Research Proposal Writing
The Literature Search
Your Librarians Today

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Objectives

• Become familiar with the GRANT PROPOSAL
• Review possible SEARCH APPROACHES
• Devise search strategies using PUBMED search skills
• Present effective use of GOOGLE SCHOLAR for research
• Provide tips on further resources and resource management
Complete the following items:

A. **Personal Statement** (two page maximum) **addressing:**
   a. How grant funds will benefit DIFM DPG and RDNs interested in integrative and functional medicine
   b. How receiving this grant will aid the career of the applicant
   c. How the applicant will have time to complete the proposed research

B. **Research Proposal** including the following items:
   a. **Proposal Title**
   b. **Introduction and Background** (one page maximum)
   c. **Study Justification** (one page maximum), including:
      i. Research Question
      ii. Specific Aims and/or Hypothesis
   d. **Study Design and Methods** (two page maximum)
   e. **Timeline for Completion** (one page maximum)

C. **Detailed Budget with Justifications** (one page maximum), including:
   a. Existing sources of funding for this project
   b. Other sources of funding sought for this project

D. **Reference List** (Does not count toward any of the above page limits)

E. **Description of Expertise, Resources, and Environment** (one page maximum)
   a. **STUDENTS ONLY**: Submit a signed letter of support from the faculty member overseeing your research project (primary research advisor).
   b. **STUDENTS ONLY**: Include the CV of their primary research advisor
<table>
<thead>
<tr>
<th><strong>P</strong></th>
<th><strong>I</strong></th>
<th><strong>C</strong></th>
<th><strong>O</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient/Population</td>
<td>Intervention/Indicator</td>
<td>Compare/Control</td>
<td>Outcome</td>
</tr>
</tbody>
</table>

Who are the relevant patients? Think about age, sex, geographic location, or specific characteristics that would be important to your question.

What is the management strategy, diagnostic test, or exposure that you’re interested in?

Is there a control or alternative management strategy you would like to compare to the intervention or indicator?

What are the patient-relevant consequences of the intervention?
Do you have your research question in mind already?

A. I have a fully formed PICO question
B. I have a general topic, but not a fully formed question
C. I have the will, just not the way clearly decided yet!
Publicly Available Resources
Two Search Approaches

- **Exploratory searching** – starting very broad and getting a sense of the evidence base and information landscape

- **Specific searching** – devising a precise and exhaustive search to help you identify research that pertains to a clinical question: PICO
  - Research that's relevant to a specific population and intervention.
Quick Refresher
| AND |
Fruit  Veg  Dairy

| OR |
Fruit  Veg  Dairy

NOT

Search Tip:
Do not use NOT – sledgehammer, not a scalpel
Your DIFM membership provides access to the Natural Medicines Database

Contains monographs for natural medicines and commercial products
Ginger: Scientific Name, Background, People Use This For, Safety, Effectiveness, Dosing & Administration, Adverse Effects, Toxicology, Interactions with Drugs, Interactions with Herbs & Supplements, Interactions with Foods, Interactions with Lab Tests, Interactions with Diseases, Mechanism of Action, Pharmacokinetics, Classifications

Ginger Professional Monograph
African Ginger, Ardraka, Black Ginger, Cochin Ginger, Gan Jiang, Gingembre, Gingembre Africain, Gingembre Cochin, Gingembre Indien, Gingembre Jamaicain, Gingembre Noir, Ginger Essential Oil, Ginger...

Ginger Commercial Product
Gary Null & Associates (GNA)

Ginger Commercial Product
OmniActive Health Technologies

Jengieli Syrup With Ginger And Honey Commercial Product
Natural Ginger Corp. 10 Discontinued
You can use Natural Medicines to generate strong search terms: finding the scientific name and family.

Under Effectiveness, you can see a summary of the available published trials and reviews.

You can also look under Mechanisms of Action to find the chemical constituents. These terms can be used as search terms in PubMed.

Scientific Name:
Zingiber officinale, synonym Amomum zingiber.

