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Threat of obesity behind COVID-19

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EDITORIAL

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The second wave of the COVID-19 is currently hitting Indonesia as reported on July 28, 2021 that new cases had reached 47,791, the death toll was 1,824, and the cure rate was 43,856. Restrictions on physical contact and regional lockdown are believed to be main prevention efforts so that policies of working from home and studying from have issued. Since March 2020, these policies have been applied for more than a year. These policies was relaxed gradually when there was a decrease of the cases, but they have been reenforced strictly since July 2021.

Obesity is a chronic disease, but only some who consider this a problem that should be prioritized.[1] Most of them merely think that obesity is an appearance problem. In fact, obesity is a gateway to various non-communicable diseases, mental health illnesses, and it is currently a major comorbid factor for complications and mortality of COVID-19. The prevalence of adults in Indonesia reached 18% of overweight and obesity and 31% of central obesity in 2018. Central obesity occurs if the abdominal circumference for a man is >90cm and the abdominal circumference for a woman is >80cm.[2] Risks of hospitalization, admission to intensive care, use of breathing apparatus and death are higher in patients with obesity and patients with central obesity.[3]

Obesity occurs because of a positive energy balance generally influenced by environmental, genetic, and behavioural factors.[4] Environmental factors such as work duration, sleep duration, and other unsupportive environment for physical activities are obesogenic factors. The pandemic and public activity restrictions in Indonesia (PPKM) make us have to do a lot of works at home. This condition is obesogenic because it reduces physical activities and increases a sedentary lifestyle in adults and children.[5,6] Physical activities cause the body's oxidative capacity to increase so that mitochondrial biogenesis and vascularization increase. Both play a role in reducing adipose tissue inflammation and adipocyte cell size, thereby reducing energy storage.[7] Reduced physical activities will reduce rates of metabolism and energy expenditure; as a result, physical fitness decreases, and an energy surplus occurs. These contribute for obesity and economic threat in the future. Reduced physical activities within two weeks can decrease cardiorespiratory fitness and multi-organ insulin sensitivity.[8] The extension of PPKM and physical isolation required most of us (70%) to work from home. 45% of workers admit working for longer hours than before the pandemic. Average of working hours increases by 3 hours per day, and most of them still have to work at night and weekend.[9] Women with long working hours have a 2.4x higher risk of obesity.[10] Long working hours can contribute for reduced sleep duration. Subjects who work for >9 hours per day are known to have higher body mass index (BMI) and abdominal circumference.[11] Lack of sleep causes hormonal imbalance and reduces cognitive function to control the obesity.[12] Location of where we live is also related to nutritional status. The ease to access food outlets and the lack of open space for recreational facilities are associated with an increasing risk of obesity. A social environment also plays a significant important role, especially during these current restrictions of physical contact.

The risk of obesity will increase >50% if our nearby environment is obese, and it will increase >30% if our partner is obese.[13]

The implementation of the PPKM for three months made the transition of the nutritional status of society increase highly. 5% of subjects with normal nutritional status switched to overweight; 5% of overweight subjects were more obese; and 1.3% of obese subjects became severely obese in the first three months of the PPKM. After one year of the PPKM, this transition became higher as 15% of normal subjects were overweight; 15% of overweight subjects were more obese; and 6% of obese subjects became severely obese. The risk of this transition is known to be higher in children and young adults.[14] We also get similar data on students of Faculty of Medicine. After a year of online learning, obese students rose 10% and severe obesity increased 1%. Meanwhile, the number of students with poor nutritional status was constant, and normal nutritional status decreased by 10%. Therefore, if this condition is not maintained properly, PPKM can make a lot of people become "high risk group" to be infected by COVID-19. Moreover, it is not impossible if the COVID-19 can continue to become an obesity pandemic.

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