor for complications from influenza. People with BMI ≥ 40kg/m2 are considered by the HSE as 'at risk' group for influenza. Thus, it is likely that obesity will be an independent risk factor for COVID-19 (The Obesity Society, 2020 https://www.obesity.org/download/3327/)

Why might people with obesity be at higher risk?

- Obesity is linked with respiratory difficulties such as sleep apnoea, obesity hypoventiliation syndrome, asthma and cardiovascular disease which can impair oxygen levels in the blood.
- Obesity is associated with a significantly dysregulated immune system and impaired response to both bacterial and viral illness.
- Many people with obesity also have other chronic diseases such as diabetes or high blood pressure.

- Obesity is linked with inflammation, which may cause a more severe inflammatory reaction in the lungs with COVID 19 infection.

Guidance from National Obesity Management Clinical Programme:

- Individuals with obesity should be included in the HSCP 'at risk' groups and advised to follow the corresponding advice: https://www2.hse.ie/conditions/coronavirus/at-risk-groups.html
- Health care professionals, particularly those involved assessing individuals with suspected COVID 19, should be made aware that Individuals with obesity should be included in the HSCP 'at risk' groups.
- Health care professionals should follow obesity specific guidelines for clinical nutrition in the intensive care unit https://www.espen.org/files/ESPEN-Guidelines/ESPEN_guideline-on-clinical-nutrition-in-the-intensive-care-unit.pdf
- People with obesity who are self-isolating and avoiding social contact are already stigmatized and already experiencing higher rates of depression. Social isolation is at the heart of obesity stigma. Health care providers need to challenge obesity bias. Obesity should be assessed using a validated staging tool such as the Edmonton Obesity Staging System, not just BMI alone (Padwal et al 2011 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3185097/) and high BMI should not preclude individuals with obesity from receiving appropriate care.
- Special beds and positioning/transport equipment may not be widely available in hospitals. A proactive approach should be taken in managing the requirements of an increased number of individuals with obesity accessing health care services through risk assessment, care planning and procurement of specialist bariatric equipment. For example, appropriately sized blood pressure cuffs for accurate blood pressure measurements. See HSE guidance: https://www.hse.ie/eng/staff/safetywellbeing/healthsafetyand%20wellbeing/bariatric%20guidelines%20re%20manual%20handling%20issues.pdf
- Presence of obesity/actual BMI should be included in standardised data surveillance systems in individuals requiring hospitalisation and ICU/HDU to assist in both disease prevention and treatment strategies (https://www.bmj.com/content/368/bmj.m810/rr-31). For example https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/03/phe-letter-to-trusts-re-daily-covid-19-hospital-surveillance-11-march-2020.pdf