Puberty in the last 25 years: A retrospective bibliometric analysis

Savannah Hottle, Jane Kinkus Yatcilla, & Kristine Marceau
Human Development and Family Studies

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Introduction

- **Bibliometrics** is the analysis of bibliographic data, such as the text of journal article citations, abstracts, keywords, or indexing terms
- Our overarching goal was to gauge the 1) **sheer numbers**, 2) **audience and reach**, and 3) **impact** of publications on puberty, as well as 4) a heuristic description of the types of articles and **content** published using bibliometrics.

Study Questions

1. How many publications included puberty as a keyword/topic?
2. Which journals published the most puberty-related publications, and which fields do they represent?
3. How are puberty-related publications cited relative to their non-puberty counterparts?
4. What is the breakdown of publication type, how was puberty considered, and what were the broad content themes?

Methods

- **Search Strategy**: Web of Science and PubMed searched for "puberty/pubertal" in title/abstract and keywords and MeSH headings for PubMed.
- **Sheer numbers**: assessed by plotting the number of puberty-related publications and total publications from the top journals in each set to visualize publication trends from 1990-2016
- **Audience and Reach**: calculated the percentages of puberty-related publications in top 20 journals and utilized the Web of Science Journal Citation Reports® categories as proxies for fields of study
- **Impact**: utilized Web of Science to record the citation statistics for the top journals both by total publications and puberty-related publications
- **Content**: hand-coded PubMed abstracts and placed articles into 8 different categories

Results

- **Number of articles** and **Number of journal titles**

Conclusions

Key Findings

- **Sheer Number**: The numbers of puberty-related publications increased over time.
- **Audience and Reach**: Top journals for publishing puberty-related publications presented in Table. Puberty research most highly represented in the fields of Endocrinology and Metabolism, Pediatrics, and Reproductive Biology.
- **Impact**: Within the top journals, puberty research had a higher impact in terms of citations than journal averages.
- **Content**: The most frequently found terms of each article were generated into a word cloud in order to visualize the content of each hand-coded category. Menarche is most frequently studied. There is a large gender gap as boys are under-studied. Measures may have shifted toward secondary sex characteristics and away from hormones over time. Obesity and diabetes-related constructs are often examined in association with puberty.

Limitations

- Including other databases would have likely increased the prominence of developmental psychology and adolescence journals in our analyses, in particular.
- We hand-coded from the PubMed search results where puberty was a Major MeSH term, which restricted the number of articles, and is biased toward biomedical fields.

Recommendations

To increase the impact and reach of puberty-related publications in the broader scientific community and for advancing understanding in health and development:

- Target high-impact, top-tier journals
- Target under-represented fields
- Use clear, concise take-home messages in abstracts
- Highlight the importance of puberty even in publications where puberty is a secondary focus
- Conduct meta-analyses