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Singapore nutritionists collaborate to study sarcopenia management in elderly

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Changi General Hospital (CGH), SingHealth Polyclinics (SHP) and Abbott on 31 Oct 2019, announced results of the first of a two-part SHIELD study which highlights the prevalence of muscle mass loss in normally nourished, community-dwelling elderly Singaporeans. Started in 2017, funded by the Singapore Economic Development Board, CGH and Abbott, the SHIELD study findings – published this month in PLOS ONE journal shows that as people age, 1 in 5 elderly with normal nutritional status will potentially be at risk of sarcopenia or low muscle strength.

SHIELD (Strengthening Health In Elderly Through Nutrition) study by CGH, Abbott and SPH evaluates the effects of nutritional intervention on muscle health outcomes in the aged population

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Future-proofing the Super Aging Population in Singapore
Asia's population is ageing rapidly. By 2030, 25% of Singaporeans will be aged 65 and above, and now more than ever before stakeholders are looking at ways to ensure the health of this super ageing population. Given that, having healthy muscles is a critical enabler to ensure that the elderly can continue to retain their mobility, strength, energy levels and independence as they age.

The SHIELD study provides further weight to the importance of maintaining and improving muscle health as we age.

Statistics uncovered from phase one of the SHIELD study of 400 elderly over 65 years of age include:

- Prevalence of low muscle mass was higher in females (24.9%) than in males (15.5%)
- Every one-year increase in age over the age of 65 was associated with 13% higher odds of having low muscle mass
- Even adults with normal nutritional status were at risk for having lower muscle mass
- 52% of participants had vitamin D insufficiency

“Asia is moving towards a future of super-aged societies and this places an enormous responsibility for all of us to improve the quality of life in our ageing population. Through this study, our aim is to understand the effect of nutrition on health outcomes and to develop science-based solutions to manage and promote active, sustained, healthy living for the elderly. By supporting and partnering with local hospitals, academics and governments, we will be able to drive initiatives that improve the quality of life in ageing societies,” said Dr Low Yen Ling, director of nutrition research and development at Abbott in Asia-Pacific, and one of the authors of the study.

Earlier in April 2019, Abbott partnered with The Society of Geriatric Medicine Singapore (SGMS) to launch “Stand4Strength,” a national challenge aimed to help young and older Singaporeans understand the risks of frailty and muscle loss. While the Stand4Strength campaign raised awareness about the risk of muscle mass loss as we enter our 40s, the SHIELD study builds our understanding of the extent of muscle mass loss in the local elderly population.

Muscle mass is an important indicator of health in the elderly. Low muscle mass is associated with adverse health outcomes and slower recovery in older people. “Most other studies have suggested that muscle mass loss is limited to those who are malnourished. However, the findings of our study show the prevalence of low muscle mass in normally nourished elderly individuals is significant as well,” said Adjunct Assistant Professor Samuel Chew, Senior Consultant, Department of Geriatric Medicine, CGH and one of the authors of the study.

SHIELD Study Designed To Support Community Programmes

As part of CGH’s mission to provide community programmes designed to care for patients at each stage of their healthcare journey, the SHIELD study will support community programmes that enable patients to keep well, age well and get well beyond hospital to home. The majority of the awareness efforts for maintaining muscle mass health in the community will be spearheaded by SHP and supported by CGH for the more serious and complicated cases in terms of more detailed investigations, review and management.

By working collaboratively and leveraging the strengths and strategic roles of each organisation in the wider context of regional healthcare, CGH and SHP will thus be in a better position to provide the best care and service to the community at large and individual patients at the same time.

“The whole effort will be more effective than sum of the parts and we look forward to expanding and deepening our joints efforts to combat sarcopenia,” said Adjunct Assistant Professor Chew.

EXERCISE AND DIET FOR BETTER HEALTH OUTCOMES

The high prevalence of low muscle mass among the elderly with normal nutritional status highlights the importance for the elderly to be aware of their muscle mass status, in order to maintain their muscle health as they age. To best determine their muscle health, individuals can work with their healthcare providers to perform simple tests, such as the Malnutrition Universal Screening Tool (MUST) and the Bioelectrical Impedance Analysis (BIA).

“Healthcare professionals should take note of these results and encourage their patients to consider early screening of their muscle mass and encourage them to adopt a lifestyle that incorporates physical activity and the right diet, including optimal levels of protein,” said Adjunct Associate Professor Tan Ngiap Chuan, Family Physician and Director of Research at SingHealth Polyclinics.

The findings of the SHIELD study show that healthcare professionals also have an opportunity to help the public understand how to preserve and improve muscle health. They can recommend suitable physical activities, such as exercises that focus on building core strength, weight-bearing and nutrition in the form of a high-protein balanced diet.

“It is well documented in previous studies that resistance exercise training and a high protein, well-balanced diet can prevent and even reverse sarcopenia in older persons if detected early enough. In the hospital setting, it is important to ensure that the elderly eat adequate protein foods to meet their recommended dietary intake,” added Adjunct Assistant Professor Chew.

About the SHIELD Study:

SHIELD is a large-scale prospective, randomised, double-blind, placebo-controlled study that investigates the effects of nutrition management in more than 400 community-dwelling elderly, aged 65+, in Singapore. The study is being conducted at the Nutritional Health of the Elderly Reference Centre (NHERC) that was set up in partnership between CGH and Abbott in 2017. Recruitment and the study were conducted at CGH and at SingHealth Polyclinics – including Marine Parade, Tampines and Bedok polyclinics. Subjects from all recruitment sites are then assessed at the Clinical Trials and Research Unit at CGH.

With the reference database generated from the SHIELD study, and the coming together of healthcare professionals, researchers and industry partners with expertise in nutrition – muscle health and management of sarcopenia, both in the acute and community setting – the NHERC can augment whole-of-society efforts to support a rapidly ageing population in Singapore, targeting functional optimisation and enabling independent living in the community.