Family: Zingiberaceae.
**Evidence Summary**

**Ginger**

**Evidence Table**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Study Design</th>
<th>Author, Year</th>
<th>N</th>
<th>Statistically</th>
<th>Quality Of Study</th>
<th>Magnitude of Benefit</th>
<th>ARR</th>
<th>NNT</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute respiratory distress syndrome (ARDS)</td>
<td>Clinical trial, randomized, placebo-controlled trial</td>
<td>Wahl, 2013</td>
<td>32</td>
<td>Yes</td>
<td>5-10</td>
<td>Medium</td>
<td>NA</td>
<td>NA</td>
<td>Improvements in some measures of oxygenation and respiratory mechanics in patients taking medicinal ginger.</td>
</tr>
<tr>
<td>Acute respiratory distress syndrome (ARDS)</td>
<td>Clinical trial, randomized, double-blind, placebo-controlled trial</td>
<td>Shrestha et al., 2010</td>
<td>32</td>
<td>Yes</td>
<td>5-10</td>
<td>Large (fewer hospital admissions within the first 48 hours and the number of ICU and ventilator days in hospital). Lack of dose-response effect on V/Q mismatching among patients with ARDS.</td>
<td>NA</td>
<td>NA</td>
<td>Ginger extract 220 mg daily for 21 days of treatment increased the amount of tolerated feeding during the first 48 hours and the number of ICU and ventilator days in hospital. Lack of dose-response effect on V/Q mismatching among patients with ARDS.</td>
</tr>
</tbody>
</table>

**Effectiveness**

**POSSIBLY EFFECTIVE**

Antiretroviral-induced nausea and vomiting: Clinical evidence suggests that taking ginger, 1 gram/day in two divided doses, 30 minutes prior to each dose of antiretroviral for 14 days, reduces the relative likelihood of nausea and vomiting by about 69% and 79%, respectively, compared to placebo in HIV-positive patients (88987).

Dysmenorrhea: Clinical research shows that ginger can reduce pain in women with dysmenorrhea. Clinical studies show that taking ginger powder 500-2000 mg daily for the first 3-4 days of a menstrual cycle modestly decreases pain by about 1.40-3.67 points on a 10 point scale compared to control groups in teenage girls and women with dysmenorrhea. Meta-analyses suggest an overall decrease of approximately 2.33-2.66 points (99). Clinical research also shows that ginger might be as effective as anti-inflammatory agents. Taking a specific ginger extract (Zingiber officinale) 250 mg four times daily for 3 days at the beginning of the menstrual period or until pain relief reduces symptoms of dysmenorrhea similar to ibuprofen or mefenamic acid (100).

Morning sickness: Taking ginger orally appears to reduce the severity of nausea and vomiting in some pregnant patients with morning sickness.
Recommended Search Options in PubMed

- **MeSH**
  Medical Subject Headings: find all the articles about your topic

- **PubMed Filter: Dietary supplements**

- **Filter: Article Type**
  Reviews can help inform your background information
  Clinical Trials can help inform methodology and study design

- **Writing Complex Search Strings**
  Combine terms with AND | OR
Diet
1. Regular course of eating and drinking adopted by a person or animal.

Diet Western
2. A pattern of food consumption adopted mainly by the people of North America and Western Europe. It is mainly characterized by high intake of MEAT, processed grains, DIETARY SUGARS, DAIRY PRODUCTS, and DIETARY FATS.
   Year introduced: 2015

Diet Paleo
3. A nutritional plan based on the presumed diet of pre-agricultural human ancestors. It consists mainly of MEAT, EGGS, NUTS, roots and fresh VEGETABLES and FRUITS, and excludes GRAIN, LEGUMES, DAIRY PRODUCTS, and refined DIETARY SUGARS.
   Year introduced: 2015

Diet High-Fat
4. Consumption of excessive DIETARY FATS.
   Year introduced: 2012

Diet Ketogenic
5. A course of food intake that is high in FATS and low in CARBOHYDRATES. This diet provides sufficient PROTEINS for growth but insufficient amount of carbohydrates for the energy needs of the body. A ketogenic diet generates 80-90% of caloric requirements from fats and the remainder from proteins.
   Year introduced: 2018 (2009)
Search Tip: Don't just find the same word – look for the right meaning.
Diet Therapy – has the meaning that I'm looking for.

