

THE INTEGRATED WOMEN'S HEALTH PROGRAMME (IWHP): KEY FINDINGS

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ABOUT IWHP

IWHP is a cohort study investigating associations between menopause and age-related health issues in midlife Singaporean women

PARTICIPANTS DATA



KEY FINDINGS FROM IWHP:

• SPINAL OSTEOPOROSIS¹ •

6.8%

of women had Spinal Osteoporosis (OP)



Chronic joint pain was the most commonly reported symptom (38%)

Top 5 variables with strong association with Spinal OP:



Age



Weight



Post-menopausal status



Right hand grip strength



Chronic joint pain

Novel screening tool with these 5 variables can more reliably predict spinal OP in midlife Singaporean women.

• SLEEP APNEA² •



Partner-witnessed sleep apnea predicted higher **Bone Mineral Density (BMD)**, independent of age, ethnicity, diabetes, body mass index (BMI) and hand grip strength.



Obstructive sleep apnea has a protective effect on bone health, which potentially could be applied to **new drug development**.

• DEPRESSION / ANXIETY³ •



16%

identified as having depressive and/or anxiety symptoms



Weaker upper body
(Lower hand grip strength)



Poor lower body strength
(Longer duration to complete the repeated chair stand test)

were associated with the elevated odds for depressive (1.7x greater odds) and/or anxiety symptoms (1.3x greater odds)

• BONE MINERAL DENSITY⁴ •



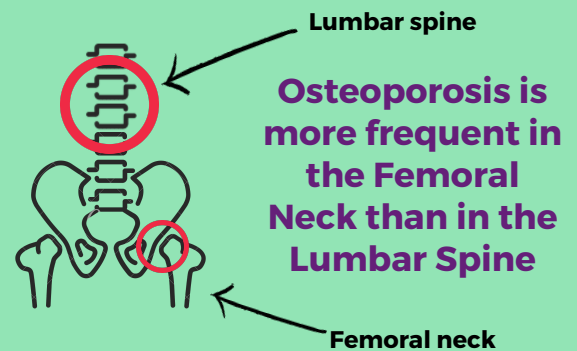
Bone Mineral Density (BMD) in midlife women differ by **ethnicity and site**:



Underweight, Chinese women had a higher risk of osteoporosis



Indian women had higher femoral neck BMD



Osteoporosis is more frequent in the Femoral Neck than in the Lumbar Spine

• LOSS OF BLADDER CONTROL⁵ •



52%

of healthy midlife Asian women reported Urinary Incontinence (UI)

Associated risk factors for UI are:



Post-menopausal status



Education level



Obesity



Ethnicity



Women who have given birth

• INSULIN RESISTANCE⁶ •

Factors associated with Insulin Resistance:

1. Obesity
2. High Visceral Adipose Tissue
3. Low physical performance
4. High Tumor Necrosis Factor - alpha



Higher Body Mass Index, greater Visceral Adipose Tissue and lower physical performance

contributed to excess insulin resistance in women of Malay ethnicity (compared to Chinese women)



Higher levels of Tumor Necrosis Factor - alpha, in addition to higher Body Mass Index, greater Visceral Adipose Tissue and lower physical performance

contributed to excess insulin resistance in women of Indian ethnicity (compared to Chinese women)

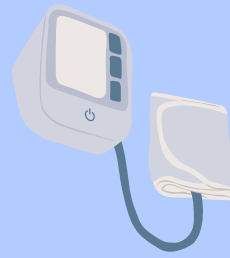
• HYPERTENSION⁷ •

44%

of the cohort sample had Prehypertension

26%

of the cohort sample had Hypertension



Nulliparous, older women with lower education levels, with none or mild hot flashes were associated with higher Systolic Blood Pressure

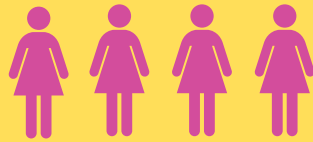
• VITAMIN D DEFICIENCY⁸ •

33%

were deficient in Vitamin D



6x higher in women of Indian ethnicity



4x higher in women of Malay ethnicity

Women of younger age (45-54) had higher adjusted odds for low Vitamin D status compared to women above 65.

• SEXUAL HEALTH⁹ •

56%

of healthy midlife Asian women were sexually active in the past month



Sexual dysfunction was identified in

70%

of those who were sexually active.



Underweight BMI and sexual inactivity were found to be correlated



Women with weaker hand grip strength were associated with higher sexual dysfunction



Women of Malay ethnicity were associated with lower sexual dysfunction

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