A Lifecourse Approach to Noncommunicable Diseases (NCDs)

Janis Baird

Cyrus Cooper

MRC Lifecourse Epidemiology Unit, University of Southampton

MRC Lifecourse Epidemiology Unit



PERCENT OF DALYS FROM NON-COMMUNICABLE DISEASES IN 2010



Source: Institute for Health Metrics and Evaluation (2013)

Developmental origins of adult disease





Death rates from coronary heart disease among 15,726 men and women in Hertfordshire according to birth weight









David Barker 1936-2013

Lifecourse determinants of health and disease



Gluckman, Hanson, Cooper et al New Engl J Med 2008; 359: 61-73 Harvey N, Dennison E, Cooper C J Bone Miner Res 2014; 29: 1917-25



Gluckman, Hanson, Cooper et al New Engl J Med 2008; 359: 61-73 Harvey NC et al J BoneMiner Res 2014; 29: 1917-25 Modifying maternal diet to improve offspring health

Educational attainment and dietary pattern in women of child-bearing age

% of women in lowest quarter of prudent diet score



Highest educational qualification

Robinson S et al EJCN 2004; 58: 1174-78

Mother's and infants diets



Mother's diet quality

Why do women of lower educational attainment tend to have a poorer quality diet than women of higher educational attainment?



Lawrence WT et al Appetite 2011; 56: 46-52

Southampton Initiative for Health: A complex intervention to improve food choice among women of child-bearing age

- Design before and after non-randomised trial
- Study population women attending Sure Start Children's Centres, and their children

BEHAVIOUR CHANGE INTERVENTION:

- 3 x 3 hour sessions over 5 weeks
- 8 people per group with 2 facilitators ٠
- Session 1: Thinking about change •
- Session 2: Practising Healthy Conversations ٠
- Session 3: Embedding lasting change ٠
- Follow up: Ongoing contact with trained staff •

PRINCIPLE FINDING: Improvement in control and self-efficacy

Barker M et al J Hlth Psychol 2011; 16: 178-91 Baird J et al BMJ Open; 2014: 4: e005290





World Health Organisation

Global Action Plan for the Prevention and Control of Non-communicable Diseases 2012-2020

"The 2013 to 2020 Action Plan should ensure that a life course approach is taken to tackle NCDs. This includes maternal health for the unborn baby, avoiding exposure to tobacco and alcohol during pregnancy, breast feeding in infancy, healthy behaviours in childhood and adolescence and healthy ageing. The life course approach means incorporating NCD prevention and control alongside maternal and child health programmes and care of the elderly, in a range of settings (e.g. schools, work place)."

European Ministerial Conference

The Minsk Declaration (2015): Lifecourse approach in the context of Health 2020 and Sustainable Development Goals

http://www.who.int/nmh/events/2012/action_plan_20120726.pdf

MRC LEU: 2015-2020

Observations: *Observational epidemiology*

Determinants of health outcomes & health behaviours

Lifecourse outcomes: Musculoskeletal Metabolic All cause mortality Mechanisms: Systems biology Health psychology

Interventions: *Pre-conception, during pregnancy and in adult life*

Nutrition & lifestyle Pharmaco-therapeutic Organisational

The Southampton Initiative for Health Team

Janis Baird (jb@mrc.soton.ac.uk) Hazel Inskip Megan Jarman Christina Black **Rufia Begum** Jennifer Davies Nick Harvey

Mary Barker Sian Robinson Wendy Lawrence **Barrie Margetts** Tannaze Tinati **Cyrus** Cooper

Sure Start **Children's Centres**

Southampton





Southampto

School of Medicine



University Hospitals NHS Trust