Search Tip: always scroll down the list – the most relevant term is NOT always the first one!
Diet Therapy
1. Adjusting the quantity and quality of food intake to improve health status of an individual. This term does not include the methods of food intake (NUTRITIONAL SUPPORT).
Year introduced: 1966

diet therapy [Subheading]
2. Used with disease headings for dietary and nutritional management of the disease. The concept does not include vitamin or mineral supplements for which "drug therapy" may be used.
Year introduced: 1975
Search Tip: You don’t have to use the search builder. You can copy and paste MeSH terms into the search bar.
Add a subject filter for Dietary Supplements

Click: Show additional filters

Select: Subjects

Click: Customize

Select: Dietary Supplements
Exploratory searching:
See what's there... 
see what isn't!

➢ Start very broad: the disease/condition
➢ The disease will likely have a subject heading
➢ Search for ALL research on the disease
  ➢ Add in a broad intervention: eg Diet Therapy
  ➢ Add in a filter for "Dietary Supplements"
  ➢ Go even narrower by adding a specific diet, or specific supplement
Effect of Monocolin K and COQ10 supplementation in hypertensive and hypercholesterolemic subjects with metabolic syndrome.


PMID: 30021394

The BROAD study: A randomised controlled trial using a whole food plant-based diet in the community for obesity, ischaemic heart disease or diabetes.

Wright N, Wilson L, Smith M, Duncan B, McHugh P.


PMID: 28319109

Beneficial effect of a polyphenol-rich diet on cardiovascular risk: a randomised control trial.

Noad RL, Rooney C, McCall D, Young IS, McCance D, McKinley MC, Woodside JV, McKeown PP.


PMID: 27164919
TURMERIC

Scientific name:
Curcuma longa, synonym Curcuma domestica; Curcuma aromatica.

Chemical constituents:
Curcuminoids: curcumin (diferuloylmethane), demethoxycurcumin, bisdemethoxycurcumin, calebin, and other diarylheptanoids)

Search String:
(turmeric OR curcuma longa OR curcuma domestica OR curcuma aromatica OR curcuminoids OR curcumin OR diferuloylmethane OR demethoxycurcumin OR bisdemethoxycurcumin OR calebin)
PICO question

*Does Turmeric reduce symptoms of osteoarthritis?*

P: Osteoarthritis  I: Turmeric
Advanced Boolean

- osteoarthritis AND turmeric OR curcumin
- osteoarthritis AND (turmeric OR curcumin)
- (osteoarthritis AND turmeric) OR curcumin
Quick Comparison

Simple key words: 55 results

MeSH term AND exhaustive search string: 80 results!
Search Strategy Summary

Search Approaches:
• Start broad and narrow down results incrementally
• Create a very specific search from the outset using PICO

Search tips:
• Use MeSH headings to pull all the relevant articles on the condition or intervention
• Use Filters to pull specific subsets of results
• Use Boolean operators (AND | OR) combine search terms in to complex search strings
• Use Natural Medicines to generate exhaustive search terms for herbs and supplements
On the Google Scholar Homepage, click on the menu icon here to locate the Advanced Search option.
On the Google Scholar Homepage, click on the menu icon here to locate the Advanced Search option.

Institutional Affiliations can be added here under the Settings Tab.

Select “Library Links”

Search for your library, check the box and “Save”.
Boolean Operators (revisited)

[AND] "with all of the words"
["quotation marks"] "with the exact phrase"
[OR] "with at least one of the words"
[NOT] "without the words"

Truncation

Adding an asterisk to the root of a word will give you every variation of that word.

Example: child* (children, childhood, etc.)

