

Puberty in the last 25 years: A retrospective bibliometric analysis

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.

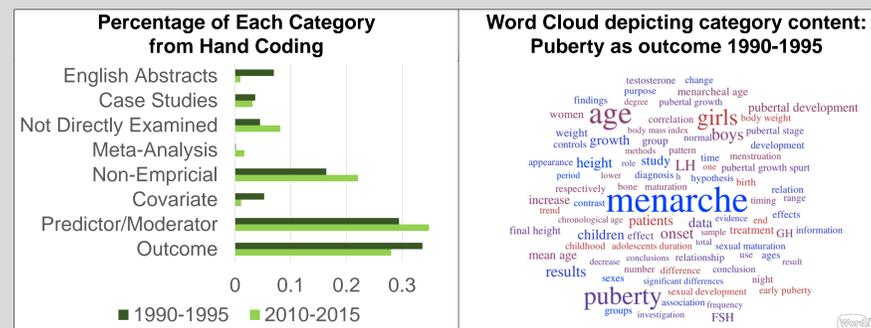
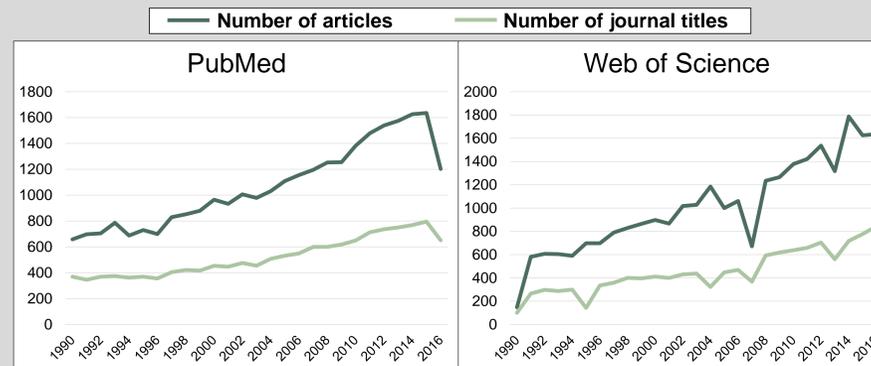
Study Questions

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

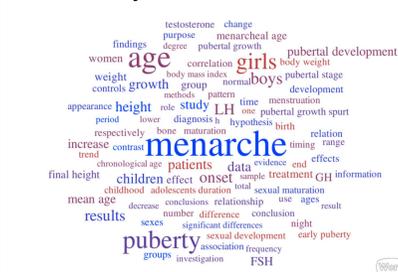
Methods

- 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



Word Cloud depicting category content: Puberty as outcome 1990-1995



ranking by # of articles

PubMed	Top journals for publishing puberty-related publications	WOS
1	Journal of Clinical Endocrinology & Metabolism	1
2	Journal of Pediatric Endocrinology & Metabolism	2
3	Hormone Research	3
4	Endocrinology	4
8	Biology of Reproduction	5
5	Clinical Endocrinology	6
7	Journal of Animal Science	6
5	Journal of Pediatrics	7
20	Pediatric Research	8
13	Hormone Research in Paediatrics	9
11	Acta Paediatrica	10
6	European Journal of Endocrinology	11
26	Journal of Bone and Mineral Research	12
6	Plos One	13
9	Pediatrics	14
10	Theriogenology	15
23	Animal Reproduction Science	16
14	European Journal of Pediatrics	17
17	Journal of Endocrinological Investigation	18
15	Archives of Disease in Childhood	19
18	Journal of Adolescent Health	20
12	Annals of Human Biology	28
19	Human Reproduction	22
16	Journal of Pediatric and Adolescent Gynecology	51
20	Molecular and Cellular Endocrinology	21

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