

Búsqueda sistematizada de información en la investigación científica



Sesiones Generales
2020
Hospital de Pediatría
CMN Siglo XXI

cDr. José Darío Martínez Ezquerro

jdme@ciencias.unam.mx

Unidad de Investigación Epidemiológica y en Servicios de Salud,
Área Envejecimiento (UIESS-AE)
Centro Médico Nacional Siglo XXI, IMSS

15 de enero de 2020

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Búsqueda en Pubmed

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Etapas de la investigación en las que influye la consulta de información

- Formulación de ideas y preguntas
 - Previas
 - Durante
 - Después
- Conocimiento de antecedentes
- Planteamiento de objetivos
- Definición de variables
- Formulación de hipótesis
- Diseño metodológico
- Interpretación de datos
- Análisis de resultados
- Argumentación y realización de conclusiones

Ciclo dinámico de la investigación



Motores de búsqueda

Motores de búsqueda

Google

Yandex



dōgpile®

 **WolframAlpha**® computational intelligence.

The logo for WolframAlpha features a red, multi-pointed starburst icon to the left of the text "WolframAlpha" in a bold, red, sans-serif font. To the right of "Alpha", the words "computational intelligence." are written in a smaller, grey, sans-serif font.

Literatura científica

Motores de búsqueda de la literatura científica

Google Académico

PubMed PubReMiner



Cite
Seer
X

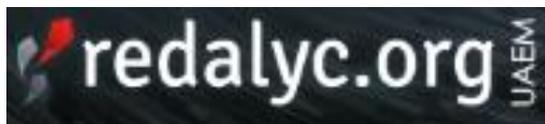


Bases de datos y repositorios de la literatura científica

MEDLINE®



Scientific Electronic Library Online



Scopus



Tesauros → Términos MeSH y DeCs

MEDLINE y LILACS

Vocabulario controlado de términos médicos para la indexación y clasificación temática de su contenido, así como la búsqueda y recuperación de información

MeSH

MeSH (Medical Subject Headings) is the NLM controlled vocabulary thesaurus used for indexing articles for PubMed.



MeSH

MeSH

pediatric

Search

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Summary 20 per page

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Search results

Items: 1 to 20 of 24

<< First < Prev Page 1 of 2 Next > Last >>

[Pediatrics](#)

1. A medical specialty concerned with maintaining health and providing medical care to children from birth to adolescence.

[Pediatric Nurse Practitioners](#)

2. Registered nurses with graduate degrees in nursing who provide care to **pediatric** patients who are acutely or critically ill.
Year introduced: 2014

[Pediatric Obesity](#)

3. BODY MASS INDEX in children (ages 2-12) and in adolescents (ages 13-18) that is grossly above the recommended cut-off for a specific age and sex. For infants less than 2 years of age, obesity is determined based on standard weight-for-length percentile measures.
Year introduced: 2014

[Intensive Care Units, Pediatric](#)

4. Hospital units providing continuous surveillance and care to acutely ill infants and children. Neonates are excluded since INTENSIVE CARE UNITS, NEONATAL is available.
Year introduced: 1989

[Pediatric Dentistry](#)

5. The practice of dentistry concerned with the dental problems of children, proper maintenance, and treatment. The dental care may include the services provided by dental specialists.
Year introduced: 1993

PubMed Search Builder

 AND[YouTube Tutorial](#)

Find related data

Database:

Search details

```
"pediatrics"[MeSH Terms] OR  
pediatric[Text Word]
```

[See more...](#)

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MeSH

MeSH

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Pediatrics

A medical specialty concerned with maintaining health and providing medical care to children from birth to adolescence.

