Research Consultation: Coconut Oil as a Remedy for Alzheimer’s Disease

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Background

The client is an editor at a small publishing company. She and I were roommates in 1991-92 when we were both seniors in college. The client’s mother has a diagnosis of probable Alzheimer’s disease (“AD”). I am also interested in the disease because my mom has cognitive impairment and is rapidly deteriorating. On February 2, the client, who I will call “Madge,” posted a link to a news report on her Facebook page.

The story featured Dr. Mary Newport and her husband, Steve, who has Alzheimer’s disease. Dr. Newport read an academic article in which rats were given a special diet intended to increase the numbers of “ketones” in the rats’ brains. She said that the ketones provided an alternative to glucose, the main energy source for brain cells in rats and humans. Dr. Newport said that AD patients’ brains cells have difficulty acquiring glucose, so they don’t get enough energy, and they die. Her Internet research revealed that the human body manufactures ketones out of foods, especially fatty acids called medium-chain triglycerides. She said that coconut oil is rich in medium-chain triglycerides. She began giving her husband coconut oil every day, and she claims that his AD symptoms abated almost immediately (Johnson, 2012).

Interview Process

On February 4, Madge and I spoke on the phone. Our long-term friendship and common experiences with AD made it comfortable for her to talk and easy for me to “travel along with the client for a while” and “see the problem in the same way as the client does.” (Dervin & Dewdney, 1986, p. 508). I started the conversation
with an open-ended, neutral prompt, “So, let’s talk about coconut oil.” Madge readily volunteered several questions and thoughts. First, she wanted to know if it was true that coconut oil was effective, and if it is true, she wanted to know why the health care industry does not seem to know about it. She then asked if I could track down the studies mentioned in the news clip, or other studies about ketones and cognitive functioning.

She expressed hopefulness about coconut oil and dubiousness about the news story. She had several specific and legitimate concerns about the objectivity of the reporter and Dr. Newport. I wondered if these questions were peripheral to her real query. So, I moved the conversation to what she intended to do with the information I would be finding. This was neutral, open-ended questioning straight out of the Dervin & Dewdney (1986) article (p. 509, 511). Madge responded that she wanted to know how coconut oil would affect those who already have symptoms. I asked if she was thinking about giving it to her mom. This was a closed question, but it led to a helpful response. Madge believed her mom was already “too far gone,” but, she asked, “What about for me? Or my brother? Or should I give it to my kids?” She asked if I could find out if there are risks to taking coconut oil. Finally, we confirmed three research queries. First, can coconut oil prevent, slow down or reverse AD? Second, are risks associated with eating coconut oil? And third, do other dietary or lifestyle changes have a preventive effect?

**Search Strategy**

I decided to start my research through the UW Libraries website in CINAHL, database comprising literature for nurses and health professionals, hoping that the
information I found would be more accessible than scientific studies. I did an advanced search using the EBSCO interface for “Alzheimer’s disease” and “coconut” in all text fields. As expected, I found articles from popular magazines, like Vegetarian Times, that made dietary recommendations for limiting AD risks. One recommended a diet low in saturated fat and mentioned that coconut oil is loaded with saturated fat. These articles also recommended eating fish several times a week for the fatty acids. These items satisfied part, but not all, of the research query.

So, using the subject headings, I browsed Alzheimer’s disease, subheading “Diet Therapy.” Here, I found many articles about dietary changes and AD. Taken together, they suggested that diet changes like the ones mentioned above could have preventive effects. In addition, I found a key article about medical foods for AD, discussing a nutritional supplement that increased ketone availability (Shah, 2001). The article discussed a study showing some short-term memory improvement in AD patients who could tolerate the supplement. The article stated, “[The fatty acid] is not present in sufficient quantities in regular dietary intake of coconut oil ... to meet the needs of persons with AD.” Another article discussed the potential for a ketogenic diet (a diet extremely high in saturated fats and extremely low in carbohydrates) for enhancing brain energy metabolism (VanItallie, 2003).

Browsing through the subject heading in this way gave me an introduction to the subject matter and several ideas for advanced searching in PubMed, including other disorders that responded to ketogenic diets, like epilepsy.

