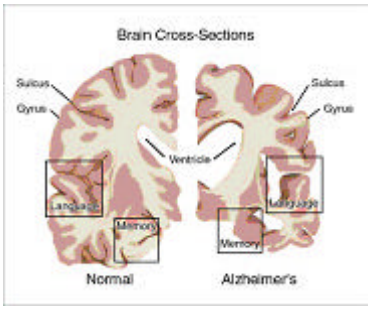
Fish Oil: It May Save Your Brain

by Stephanie Ford and Meagan Sternberg

What is today's date? What day of the week is it? What month is it? What season is it? Who is the President of the United States? Do you know all the answers to these questions? You may think, duh, anyone could answer these questions. But many people with Alzheimer's disease would not be able to answer most of these questions.

At this point in your life, Alzheimer's disease may seem disconnected, since it normally affects people who are much older than you. In people with Alzheimer's disease, large amounts of fats (lipids) in the brain are broken down, which damages and eventually kills the brain's nerve cells (neurons). Over time, this causes loss of memory and language skills, behavioral changes and eventually death.



At Oregon Health & Science University (OHSU), many research scientists are trying to find treatments that may slow or stop this destruction of brain cells. One of these scientists is Dr. Lynne Shinto. Lynne is a research scientist and a doctor of naturopathy (ND). As a naturopath, she looks for ways to treat or prevent diseases using natural substances rather than man-made drugs. Specifically, Lynne is interested in the effect fish oil may have on reducing the loss of neurons in people with Alzheimer's.

When researching a disease like Alzheimer's, you must have human volunteers to participate in the study. This is called clinical research. It is often difficult to find willing participants. Sometimes they are offered money for their participation in a study, but in Lynne's case there is not enough money to do this. What motivates most of her participants to agree (consent) to be in her study is the hope that the fish oil pills may have some positive effect on their disease.

Before deciding to participate in the Alzheimer's study, a study partner must be lined up. Because of the memory loss and confusion the participant may experience, they cannot consent independently. The study partner can be any person (usually a family member or good friend) who can come to all study visits with the participant, make decisions on their behalf if necessary, and speak to noticeable changes and patterns in the participants' behavior.

Once the participant and his or her study partner finish reading and signing the consent forms, the participant is admitted into the study and randomly assigned to one of 3 study groups. Group 1 receives pills of fish oil and alpha lipoic acid (ALA); group 2 receives pills of fish oil and placebo ALA; group 3 receives pills of placebo fish oil and placebo ALA. Neither participants nor researchers know which group the participants are assigned to; for this reason, it is called a double-blind study.

placebo-a pill that does not have the "medicine"

Participants and their study partners will return to the hospital for data collection visits once every three months over the course of the year they are in the study. During these visits several things occur. During each visit, Dr. Shinto gives the participant a physical exam to check for any problems. After the physical exam, her research assistant, Sara Baldauf-Wagner, does the remaining sample collections and exams.

First, Sara asks the participant for a urine sample and then draws their blood. Both of these samples will be sent to a lab at the University of Washington that specializes in testing them for the data Lynne

Shinto needs; information on certain chemicals that are related to the loss of brain cells. The University of Washington lab will eventually send the results back to OHSU for Dr. Shinto to review.

In addition to these samples Sara collects for analysis, she also does mental and behavioral exams with each participant to help track their level of memory loss and confusion over the year. When giving the exams, Sara thoughtfully calls them "exercises" so as not to raise the participant's level of anxiety. She closely monitors the participant's expression and behavior because she understands they may become frustrated and discouraged when they are unable to answer a question. For some, this frustration can be so intense that they begin to cry or giggle.

It is easy to see why Sara's compassion is so natural during these visits; the participants are people. They could be someone's parent, grandparent or sibling. Despite the compassion, it is hard to think about what is *really* happening to these people; they are literally losing their minds. This is what makes Lynne Shinto's research so important: one day it could be *your* mind that is slipping away.

Lynne Shinto, ND, is a Principal Investigator (PI) at Oregon Health & Science University (OHSU).

Sara Baldauf-Wagner, BS, is a Research Assistant II at OHSU.

QUESTIONS

1. Who has to consent with the participant in order him/her to be in the study? Why?

2. What is a placebo? Why do you think it is important to include the placebo in the clinical research study?

3. What does it mean when you say this is a double-blind study?

4. If you had Alzheimer's disease, would you agree to participate in a clinical research study?