PubMed search builder options

[Subheadings:](#)

- | | | |
|--|--|--|
| <input type="checkbox"/> analysis | <input type="checkbox"/> etiology | <input type="checkbox"/> pathology |
| <input type="checkbox"/> anatomy and histology | <input type="checkbox"/> genetics | <input type="checkbox"/> physiology |
| <input type="checkbox"/> blood | <input type="checkbox"/> history | <input type="checkbox"/> prevention and control |
| <input type="checkbox"/> cerebrospinal fluid | <input type="checkbox"/> immunology | <input type="checkbox"/> psychology |
| <input type="checkbox"/> classification | <input type="checkbox"/> instrumentation | <input type="checkbox"/> standards |
| <input type="checkbox"/> complications | <input type="checkbox"/> legislation and jurisprudence | <input type="checkbox"/> statistics and numerical data |
| <input type="checkbox"/> diagnosis | <input type="checkbox"/> metabolism | <input type="checkbox"/> supply and distribution |
| <input type="checkbox"/> diagnostic imaging | <input type="checkbox"/> methods | <input type="checkbox"/> surgery |
| <input type="checkbox"/> economics | <input type="checkbox"/> microbiology | <input type="checkbox"/> therapy |
| <input type="checkbox"/> education | <input checked="" type="checkbox"/> mortality | <input type="checkbox"/> trends |
| <input type="checkbox"/> epidemiology | <input type="checkbox"/> nursing | <input type="checkbox"/> urine |
