Health effects of urban parks – Strength of the evidence

MD, PhD Dr Matilda van den Bosch
Swedish University of Agricultural Sciences
What questions will be answered today?

- Definitions
- Why is the study needed?
- What method did we use?
- What were the results?
- How can we use the knowledge?
What is an urban park?

Urban parks are defined as delineated open space areas, mostly dominated by:

✓ vegetation
✓ water
✓ generally reserved for public use
✓ mostly larger, but also smaller ‘pocket parks’
✓ “Urban parks are usually locally defined (by authorities) as ‘parks’”
What does Urban Atlas say?

Green areas are defined as being at least 0.25 ha, with a minimum width of 10 m. They contain public green areas for predominantly recreational use such as gardens, zoos, parks, castle parks and suburban natural areas that have become and are managed as urban parks.

Isn’t it great?

Urban Atlas definition = Review definition

The results can be implied on larger, pan-European scale, possibly with GIS-tools
What is health?

- Absence of disease (Bio-medical)
- A state of complete physical, mental and social well-being and not merely the absence of disease or infirmity (WHO)
- The capacity to adapt to surrounding environment (Canguilhem)
- “Nature is but another name for health...” (Henry D Thoreau)
What is Public Health?

Preventing disease, Promoting health, and Prolonging life among the population as a whole.

- The assessment and monitoring of the health of communities and populations at risk to identify health problems and priorities.
- The formulation of public policies designed to solve identified local and national health problems and priorities.
- To assure that all populations have access to appropriate and cost-effective care, including health promotion and disease prevention services.
• Improve health and *quality of life*, e.g. through the promotion of *healthy behaviours*

• *Examples*: Promotion of hand washing and breastfeeding, delivery of vaccinations, and distribution of condoms and...

Establishing, Maintaining, Managing *urban parks*
What information does the review contain?

Cecil C. Konijnendijk, Matilda Annerstedt, Anders Busse Nielsen, Sreetheran Maruthaveeran”

- Human health and wellbeing
- Social cohesion / identity
- Tourism
- House prices
- Biodiversity
- Air quality and carbon sequestration
- Water management
- Cooling
Why is it needed?

• Changing global health scenario
• Changing environment
• Urbanisation
• Evidence-based decisions

We need to be able to argue for what we are doing and need to know about the effects. Need a base for prospective assessments (HIA, EIA)
RESEARCH QUESTION

What is the scientific evidence for different benefits of urban parks???
The current method for finding evidence

• Systematic Review, e.g. according to Cochrane
• Standardised, transparent, replicable
• Definitions
• Pre-defined search terms, in pre-defined scientific databases, with pre-defined inclusion criteria
  Reducing bias
• Peer-reviewed articles
• Standardised data extraction
• Quality grading
Search Terms - Green

- “urban park*”
- “city park*”
- “green space*”
- “green area”
Search Terms - White

• leisure* OR recreat* OR visit* OR “physical activity”
• health* OR well-being OR wellbeing OR rehabilit* OR heal*
• OR disease* OR disorder* OR morbidit* OR mortalit* OR illness*
Databases

**Scopus**: ‘Title, abstract, keywords’

**Web of Science**: ‘Topic’
Process of study selection

N=1994
- Total number of hits

Evaluation of title or abstract

N=290
- Potentially eligible articles

Exclusion based on evaluation of full papers

N=86
- Included in the review
Data extraction

- Article
- Found through Scopus, Web of Science, both (or snowballing)
- Study design
- Number of cases / sites studied
- Single time or longitudinal study
- Geographic scope
- Primary end point variables
- Main relevant results
- Documented benefits
- Strength of the evidence
- Limitations of the study
- Other remarks
Quality Grading

- Identified target population
- How did studies recruit participants? Self-selection bias?
- Randomisation to allocate participants to groups, or to decide the order of treatments?
- Base-line differences accounted for?
- Data collection described? Reliable? Valid? Multiple cases/sites studied, single-moment or longitudinal studies, etc.
- Were there any other differences between intervention and comparator groups?
Results

- Increased **physical activity**. Strong evidence
- Reduced **obesity**. Moderate to strong evidence
- Reduced **stress**. Moderate evidence
- Improved **self-reported health and mental health**. Moderate evidence

- **Recreation, psychological wellbeing, and social support**. Weak to moderate evidence
- Reduced **noise and cooling**, and **increased longevity**. The current evidence is moderate, more research is needed, before conclusions can be drawn.
- Reduced **stroke mortality**, reduction of **ADHD**-symptoms, and reduced cardiovascular/respiratory morbidity. Each of these outcomes is represented by one high-quality study respectively, i.e. the findings to date suggest a potentially good effect, but more studies are needed in order to draw any conclusions or make any evidence grading
How can we use the knowledge?

• We can, without doubt, argue for parks as promoters of physical activity
• We can, almost without doubt, argue for parks as preventers of obesity and stress, and as improvers of self-perceived health

This argumentation should be taken with politicians, decision makers, and practitioners.
• We can also spread the information to be used in varied contexts

• We can steer further research...
Thanks for listening!