



[Show All](#)

Interests:

## Cognitive Function & Fibromyalgia

Monday, April 28, 2003

By: Jennifer Glass, Ph.D Denise Park, Ph.D,

Reprinted from FMOnline

This interest  
 All interests  
 Search:

***"I can deal with the pain, but the memory and thinking problems really worry me."***

***"The physical symptoms weren't as frightening as the memory problems."***

***"The most devastating effect for me has been the cognitive impairment."***

If you have fibromyalgia (FM), then these quotes may describe what you have felt as well. Many FM patients complain of cognitive (or mental) symptoms such as memory failures (both long-term and short-term), difficulties with attention, and with finding the right words. Our research focuses on these cognitive problems in FM patients.

Our research shows that there really is cognitive dysfunction in FM patients. This is important because even though FM patients report cognitive symptoms, physicians and scientists must consider the possibility that because FM patients experience many symptoms, there may be a tendency to mistake normal, everyday lapses on cognition as something more serious. However, we have found that FM patients perform more poorly than age- and education-matched controls on tests of several different types of cognitive function. For example, FM patients could recall fewer words when given a list of words to remember and recall later. FM patients also performed more poorly on a test of working memory. Working memory refers to your ability to hold something in mind briefly while you use that information for some other mental process. It is your mental desktop. Multiplying large numbers in your head is a good example of a task that uses working memory. In addition, FM patients had lower scores on vocabulary tests, and had lower scores on a verbal fluency test. In the verbal fluency task, people are shown a letter and are asked to write down as many words as they can think of that start with that letter. It tests how quickly you can access your stored knowledge of words. Thus, our results show that FM patients do indeed have some cognitive dysfunction.

In fact, the cognitive performance of FM patients was equivalent to that of adults who were twenty years older than the FM patients on several of our tests. Moreover, the FM performance and that of the older adults was worse when compared to control subjects the same age, gender, and education level as the FM patients. Our research on aging shows that memory declines reliably every decade, and our results with FM patients suggest that FM patients were cognitively twenty years older in their performance on some tasks.

However, there was one key difference between the FM patients and the older controls. Older adults are typically slower than young adults on cognitive tests that measure how rapidly they process information. This slow processing explains many other symptoms of cognitive aging. But the FM patients were faster than the older adults, and in fact, were just as fast as the younger, age-matched controls. So although FM patients may perform similarly to older adults on some cognitive tasks, the underlying cause is not likely the same.

An important question is whether the cognitive dysfunction seen in FM patients can be related to other symptoms of FM. For example, FM patients are often also depressed, and cognitive dysfunction occurs in people who are depressed. Maybe the cognitive dysfunction in FM is

simply due to depression. Our results show that this is not the case. All of the patients in our study were carefully selected so that no one with major, clinical depression was included, but we were still able to demonstrate cognitive problems in our sample. Moreover, depressed patients are often slow and are FM patients were as fast as the age-matched controls in their ability to process information rapidly. In addition, we measured depressive symptoms in our study. FM patients, even though they were not clinically depressed, reported more depressive symptoms than the control groups. This isn't surprising since the other symptoms of FM are themselves depressing and discouraging. Even though the patients reported more depression symptoms, those symptoms were not related to cognitive problems. In other words, the patients with the worst cognitive performance were not necessarily the patients with the most depression symptoms. We also did not find any relationship between anxiety and performance on the cognitive tests.

Yet another symptom that might be related to cognitive function is sleep disturbance. Perhaps the patients who have the most disrupted sleep have the lowest cognitive scores. We looked at this by having patients wear activity monitors. The monitors were worn on the wrist like a watch and measured how much a person moved around. During the night, most people don't move much, unless they wake up. By looking at the data collected from the activity monitors, we could tell how often a person woke up during the night and could calculate the percentage of time a person spent asleep during the period where they were trying to sleep. We found that FM patients had lower percentages of time asleep during the night; yet, this measure of sleep was not related to cognitive performance. Also, self-reported fatigue was not related to cognitive performance.

Actually, the only symptom we found to be related to cognitive performance was pain, particularly the impact of pain on a patient. We hope to conduct further research to learn more about how pain and cognitive function are related in FM patients. For example, managing chronic pain may take some cognitive effort and this may interfere with performance on cognitive tasks. Alternatively, higher pain may be an indicator of more severe FM, but at this time we don't know which of these is true.

Another area of our research is focused on subjective awareness of cognitive ability--memory in particular. For example, how well do you think you do at everyday memory tasks? How much do you know about the way that memory functions? Do you use strategies to help you remember things? Is it important for you to have a good memory? Do you worry about having a good memory? Has your memory ability changed in the last few years? Do you feel you have any control over how well you can remember something?

We measured people's responses to a questionnaire designed to answer these questions. We found that FM patients felt they had less memory ability than age-matched controls; they felt they had experienced more decline in their memory; good memory was more important to FM patients; and they were more anxious about performing well on memory tests. FM patients knew just as much about how memory works and used more strategies to help them remember than non-FM research participants. We found that FM patients' rating of their memory ability was related to their actual memory performance, showing that the patients' assessment of memory problems was accurate. In contrast, the control groups did not show this same relationship.

In conclusion, our research has shown that patients' complaints about their cognitive problems are accurate: there is cognitive dysfunction in FM patients and this is not due solely to psychiatric disorders such as depression, or to other symptoms of FM such as sleep disturbance, anxiety or fatigue. On the other hand, cognitive dysfunction in FM is related to pain. Our future research will focus on the relationship of pain and cognitive function, as well as on some other types of cognitive tasks. Since many patients complain of difficulty focussing on one task, we plan to study attention in FM. Finally, we are planning some neuroimaging studies where we can see which parts of the brain are active during a cognitive task. We hope to find differences between the FM patients and healthy controls that will give us more information about this disorder.

**Advertisers**

**ABOUT NFA**

[Programs](#)  
[Our History](#)  
[Medical Advisory Board](#)

**ARTICLES**

[English](#)  
[Spanish](#)

**STORE**

[Jewelry](#)  
[Education](#)  
[Awareness Items](#)  
[Goodies](#)  
[Apparel](#)

**FIBROMYALGIA**

[What is Fibromyalgia?](#)  
[Who is Affected?](#)  
[What are the Symptoms?](#)  
[How is Fibromyalgia Diagnosed?](#)  
[What Causes Fibromyalgia?](#)  
[Science of Fibromyalgia](#)  
[How is Fibromyalgia Treated?](#)  
[What is the Prognosis?](#)  
[An Overview for the Newly Diagnosed Patient](#)

**RESEARCH**

[Abstracts](#)  
[Clinical Trials](#)  
[Research Overview](#)

**COMMUNITY**

[Support Group Information](#)  
[FM Community Events](#)  
[Leaders Against Pain](#)  
[Advocacy](#)  
[Awareness Day](#)  
[Membership](#)  
[Member Spotlight](#)  
[Patient Stories](#)

**MEDIA**

[Fact Sheets](#)  
[Press Releases](#)

**RESOURCES**

[Resource Directory](#)  
[Glossary of Terms & Definitions](#)  
[Sponsors](#)  
[Featured Advertiser](#)  
[AWARE Magazine](#)  
[FM Online Newslett](#)

