Pack years of smoking exposure

- Non-smoker

Time

1.0
1.5
2.5
3.5
2.5

RR of breast cancer

Evidence of simple accumulation of risk with pack years

Evidence of a sensitive period effect with timing of puberty conditional on pack years

Puberty

Time
FIG. 4

Physical environment: material conditions, infectious agents, radiation, climate
Indoor/outdoor environmental pollutants, medical intervention, assisted technology

Social environment: family, friends, neighbourhood, schools, occupation, workplace, retirement, health care

Lifelong learning & socialisation
Lifetime lifestyles & psychosocial stress

Markers of exposure

Biomarkers of exposure & effect

External environment

Internal environment

1. Cognitive & emotional development

2. Cognitive, emotional development

CNS integrity/neurodegeneration
Homeostatic (dys)regulation
Body composition & change
Energetics capacity/consumption
Reproductive function

3. Physical growth & maturation

Early decrements in ageing phenotypes & structure/ function of related physiological systems e.g. CVD & respiratory systems

4. Cognitive & physical capability

Age-dependent chronic diseases & disorders

5. Emotional health

Emotional health, Participation

Conception Pre-pubertal Pubertal Maturity Senescence
FIG. 5

responses to external exposure or age-related pathology

Structural reserve
Compensatory reserve (intrinsic)
Adaptations (extrinsic)

Years of life
Level of physiological function