| <input type="checkbox"/> ethics | <input type="checkbox"/> organization and administration | |

Restrict to MeSH Major Topic.

Do not include MeSH terms found below this term in the MeSH hierarchy.

Tree Number(s): H02.403.670

MeSH Unique ID: D010372

[All MeSH Categories](#)

[Disciplines and Occupations Category](#)

[Health Occupations](#)

[Medicine](#)

Pediatrics

[Neonatology](#)

[Pediatric Emergency Medicine](#)

[Perinatology](#)

PubMed Search Builder

```
((("Pediatrics"[Mesh])) AND "Pediatrics/mortality"[Mesh])
```

Add to search builder AND

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- Pediatrics MeSH
- pediatric (24) MeSH
- all[sb] (30518175) PubMed
- PubMed Help - PubMed Help

Preprints



arXiv.org

bioRxiv

THE PREPRINT SERVER FOR BIOLOGY



zenodo



medRxiv

THE PREPRINT SERVER FOR HEALTH SCIENCES

Uso de diversas bases de datos en la investigación

Ventajas

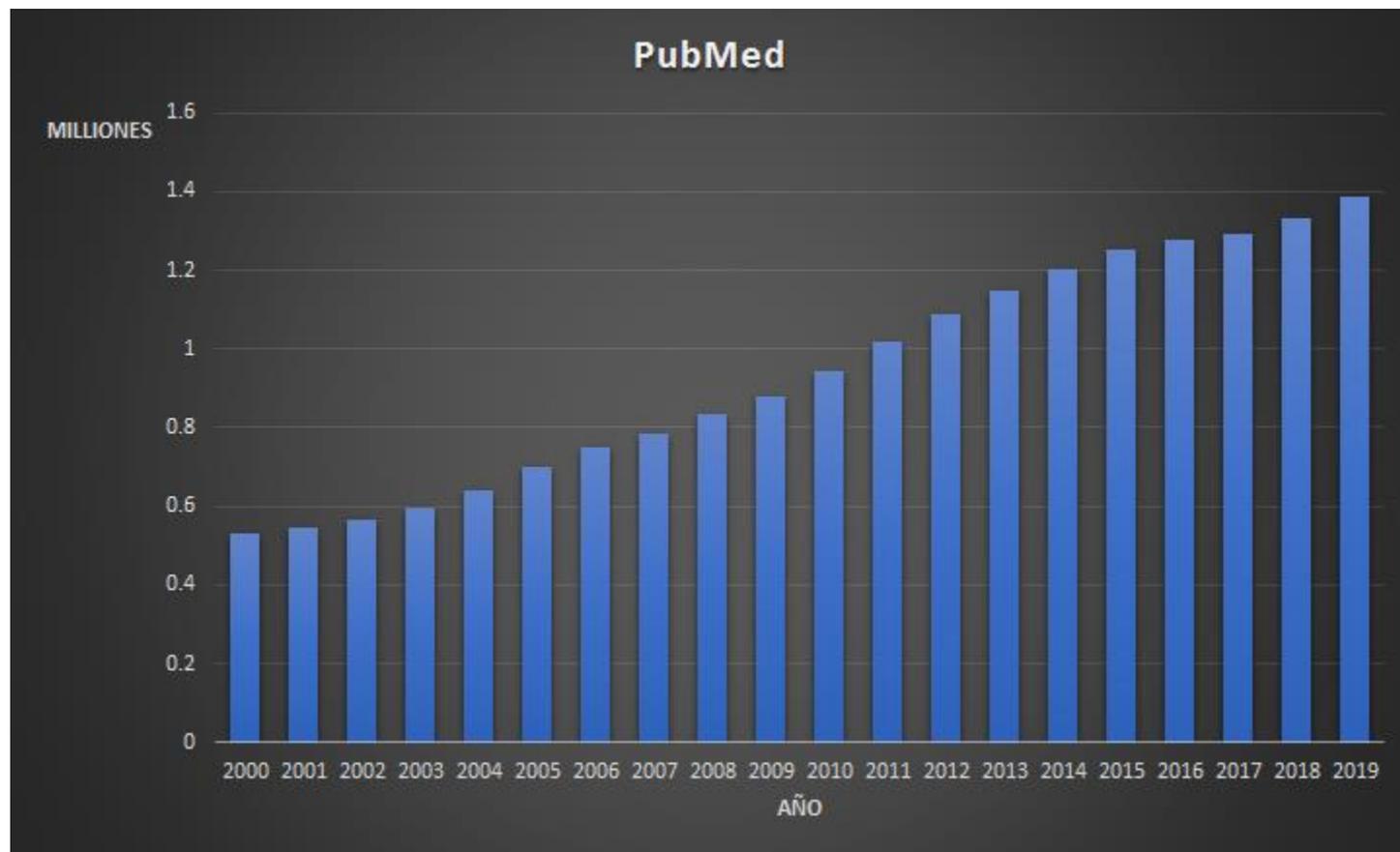
- Recuperación exhaustiva de información
- Recuperación dirigida de información mediante criterios de inclusión y exclusión
- Menús de búsqueda avanzada
- Comparación de resultados
- Información clasificada, computacionalmente fácil de localizar, p.ej. palabras clave/keywords
- Consulta de diversos recursos académicos: libros, artículos, capítulos de libros, ensayos, memorias...
- Permiten el almacenamiento de búsquedas realizadas y sus resultados

