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Press release from: Actywell Digital Limited

## **Shaping the Future of Healthy Ageing: YCHSS and PolyU Conclude Pioneering Digital Holistic Healthy Life Education (e2HLE) Intervention for Older Adults Supported by WBD101 and Actywell**



*Dr Cheung reports encouraging results, with many older adults seeing weight loss and drops in cholesterol, BMI and key biometrics.*

A groundbreaking randomised controlled trial (RCT) protocol evaluating a holistic lifestyle intervention for older adults with metabolic syndrome (MetS) and psychosomatic symptoms in Hong Kong has been published in BMC Geriatrics. Conducted by the Yan Chai Hospital Social Services Department (YCHSS) in collaboration with the WHO Collaborating Centre for Community Health Services, School of Nursing, The Hong Kong Polytechnic University (PolyU), this is the first study in Hong Kong to integrate whole-food plant-based nutrition, structured physical activity, mindfulness practice, self-administered acupressure, and digital self-monitoring lifestyle data system into a comprehensive and synergistic intervention model.



The study is supported by an eHealth platform developed and provided by Actywell Digital, with WBD101 serving as Actywell's technological partner in biosensing innovation. The intervention framework is grounded in the World Health Organisation's (WHO) Integrated Care for Older People (ICOPE) model, with a focus on enhancing intrinsic capacity across physical, functional, psychological, nutritional and metabolic domains.

A total of 150 participants aged 60 years or above, diagnosed with MetS and presenting psychosomatic symptoms, were recruited from five elderly centres operated by YCHSS. The eligible participants used a home-based eHealth system (Hera Leto Active - <https://www.heraletto.com/product-solutions/hera-letto-active>) at home. The system includes:

- A single-sided biosensing earbud developed by Actywell Digital, incorporating sensor technology from its partner WBD101
- A tablet-based digital health platform designed by Actywell
- Integrated monitoring of Heart Rate, Respiratory Rate, Core Temperature, Oxygen Saturation (SpO2), Heart Rate Variability (HRV), Heart Rate Recovery (HRR), and Blood Pressure
- Digital logbooks for diet, physical activity, mindfulness, and stress management
- Weekly tele-counselling and personalised feedback

These tools enable older adults to track lifestyle behaviours and physiological responses in real time, thereby supporting more personalised and preventive care. The intervention demonstrated potential in preventing and addressing obesity, with many participants showing meaningful reductions in body weight alongside improvements in at least two cardiometabolic risk factors, including waist circumference, blood pressure, body mass index (BMI), visceral fat, glycated haemoglobin (HbA1c), low-density lipoprotein (LDL) cholesterol, and homocysteine levels. Additional anticipated outcomes include enhanced sleep quality, reduced chronic pain, decreased depressive symptoms and stress levels, and strengthened self-care capacity and perceived social support.



Furthermore, in addition to physical exercise and rehabilitation for some of the chronically ill subjects, the earbuds-based system also supported their mental well-being through guided breathing exercises or tele-based instructions from the therapists, helping participants enhance emotional resilience and overall psychological health.

Mr Perry Ko (<https://www.linkedin.com/in/perrykosy/>), Re-Founder of Actywell, stated that "Actywell is proud to provide the hardware and digital platform that make this intervention possible. This study shows how accessible technology can empower older adults to take an active role in their health."

"From day one, our goal was to build a system that genuinely supports older adults in their daily lives, not just by collecting data, but by turning that data into meaningful guidance," said Mr Ryan Chan (<https://www.linkedin.com/in/ryan-chan-63b0b4243/>), Project Manager of Actywell.

"We are deeply grateful to Actywell Digital and its technological partner WBD101 for their dedicated support throughout this project," said Dr Karen Cheung, Principal Investigator. "Their support made it possible to bring this digital system directly into the homes of older adults, turning an innovative idea into something practical and accessible in everyday life. Thanks to their collaboration, advanced health technology is no longer limited to clinical settings but can now support seniors right in their own communities."

"We are pleased to support this meaningful community health initiative by contributing our biosensing technology. At WBD101, we have always believed that using the earbuds to sense vitals, and then to provide an audio micro intervention forms a complete loop for healthcare," said Mr Kow Ping (<https://www.linkedin.com/in/kowping/>), Executive Director of WBD101.

This project demonstrates how wearable biosensing and digital health platforms can meaningfully support Hong Kong's ageing population. By enabling continuous, home-based monitoring of key bio-signals, the system creates new possibilities for early detection, personalised



intervention, and more proactive management of chronic conditions such as hypertension, diabetes, and cardiovascular disease. The same technology can be extended to rehabilitation settings, including cardiac, pulmonary, and post-stroke recovery, where real-time physiological feedback is essential. As community centres, NGOs, and primary care networks increasingly adopt digital tools, this model offers a scalable pathway toward a more preventive, data-driven, and integrated ecosystem for elderly care. Ultimately, the study lays important groundwork for future smart-care environments that combine wearable technology, telehealth, and AI-enabled insights to enhance long-term health and independence for older adults.

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About Actywell - Actywell Digital Limited is a Hong Kong-based healthcare technology company specialising in bio-signal acquisition through innovative in-ear sensing devices. Under our brand "Hera Leto", we offer a range of solutions for chronic patient monitoring, rehabilitation, sleep monitoring, occupational health, and mental wellness.

About WBD101 - WBD101 is the technological partner of Actywell, providing sensor technologies used in wearable biosensing applications across consumer electronics, sports science, and digital health.

About Yan Chai Hospital Social Services - Yan Chai Hospital commenced social services in 1978. Since then, the Board Office of Yan Chai Hospital continues to expand the scope of services in addressing the growing needs of the general public.

About Dr Karen Cheung Siu-Lan - Dr Karen Cheung Siu-Lan is an Adjunct Associate Professor at the WHO Collaborating Centre, School of Nursing at PolyU, a Fellow at HKU's Sau Po Centre on Ageing, and Director of the



Mindlink Research Centre. With a PhD from HKUST and over 140 publications, her work focuses on centenarians, limits to human lifespan, health span, healthy ageing, lifestyle medicine, dementia caregiving support, cognitive training, and geotechnology.

Journal Article: <https://pubmed.ncbi.nlm.nih.gov/41466184/#full-view-affiliation-1>

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