

MEDIA RELEASE

12 May 2021

SINGAPORE STUDY PROVES THAT SURGERY MAY LOWER MORTALITY RATE AND IMPROVE LIFE EXPECTANCY AMONG ADULTS WITH SEVERE OBESITY

Survival benefits are much more pronounced for people with pre-existing diabetes than those without

Singapore — Adults with severe obesity who undergo metabolic-bariatric surgery (MBS) to lose weight, may have substantially lower mortality rates and longer life expectancy compared to those who tried to lose weight through conventional obesity management. The study findings by a team of clinicians and researchers from the National University Hospital (NUH); NUS Saw Swee Hock School of Public Health (SSHSPH) and NUS Yong Loo Lin School of Medicine (NUS Medicine) are published in the prestigious medical journal *The Lancet*¹ in May.

According to World Health Organization (WHO) statistics, in 2016, more than 1.9 billion adults, 18 years and older, were overweight². Of these, over 650 million were obese³. In Singapore, based on the 2017 National Population Health Survey, the prevalence of obesity among adult Singaporeans aged 18 to 59 years was 8.9%. On average, NUH has been seeing 1800 patients facing obesity issues a year for the past three years. Among them, around 90% would be eligible for MBS or weight loss surgery, although uptake is currently around 5%. In Singapore, MBS is generally considered only for patients 60 years and below with a body mass index (BMI) of above 32.5 (severely obese) if they have obesity-related illnesses such as diabetes, or a BMI beyond 37.5 (morbidly obese) if they do not.

Led by Assistant Professor Asim Shabbir, Senior Consultant with NUH's Division of General Surgery (Upper Gastrointestinal Surgery), Dr Nicholas Syn from NUS Medicine, and Associate Professor Tai Bee Choo from SSHSPH, the meta-analysis conducted in 2020 used patient-level survival data involving a total of 174,772 patients.

The meta-analysis estimated a life expectancy gain of approximately six years among patients who underwent MBS compared to those who tried to lose weight through usual care (defined as medications, diet and exercise).

In fact, the analysis found that MBS could lower the risk of death by 60% for patients with obesity and diabetes and 30% for those without.

¹ [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(21\)00591-2/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(21)00591-2/fulltext)

² Overweight is defined as having a body mass index (BMI) equal to or greater than 25.

³ Obese is defined as having a BMI equal to or greater than 30.

“In Singapore and many parts of the world, eligible patients are often reluctant to go for MBS - for fear of surgery, complications and prolonged recovery process. But we can perform MBS via keyhole procedure nowadays and in most cases, patients will be discharged within two to three days. Based on this study, MBS can bring about significant benefits in the long run for patients with obesity and especially those who also suffer from diabetes,” explained Assistant Professor Shabbir, who is also the Director of the Centre for Obesity Management and Surgery at NUH.

Dr Nicholas Syn noted: “Interestingly, the treatment effect is considerably greater in people with diabetes. Median life expectancy was around nine years longer for patients with diabetes in the surgery group than the non-surgical group, while the life expectancy gain was around five years for patients without diabetes. This indicates that patients who simultaneously suffer obesity and diabetes, or metabolic syndrome, are poised to benefit most from bariatric surgery.”

The study estimated a “number needed to treat (NNT) at 10-years” of 8.4 amongst patients who suffer both obesity and diabetes. This means that for every 100 patients who have diabetes plus obesity, approximately 79 patients are expected to be alive at 10-years if they receive usual care, whereas approximately 91 patients would be alive at 10-years if they were treated with bariatric surgery.

For patients who are obese but do not suffer from diabetes, the NNT was 29.8. This means that for every 100 patients who have obesity without diabetes, approximately 88 patients will live beyond 10-years if they receive usual care, while approximately 92 patients will live past 10-years if they underwent bariatric surgery.

Different types of MBS commonly performed at NUH include gastric bypasses⁴ and sleeve gastrectomy⁵. The study found that treatment effects did not appear to differ between these surgical procedures.

Associate Professor Tai Bee Choo, however emphasised that: “MBS is not a magic bullet and patients would still need to maintain a healthy lifestyle and diet even after surgery. Subsequent weight control through behavioural and lifestyle modifications is important for lowering disease risk.”

⁴ Gastric bypass surgery – a small pouch is created from the stomach. The operation creates a connect from the stomach to the small intestine, bypassing portions of the digestive tract.

⁵ Sleeve gastrectomy – involves removing a portion of the stomach.

Chinese Glossary

Assistant Professor Asim Shabbir Senior Consultant Division of General Surgery (Upper Gastrointestinal Surgery) National University Hospital	Asim Shabbir 助理教授 高级顾问医生 上肠胃外科 国立大学医院
Director Centre for Obesity Management and Surgery National University Hospital	主任 减重管理外科中心 国立大学医院
Associate Professor Tai Bee Choo Saw Swee Hock School of Public Health National University of Singapore	戴美珠副教授 苏瑞福公共卫生学院 新加坡国立大学
Dr Nicholas Syn Yong Loo Lin School of Medicine National University of Singapore	冼立勋医生 杨潞龄医学院 新加坡国立大学
Gastric bypass	胃绕道手术
Sleeve gastrectomy	袖状胃成形术

For media enquiries, please contact:

YUANYI LI
Communications Office
National University Health System
DID: +65 6772 3622
HP: +65 96510153
Email: yuanyi_li@nuhs.edu.sg

About the National University Health System

The National University Health System (NUHS) aims to transform how illness is prevented and managed by discovering causes of disease, development of more effective treatments through collaborative multidisciplinary research and clinical trials, and creation of better technologies and care delivery systems in partnership with others who share the same values and vision.

Institutions in the NUHS Group include the National University Hospital, Ng Teng Fong General Hospital, Jurong Community Hospital and Alexandra Hospital; three National Specialty Centres - National University Cancer Institute, Singapore, National University Heart Centre, Singapore and National University Centre for Oral Health, Singapore; the National University Polyclinics; Jurong Medical Centre; and three NUS health sciences schools – NUS Yong Loo Lin School of Medicine (including the Alice Lee Centre for Nursing Studies), NUS Faculty of Dentistry and NUS Saw Swee Hock School of Public Health.

With member institutions under a common governance structure, NUHS creates synergies for the advancement of health by integrating patient care, health science education and biomedical research.



As a Regional Health System, NUHS works closely with health and social care partners across Singapore to develop and implement programmes that contribute to a healthy and engaged population in the Western part of Singapore.

For more information, please visit <http://www.nuhs.edu.sg>.