Desventajas

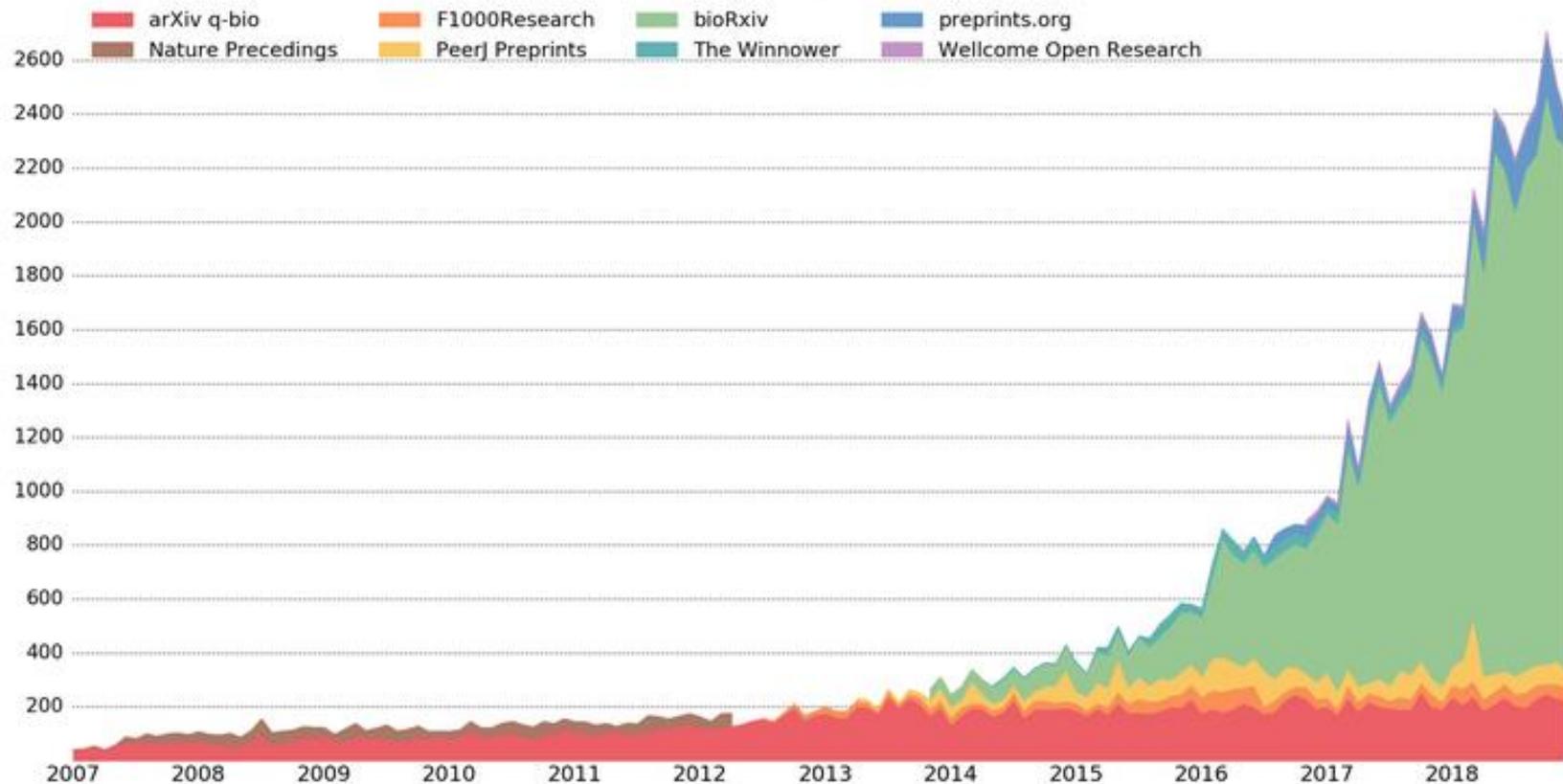
- Algunas son comerciales y no proporcionan acceso remoto
- Formatos diversos de recopilación y manejo de información
- Inclusión diferencial de revistas académicas
- Dificultad para realizar análisis comparativo por no incluir datos homogéneos, p.ej. no indizar los mismos recursos
- No todas aplican clasificaciones basadas en términos MeSH o DeCs
- Sin revisión por pares (preprints)

¿Cómo manejar volúmenes masivos de publicaciones?

Número de publicaciones anuales en Pubmed



Preprints per Month



Búsqueda empírica vs. sistemática

Búsquedas de información

Empírica

Experiencia

No estandarizada

Criterios subjetivos

Improvisación

Sistemática

Conceptualización

Estructura

Criterios específicos

Dirección clara

Exhaustiva

Reproducibilidad

¿Por qué es importante realizar búsquedas sistematizadas?

- Construcción permanente del conocimiento científico
- Responsabilidad en el manejo de la información al investigar
 - Actualización del conocimiento sobre el problema que se estudia
 - Clarificación de fuentes en las que se basa el estudio, p.e. revisadas por pares, preprints
 - Inclusión objetiva de evidencias (a favor y en contra)
- Reproducibilidad de la metodología
- Diversidad conceptual en el abordaje científico de un mismo problema
 - Caracterización de los fenómenos a estudiar
 - Teorías
 - Aproximaciones metodológicas
- Heterogeneidad de formatos y filtros de recuperación de información en las bases de datos

¿Cómo generar estrategias para la
consulta óptima de información?

Estructura de las búsquedas sistemáticas

- Planificación → parámetros de búsqueda
- Objetivo de la búsqueda → claridad y dirección
- Pregunta de búsqueda o investigación y criterios de búsqueda → términos precisos y sus relaciones
- Selección de fuentes de información → criterios
- Plantear la estrategia de búsqueda → iterativa

Identificar conceptos
y términos clave



Elegir bases
de datos
relevantes



**Estrategia
de
búsqueda**

Revisar y
refinar los
resultados



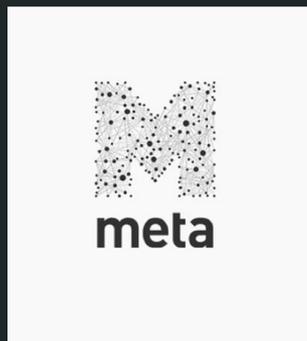
Combinar
términos con
operadores



Realizar la
búsqueda



Elegir las bases de datos académicas



Identificar conceptos y términos clave

pediatrics

Newborn (primeros 28 días después del nacimiento)

