

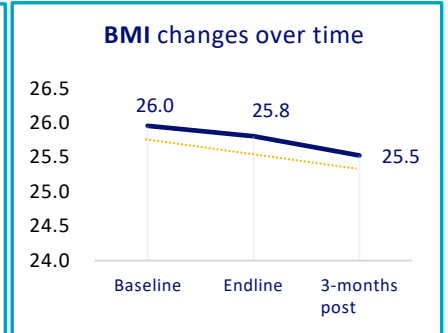
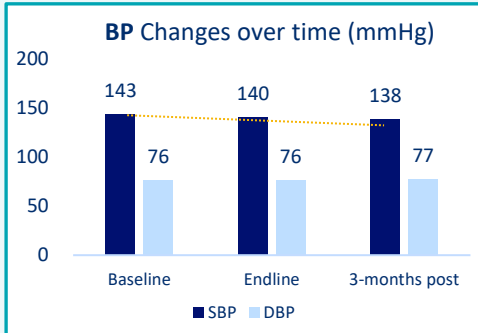
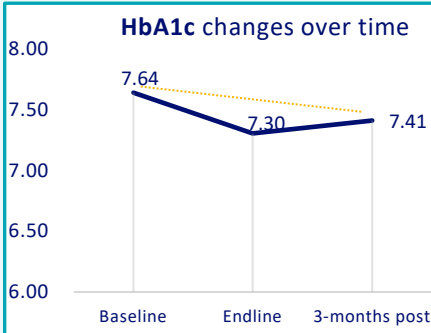
5 Steps to Self-Care: evidence-based DSME improves health of Chinese rural zero-literacy elderly diabetes populations

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Results: HbA1c, SBP and BMI reduced by 4.5%, 2.1% and 0.8% from baseline to endline

174 (85.7%) adults diagnosed with diabetes and hypertension completed the course. Average participant age was 67.8 years, most having zero-literacy, with some low-literacy. Average knowledge and well-being (WHO-5) scores improved **59.2%** and **17.7%**, respectively (P<0.001). Average HbA1c levels reduced by **4.5%** from baseline to endline, and **3.0%** from baseline to 3-months post (p<0.05). Systolic blood pressure (SBP) was reduced by **2.1% (3 mmHg)** from baseline to endline, and **3.5% (5 mmHg)** from baseline to 3-months post (p<0.05). BMI was reduced by **0.8%** from baseline to endline and **1.9%** from baseline to 3-months post (p<0.05). BMI and BP showed a trend for continued reduction, although the differences between endline and 3-months post were not statistically significant.



Background:

One in four adults with diabetes (140 million) live in China (2021)¹, projected to rise to 174 million by 2045. Diabetes self-management education (DSME) is 99% of diabetes management; quality DSME empowers people living with diabetes to engage in self-care that improves health outcomes and reduces complications and early death. Access to DSME using evidence-based methodologies and locally adapted materials is limited in China. In 2023, we introduced the *5 Steps to Self-Care* DSME curriculum to Chinese adults living with diabetes in three rural communities of Shanghai, China.

1 International Diabetes Federation Diabetes Atlas 10th Edition (2021). [IDF Diabetes Atlas 2021](#) | [IDF Diabetes Atlas](#)

Method:

203 adults diagnosed with diabetes and hypertension and receiving treatment were recruited from 3 community health centers in Shanghai to participate in the *5 Steps to Self-Care* DSME curriculum. Knowledge was measured using a test, and well-being using the WHO-5 measurement tool, at baseline and upon completion of *5 Steps*. HbA1c, blood pressure, and BMI were measured 3 times: baseline, endline, and 3-months post completion, for 174 participants. Paired samples T-test was used to compare the differences between measurements.

5 Steps to Self-Care DSME curriculum uses a **patient-centered, interactive, game-based approach with simple language and imagery** for non-health persons and **covers five key components**: 1) “Continuing Education” - understanding physiology and disease progression; 2) “Self-Monitoring: Knowing Your Numbers” - monitor and interpret levels of blood glucose, A1c, BMI, blood pressure and lipids. 3) “Nutrition” - manage portions of food groups to balance carbohydrate, protein and fat intake; 4) “Healthy Movement” - make physical activity a regular habit with monitoring of foot health; and 5) “Health Services” - collaborating effectively with health care providers to ensure quality care.

Conclusion: 5 Steps to Self-Care successfully improves knowledge, wellbeing, and clinical outcomes

5 Steps to Self-Care DSME enabled people living with diabetes and hypertension to improve knowledge, wellbeing, and clinical outcomes, despite challenges of age, health system access and literacy. BMI and BP continued to improve after curriculum completion; some modules may need reinforcement to support continued HbA1c improvement.



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