A systematic review of the link between childhood obesity and adult cancers

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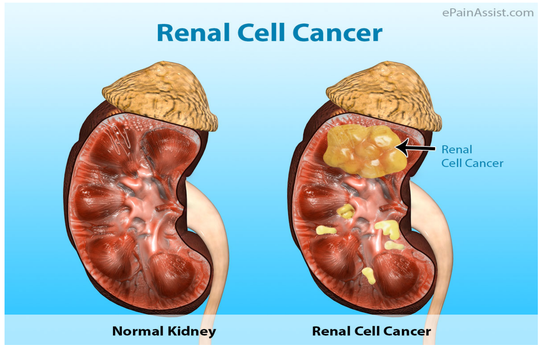
Introduction/Background

- Overweight, obesity, & cancer has steadily increased in the United States
- Four cancer types have increased
  - Non-Hodgkin lymphoma[1]
  - Renal cell carcinoma[2]
  - Thyroid cancer[3]
  - Esophageal adenocarcinoma[4]

- A link between childhood obesity and cancer later in life may exist



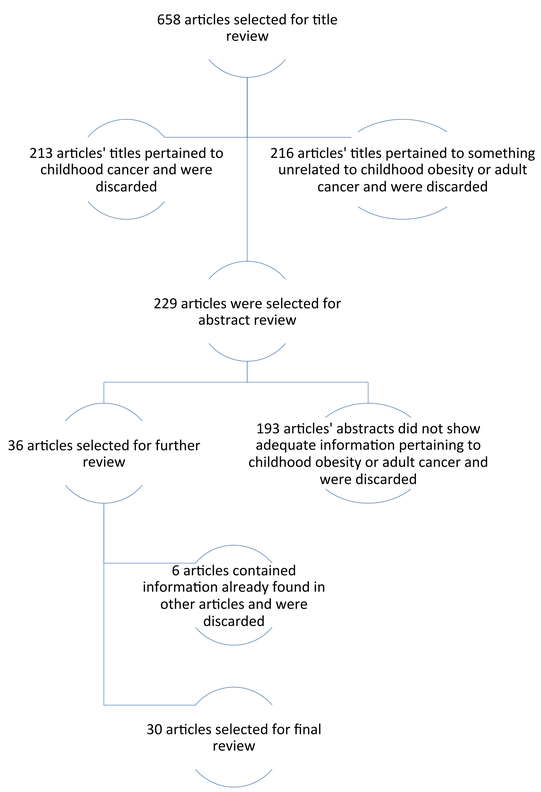
Aims/Purpose

- To explore the **strength of evidence** between obesity and cancer

- To determine the **adult-related cancers** most associated with childhood obesity

Methods/Measurements

- **Databases** searched during fall 2014
  - PubMed
  - Cinahl
  - Cochrane
- **Search terms**
  - Pediatric or childhood obesity
  - Adult cancer
- **Inclusion criteria**
  - Peer-reviewed
  - Published within the last 10 years
  - English only



Variable	Positive association	Negative association	Limited association	No association
Childhood overweight	Breast	Mixed: breast	Kidney, colorectal	Ovarian
Childhood obesity	Non-smoking related, postmenopausal breast, premenopausal breast			
Either in childhood	Thyroid, colorectal adenoma in women		Prostate	
Adolescent overweight	Renal cell carcinoma in men, colon in men			Rectal in men
Adolescent obesity	Esophageal squamous cell carcinoma in women			Breast
Either in adolescence	Urogenital, skin, lung, esophagus, all cancers			
All of the above	Non-Hodgkin lymphoma	Premenopausal breast, breast		Prostate, postmenopausal breast

Results/Findings

Breast Cancer
- Mixed results
  - Strongest evidence: inverse relationship especially with premenopausal type[5]

Colorectal Cancer
- Strong relationship in women and men[6]

Renal Cancer
- Strong relationship in men[2]

Non-Hodgkin's Lymphoma
- Strong relationship in women and men[1]

Thyroid Cancer
- Strong relationship in women and men[3]

Other Findings
- Some cancers have stronger relationships with overweight or obesity during different times during youth[7]
- Risk of cancer-related death increases 8% with every 1 SD increase in BMI[7]

Discussion

- Efforts for early childhood obesity prevention are paramount
- Strong evidence of a link between childhood obesity and adult-related cancers
  - Relationship may differ by gender
  - Stronger link between certain cancers over others

References

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