Infant (1-23 meses)

Preschool (2-5 años)

Child (6-12yr)

Adolescent → Teenager (13-18 años)

tumor – neoplasm – cancer

volume

Operadores booleanos, anidaciones y truncamientos

AND, OR, NOT: Inclusión y exclusión de elementos

Uso de paréntesis: Anidación de sinónimos o términos relacionados unidos por el operador OR, indica el orden del procesamiento

Uso de truncamientos (*): Inclusión de variantes conceptuales y de elementos asociados

medic* → medic, medicine, medical, medication

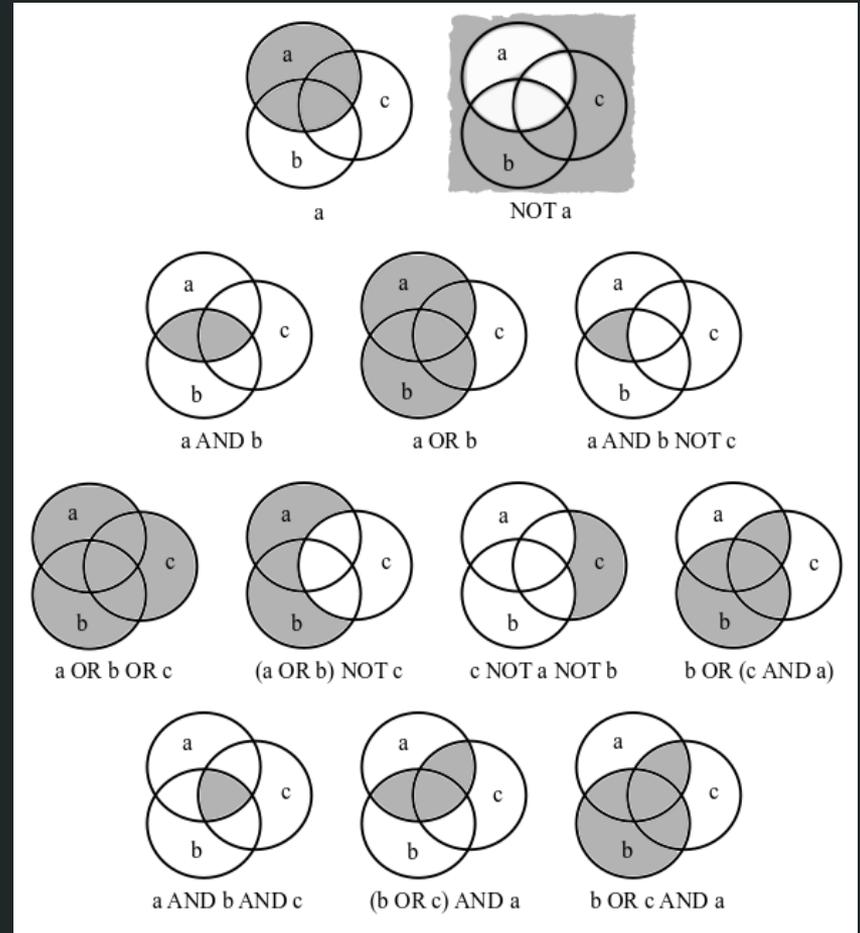
Uso de comillas: Para coincidencias exactas a la cadena de texto

Combinar términos con operadores

child AND mortality

pediatric AND obesity NOT morbid

tumor OR neoplasm OR cancer



Búsqueda en Pubmed



U.S. National Library of Medicine
National Center for Biotechnology Information

 jdme

PubMed.gov

Search PubMed

Search

Advanced

PubMed® comprises more than 30 million citations for biomedical literature from MEDLINE, life science journals, and online books. Citations may include links to full-text content from PubMed Central and publisher web sites.