The Advanced Search option allows you to carry out a more specific search and to get more relevant results.
Efficacy of turmeric extracts and curcumin for alleviating the symptoms of joint arthritis: a systematic review and meta-analysis of randomized clinical trials

JW Daily, M Yang, S Park - Journal of medicinal food, 2016 - liebertpub.com

Although turmeric and its curcumin-enriched extracts have been used for treating arthritis, no systematic review and meta-analysis of randomized clinical trials (RCTs) have been conducted to evaluate the strength of the research. We systematically evaluated all RCTs of turmeric extracts and curcumin for treating arthritis symptoms to elucidate the efficacy of curcumin for alleviating the symptoms of arthritis. Literature searches were conducted using 12 electronic databases, including PubMed, Embase, Cochrane Library, Korean databases...

Since I have a University Affiliation, I can add my Library to the Library Links in the Google Scholar settings to view articles.
Efficacy of turmeric extracts and curcumin for alleviating the symptoms of joint arthritis: a systematic review and meta-analysis of randomized clinical trials

Although turmeric and its curcumin-enriched extracts have been used for treating arthritis, no systematic review and meta-analysis of randomized clinical trials (RCTs) have been conducted to evaluate the strength of the research. We systematically evaluated all RCTs of...

Efficacy and Safety of Curcuma domestica Extracts in Patients with Knee Osteoarthritis

Conclusions C. domestica extracts seem to be efficacious and safe for the treatment of...

Efficacy and mechanism of action of turmeric supplements in the treatment of experimental arthritis

... our laboratory isolated, chemically characterized, and determined the in vivo antiarthritic efficacy of a ... Turmeric powder (Curcuma longa L. Zingiberaceae) was purchased from San Francisco Herb and ... From ground turmeric rhizome, 2 extracts were isolated: 1) a crude extract ...
Efficacy of turmeric extracts and curcumin for alleviating the symptoms of joint arthritis: a systematic review and meta-analysis of randomized clinical trials


Although turmeric and its curcumin-encrusted systematic review and meta-analyses of randomized clinical trials were conducted to evaluate the strength of the evidence for the efficacy of turmeric extracts and curcumin for treating joint arthritis, no randomized clinical trials for treating curcumin for alleviating the symptoms of joints were identified. The evidence for the efficacy of turmeric extracts and curcumin for alleviating the symptoms of joint arthritis was not strong enough to support the use of these substances for treating arthritis.

Citation feature on Scholar calls up various citation formats to help you with your Reference lists.
Tips for Researching Beyond Free Web

• Public library
• Memberships through Professional Associations
• Local state college libraries
  • Public terminals – online and in person reference
• *For Washington Based* HealWA

https://heal-wa.org/
Clinical Updates: Melatonin for Fibromyalgia

Recent ConsumerLab.com Reviews

Best Fish & Marine Oils • Similar to Omega-3 Prescription Drugs

Learn How Much CBD Is Really in Hemp Oils & Pills

31% of Turmeric/Curcumin Products Fail CL's Tests

Find the Best Tuna and Salmon and Avoid Mercury

Joint Pain? See Our Top Supplement Picks

CL Answers: Recent answers to our members' questions

How do fish oil supplements compare to EPA prescription fish oil like Vascepa? View Answer >>

How much magnesium from supplements is too much? View Answer >>
Managing Your References
A free reference manager that can help you collect references, organize your citations, and create bibliographies.

https://www.mendeley.com/
Can cognitive exercise prevent the onset of dementia? Systematic review of randomized clinical trials with longitudinal follow-up

Authors: M. Valenzuela, P. Sachdev

Abstract:

Can cognitive exercise prevent the onset of dementia? Systematic review of randomized clinical trials with longitudinal follow-up

Type: Journal Article

Journal: The American Journal of Geriatric Psychiatry

Volume: 2009
Issue: March
Pages: 179-187

URL: http://www.sciencedirect.com/science/article/pii/S1340375610000445

Author Keywords: 2007; 2008; accepted June 27; and neuropsychiatric institute; austrian; brain reserves; cognitive exercises; cognitive reserves cognitive training dementia; from the school of general mental activity; navy prevention; prices make hospital psychiatric; received December 14; req...

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https://www.mendeley.com/guides/videos
Questions?
Thank You for Attending Our Presentation

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