Vitamin D; A link between Physical activity, Obesity and Diabetes?

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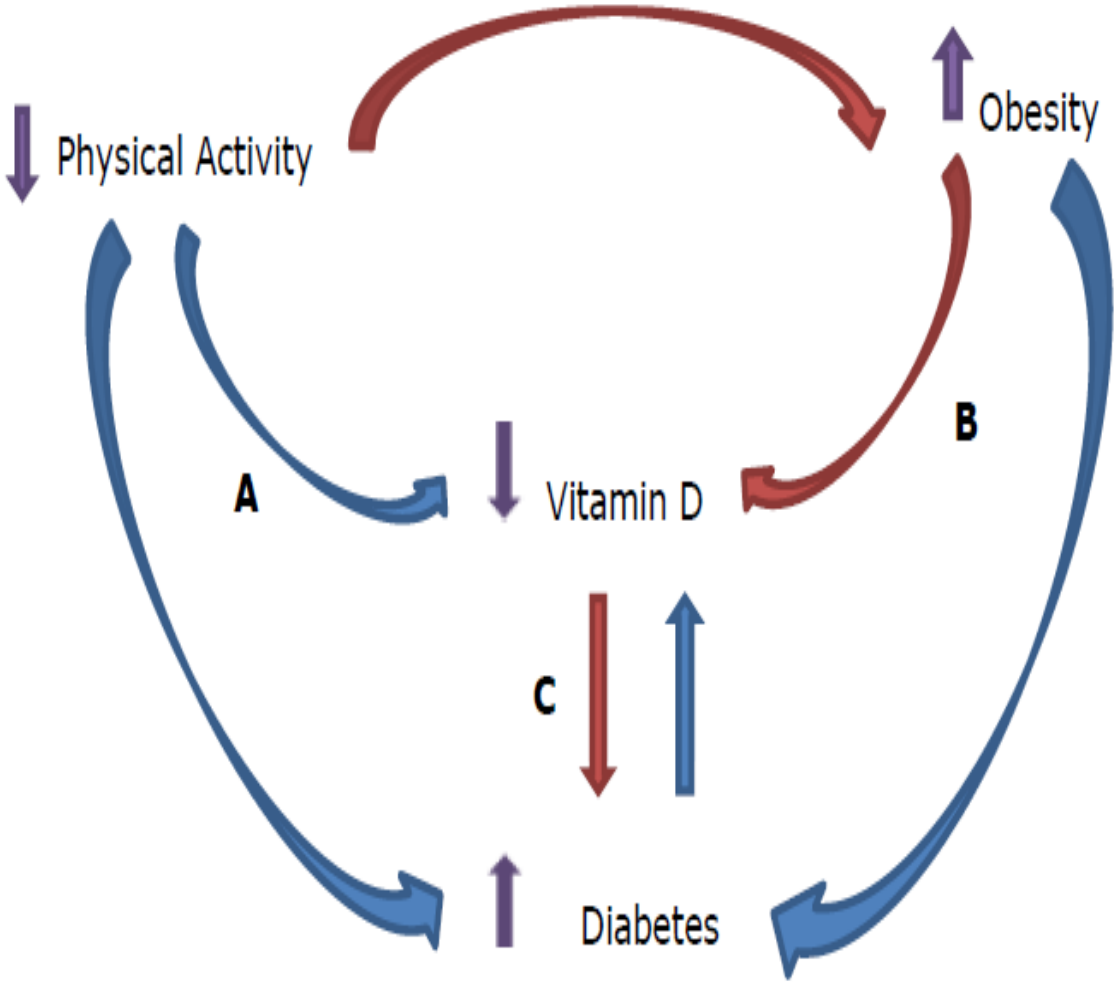
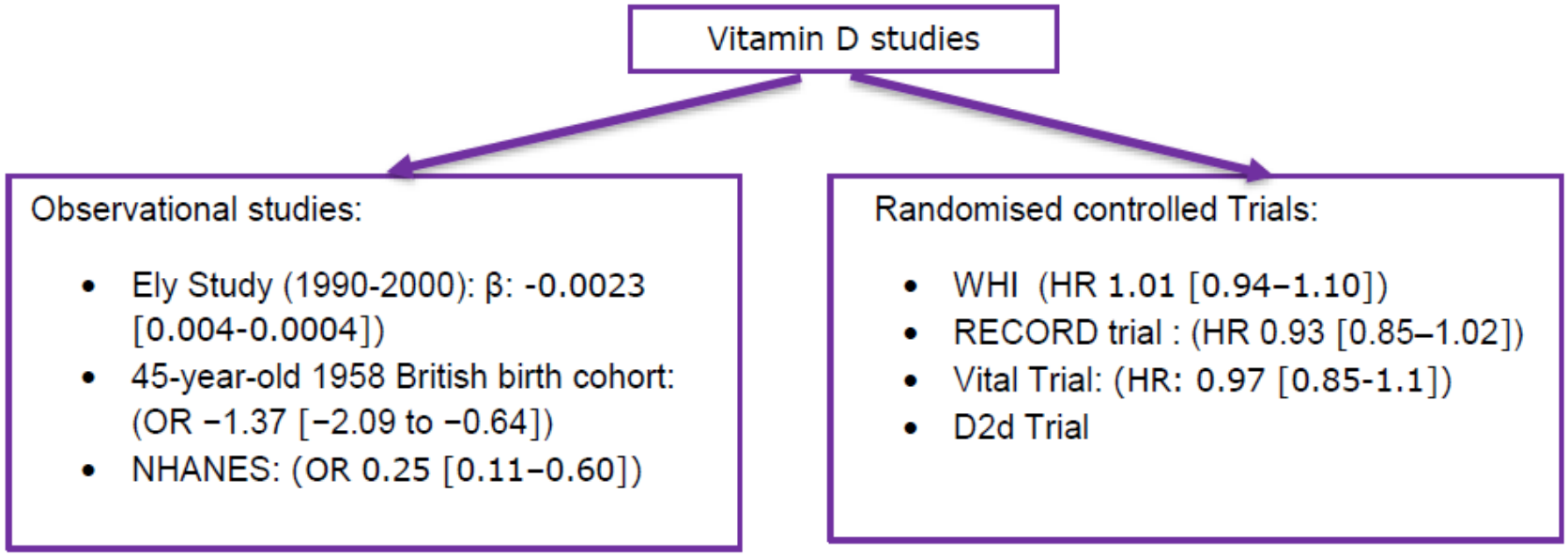
Background



A:
Increase in Ca2+ and PO2+, inhibit PTH

B:
increased sequestration of vitamin D in adipose tissue may account

C:
macrophages activation
Pancreatic β cells express VDR, and hypo vitaminosis D induces insulin resistance and β-cell dysfunction



- Observational studies show an inverse association with diabetes
- RCTs show no or positive association
- In Africa:
- Very little is known
- Relationship varies among ethnic groups

Research question

- Is 25 hydroxyl cholecalciferol as a marker of vit D status associated with diabetes and metabolic risk factors such as obesity and insufficient physical in Africa?

Study design and population

- Population based sample
- 2 rural and 2 urban areas of Cameroon
- 625 participants
- One point measurement

Analysis

- Prevalence of vit D deficiency

Association:

1. Diabetes: FBG, HbA1c
- In diabetes and excluding self reported diabetes

2. Objectively measured physical activity (accelerometry)
- Intensity (volume?)

3. Obesity: BMI, hip to waist ratio

- Within different quartiles of serum vit D

Limitations:

- The cross sectional design: temporality
- One measurement to Diagnose cases
- Residual confounding
- No data supplement use, sun exposure
- Small sample size

Thank You