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All Fields



Enter a search term

ADD



Show Index

Query box

Enter / edit your search query here

Search



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PubMed Advanced Search Builder



Add terms to the query box

Affiliation

Enter a search term

ADD

Add with AND
Add with Boolean Dropdown
Add with OR
Add with NOT

- Issue
- Journal
- Language
- Location ID
- MeSH Major Topic
- MeSH Subheading
- MeSH Terms
- Other Term
- Pagination
- Pharmacological Action
- Publication Type
- Publisher
- Secondary Source ID
- Subject - Personal Name
- Supplementary Concept
- Text Word
- Title
- Title/Abstract
- Transliterated Title
- Volume

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Ejemplo

PubMed Advanced Search Builder



((onco*) AND patient) AND (preschool OR child) AND (care OR treatment OR therapy)

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Builder

	All Fields <input type="checkbox"/>	onco*	<input type="checkbox"/>	Show index list
AND <input type="checkbox"/>	All Fields <input type="checkbox"/>	patient	<input type="checkbox"/>	Show index list
AND <input type="checkbox"/>	All Fields <input type="checkbox"/>	preschool OR child	<input type="checkbox"/>	Show index list
AND <input type="checkbox"/>	All Fields <input type="checkbox"/>	care OR treatment OR therapy	<input type="checkbox"/>	Show index list
AND <input type="checkbox"/>	All Fields <input type="checkbox"/>		<input type="checkbox"/> <input type="checkbox"/>	Show index list

Search

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PubMed

(((onco*) AND patient) AND (preschool OR child)) AND (care OR treatment OR therapy)

Search

Create RSS Create alert Advanced

Help

Format: Summary Sort by: Most Recent Per page: 20

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Filters: [Manage Filters](#)

Best matches for (((onco*) AND patient) AND (preschool OR child)) AND (care OR treatment OR therapy):

[Measuring the Effects of an Animal-Assisted Intervention for Pediatric Oncology Patients and Their Parents: A Multisite Randomized Controlled Trial \[Formula: see text\].](#)

McCullough A et al. J Pediatr Oncol Nurs. (2018)

[Improving the Quality of End-of-Life Care in Pediatric Oncology Patients Through the Early Implementation of Palliative Care.](#)

Ranallo L et al. J Pediatr Oncol Nurs. (2017)

[Pediatric Patient Blood Management Programs: Not Just Transfusing Little Adults.](#)

Goel R et al. Transfus Med Rev. (2016)

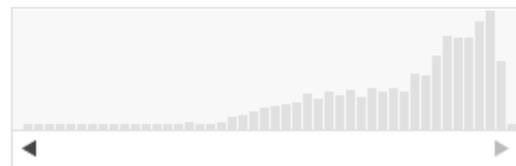
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Sort by:

Best match

Most recent

Results by year



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Database:

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Find items

PubMed Advanced Search Builder

(((onco* AND patient) AND (preschool OR child)) AND (care OR treatment OR therapy)) NOT (animal OR rat OR mice OR mouse)

[Edit](#)

[Clear](#)

Builder

	All Fields	onco*	-	Show index list
AND	All Fields	patient	-	Show index list
AND	All Fields	preschool OR child	-	Show index list
AND	All Fields	care OR treatment OR therapy	-	Show index list
NOT	All Fields	animal OR rat OR mice OR mouse	-	Show index list
AND	All Fields		- +	Show index list

or [Add to history](#)

PubMed

school OR child)) AND (care OR treatment OR therapy)) NOT (animal OR rat OR mice OR mouse)|x

Search

[Create RSS](#) [Create alert](#) [Advanced](#)[Help](#)Format: [Summary](#) Sort by: [Most Recent](#) Per page: [20](#)Send to Filters: [Manage Filters](#)**Best matches for (((onco* AND patient) AND (preschool OR child)) AND (care OR treatment OR therapy)) NOT (animal OR rat OR mice OR mouse):**

[Improving the Quality of End-of-Life Care in Pediatric Oncology Patients Through the Early Implementation of Palliative Care.](#)

Ranallo L et al. J Pediatr Oncol Nurs. (2017)

[Pediatric Patient Blood Management Programs: Not Just Transfusing Little Adults.](#)

Goel R et al. Transfus Med Rev. (2016)

[Consensus Report by the Pediatric Acute Lung Injury and Sepsis Investigators and Pediatric Blood and Marrow Transplant Consortium Joint Working Committees on Supportive Care Guidelines for Management of Venous Occlusive Disease in Children and Adolescents: Part 2-Focus on Ascites, Fluid and Electrolytes, Renal, and Transfusion Issues.](#)