Next I searched in PubMed, using the NCBI interface. I did an advanced search to find the article mentioned in the news clip. It was simple to find by
searching for Kieran Clarke in the author field and “ketone ester” in the keyword field. The study was done in normal rats, not Alzheimer’s model rats, and they were given a nutritional supplement, not coconut oil. The study supported the idea that rat brains metabolized ketone bodies, but it seemed like a very long jump from there to coconut oil reversing AD symptoms in humans.

Next, I did an advanced PubMed search for “coconut AND (cognition OR memory OR cognitive decline OR dementia OR cognitive impairment OR Alzheimer OR seizure)”. The system returned 25 results, and I eventually dismissed approximately 18 of them as irrelevant. Four of the remaining seven articles discussed dietary habits that showed promise for preventing dementia, for example, frequent consumption of fish oil, olive oil, and young coconut juice. Young coconut juice consumption correlated with cognitive improvements in mice, but an adult human would have to drink approximately 1.5 gallons of coconut juice every day in order to ingest an amount comparable to what the mice ingested (Radenahmad, et al., 2011).

Interestingly, in the studies showing that extra virgin olive oil and fish oil consumption had a preventative effect against AD, coconut oil was used as the placebo. I thought this undercut the assertion that coconut oil could improve cognitive functioning, however, these studies were focused on prevention. They studies did not eliminate the possibility that after the onset of symptoms, coconut may slow or remedy cognitive impairment. The remaining three articles described studies in which diets high in saturated fats or hydrogenated fats correlated with declines in cognitive functions in rats. This made me even more skeptical of the idea
that coconut oil, a substance high in saturated fat, could reverse or slow AD. To ensure a thorough search, I ran the same search in DynaMed and Web of Science, and turned up no additional articles.

To wrap up the searching, I went to WebMD, the NIH website, and the Mayo Clinic website again hoping to find information that would be more accessible to laypeople than the academic articles I had retrieved through the PubMed database. A WebMD column warned that coconut oil contains 92% saturated fat, which should be limited to 7-10% of calories and that saturated fats are not good for the heart. It did not mention AD (Zelman, 2011). The Mayo Clinic blogger commented very briefly that there is little scientific confidence in the idea that coconut oil helps with AD (Lunde, 2012). The NIH website was a dead end. I decided to write up my results thus far and respond to Madge.

**Results Presented, User Response and Reiterative Searching**

By email, I told Madge I had not found any studies of coconut oil in human beings. I summarized the study that Dr. Newport mentioned in the news clip and the articles about preventive dietary changes. I also provided a link to the Zelman (2011) WebMD article about coconut oil and health and other lay-friendly articles. (Herndon, personal correspondence, February 7, 2012). Madge responded, “WOW! Thanks for all the work you put into this. It’s a lot of food for thought. It is somewhat disappointing.” I then placed several articles, including the rat studies about ketones as well as many lay-friendly articles and links in an Evernote notebook that Madge could access and share with family members. We had a follow-up conversation on February 10 to discuss the results.
At the end of our conversation, Madge was satisfied that my search had been thorough. However, as I sat down to write this paper, I entered a search into Google Scholar for “coconut oil” and “cognitive function.” Google returned a study that showed improved cognitive functioning in epileptics having hypoglycemic episodes when they were given coconut oil (Page, 2009). Encouraged, I did another Google search for a New York Times Magazine article that I had read months ago about the ketogenic diet for epilepsy. After I found that and refreshed my memory, I did another Google Scholar search for “ketogenic diet” and “Alzheimers.” This search turned up articles by Veech (2004) and Van der Auwera (2005) that support the use of a ketogenic diet for reducing certain AD symptoms. I added these results to the Evernote notebook and notified Madge of them by email. She thanked me profusely and said she’d be sharing the information with her brother.

**Conclusion**

In conclusion, neutral questioning helped me understand the client’s information need. In addition, a closed question helped me zoom in on the need. I performed a thorough search and provided a variety of resources, some accessible to lay people, and others more scientific. I am concerned, however, that the scientific studies may not be useful to Madge. Through this experience, I learned to probe more about what types of resources the client is looking for, and to find out in advance whether resources like scientific studies would be helpful. This is important even where, as here, the information professional already knows that the client is well educated and well read.
References