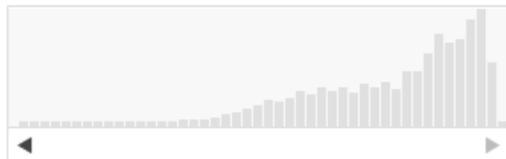
Mahadeo KM et al. Biol Blood Marrow Transplant. (2017)

[Switch to our new best match sort order](#)

Sort by:

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Results by year

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Search details

```
((((onco[All Fields] OR  
onco1[All Fields] OR onco103[All  
Fields] OR onco12577[All Fields]  
OR onco28[All Fields] OR  
onco360[All Fields] OR
```

Search results

Items: 1 to 20 of 2647

<< First < Prev Page 1 of 133 Next > Last >>

ND (care OR treatment OR therapy) NOT (animal OR rat OR mice OR mouse) X

Search

[Advanced](#) [Create alert](#)



Filters



Timeline

Sorted by: Best match



Save ●

Email



Save citations to file

Selection:

All results



Only the first 10,000 citations will be saved in your file.

Format:

CSV

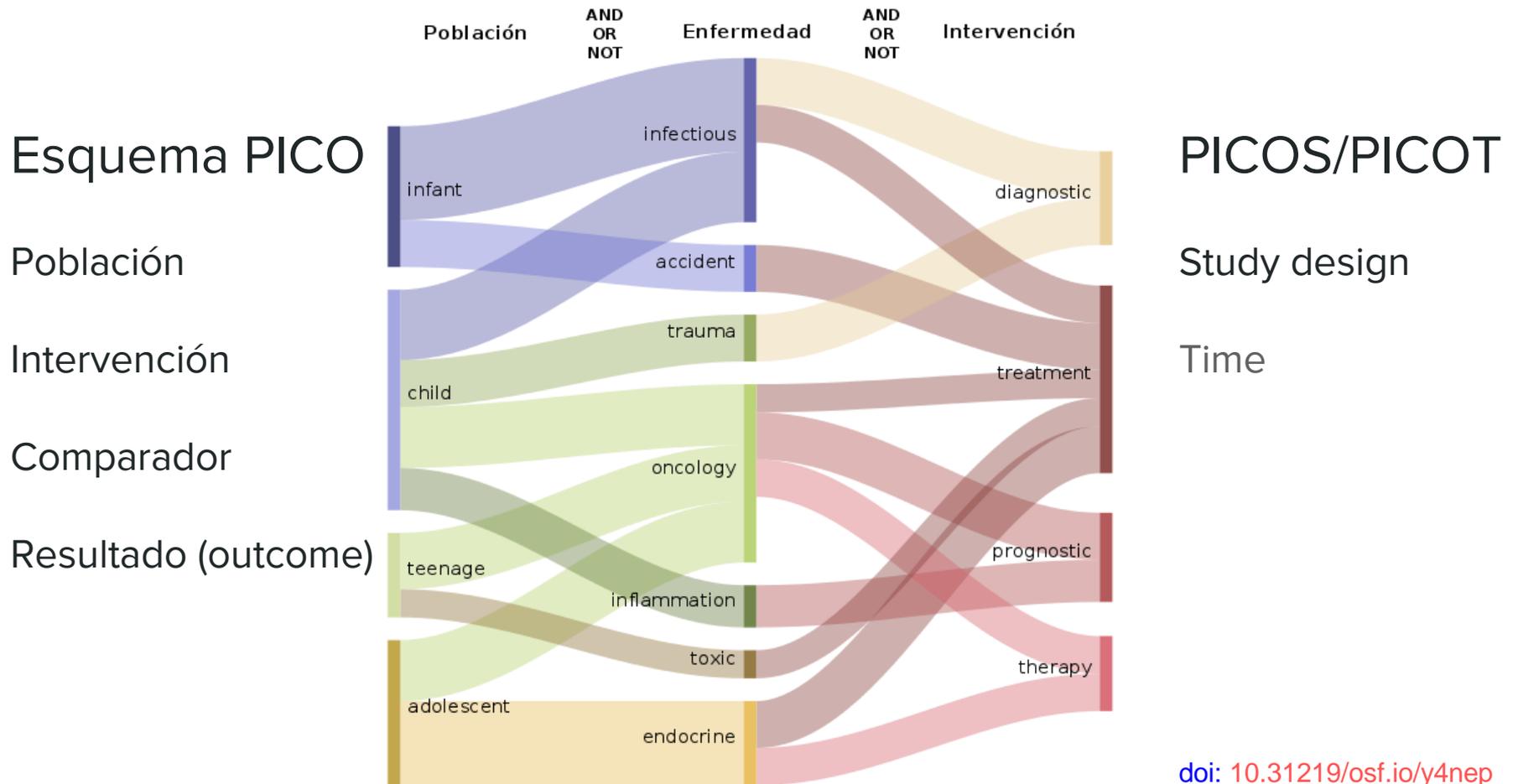


Create file

Cancel

Posibles estrategias de búsqueda avanzada
combinando tres áreas de interés clínico

Población – Condición clínica – Intervención





((("obesity"[MeSH Terms] OR "obesity"[All Fields]) AND ("therapy"[Subheading] OR "therapy"[All Fields] OR "treatment"[All Fields] OR "therapeutics"[MeSH Terms] OR "therapeutics"[All Fields])) AND ("mexico"[MeSH Terms] OR "mexico"[All Fields]) AND Clinical Trial[ptyp])

Search

Advanced Create alert

Save

Email

...

Sorted by: Best match



MYNCBI FILTERS

203 results

RESULTS BY YEAR



TEXT AVAILABILITY

- Abstract
- Free full text
- Full text

ARTICLE ATTRIBUTE

- Associated data

ARTICLE TYPE

- Books and Documents
- Clinical Trial
- Meta-Analysis
- Randomized Controlled Trial

- 3 years of liraglutide versus placebo for type 2 diabetes risk reduction and weight management in individuals with prediabetes: a randomised, double-blind **trial**.

1 le Roux CW, et al. *Lancet* 2017 - *Clinical Trial*. PMID 28237263

In the 3-year assessment of the SCALE **Obesity** and Prediabetes **trial** we aimed to evaluate the proportion of individuals with prediabetes who were diagnosed with type 2 diabetes. ...The **trial** was conducted at 191 **clinical** research sites in 27 countries and is registered with ClinicalTrials.gov, number NCT01272219. ...



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Cite



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- Effect of *Arthrospira* (*Spirulina*) *maxima* Supplementation and a Systematic Physical Exercise Program on the Body Composition and Cardiorespiratory Fitness of Overweight or Obese Subjects: A Double-Blind, Randomized, and Crossover Controlled **Trial**.

2 Hernández-Lepe MA, et al. *Mar Drugs* 2018 - *Clinical Trial*. PMID 30275428 Free PMC article.

Excess weight and **obesity** are major risk factors for many chronic diseases, and weight-loss interventions often include systematic exercise and nutritional supplements. ...**TRIAL** REGISTRATION: **Clinical** Trials, NCT02837666. Registered 19 July 2016...



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Cite



Share

- Aerobic or Resistance Exercise, or Both, in Dieting Obese Older Adults

3 Villareal DT, et al. *N Engl J Med* 2017 - *Clinical Trial*. PMID 28514618 Free PMC article.

BACKGROUND: **Obesity** causes frailty in older adults; however, weight loss might accelerate age-related loss of muscle and bone mass and resultant sarcopenia and osteopenia. METHODS: In this **clinical trial**

Conclusiones

Búsqueda sistemática de la
literatura

Conceptualización

Estructura

Iterativa

Exhaustiva

Reproducible

Ciclo dinámico de la investigación

Metodología de investigación

"Bernard of Chartres used to compare us to dwarfs perched on the shoulders of giants. He pointed out that we see more and farther than our predecessors, not because we have keener vision or greater height, but because we are lifted up and borne aloft on their gigantic stature."

John of Salisbury, Metalogicon, 1159

"If I have seen further it is by standing on the shoulders of giants."

Isaac Newton, Letter to Robert Hooke, 1675

Gracias



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cDr. José Darío Martínez Ezquerro
jdme@ciencias.unam.mx