



The Nutrition Science Site

Autoimmune Disease is now the Third Major Category of Illness in the U.S.: Seventy-Five Percent of Those Affected are Women

By Eileen Vennum, RAC

According to the American Autoimmune Related Diseases Association, Inc. (AARDA), autoimmune disease is now the third major category of illness in the United States and many industrialized countries, following heart disease and cancer,¹ and it is the fourth leading cause of disability among women in the United States.² AARDA estimates that 20% of the U.S. population, or one in five individuals, suffers from some form of autoimmune disease. The majority (approximately 30 million in the U.S.) of those affected are women.³

Autoimmune disease is a category of diseases that includes more than 80 serious, chronic illnesses that are triggered when the body's immune system mistakes its own tissue as foreign.⁴ It then attacks its own cells and tissues, causing various diseases that involve almost every human organ system, including nervous, gastrointestinal, endocrine, skin, connective tissues, eyes, blood, and blood vessels.² Because symptoms vary so widely, diagnosis is often difficult.

Some of the more familiar diseases thought to have an autoimmune component include ulcerative colitis and Crohn's disease, rheumatoid and juvenile arthritis, scleroderma, psoriasis, pernicious anemia, multiple sclerosis, systemic lupus erythematosus (SLE), insulin dependent (Type I) diabetes, fibromyalgia, chronic fatigue syndrome, autoimmune hepatitis, and cardiomyopathy.^{1,2,4} These conditions are chronic and debilitating, and often no effective treatment is available.

Autoimmune diseases affect many more women than men, most frequently during their childbearing years. The female to male ratios of selected autoimmune diseases are shown in the following Table.²

Female: Male Ratios in Autoimmune Disease	
Hashimoto's disease/hypothyroiditis	50:1
Systemic lupus erythematosus	9:1
Sjogren's syndrome	9:1
Antiphospholipid syndrome	9:1
Primary biliary cirrhosis	9:1
Mixed connective tissue disease	8:1
Chronic active hepatitis	8:1
Graves' disease/hyperthyroiditis	7:1
Rheumatoid arthritis	4:1
Scleroderma	3:1
Type 1 diabetes	2:1
Myasthenia gravis	2:1
Multiple sclerosis	2:1
Chronic idiopathic thrombocytopenic purpura	2:1

A recent study was the first to show mortality rates from autoimmune diseases among women of various age groups.⁵ This study showed that autoimmunity is:

- the seventh leading cause of death by disease among females ages one to 14,
- the fifth leading cause of death by disease among females ages 15 to 44, and
- the seventh leading cause of death by disease among females ages 45 to 65.

One of the authors of this study, Dr. Stephen Walsh, from the University of Connecticut Health Center, commented: "We set out to tally all deaths from autoimmune diseases across the U.S. [for another research project] and in doing so were surprised by a much larger count than we'd expected. This surprise ultimately led us to identify autoimmune diseases as a leading cause of death, particularly among young and middle-aged women."²

Because more women than men are affected, researchers are beginning to look at the effect hormones have on immunity and autoimmunity. They have noted that some autoimmune illnesses occur more frequently after menopause, others improve during pregnancy and return after delivery, while still others get worse *during* pregnancy. Professor Jean-Francois Bach, head of the immunology research laboratories at Necker Hospital in Paris, believes that research has conclusively demonstrated that hormones, especially estrogen, boost immune (and autoimmune) responses.¹

When considered individually, many autoimmune diseases are rare. However, some researchers are beginning to advocate that these diseases be thought of as parts of a whole. By categorizing them as consequences of

immune system malfunctions, research can be more effectively focused on understanding the common features that are behind the etiology of these diseases. AARDA is working to educate the public and the health community about this topic.

The National Institutes of Health's (NIH) Office of Research on Women's Health (ORWH) was asked to review NIH's scientific agenda for research on women's health issues, identify areas of research that need emphasis, and then propose a revised research agenda for the NIH. The ORWH's 1999 report, "Agenda for Research on Women's Health for the 21st Century", placed immunity and autoimmune diseases high on the list of priorities for study.⁶ This focus should expedite the process of finding answers to the cause and treatment of autoimmune disease - a concept unheard of forty years ago.

For more information on autoimmune diseases, visit the AARDA web site at www.aarda.org.

References

1. www.aarda.org/press_release8.htm. [March 3, 2000 press release: "More Women Contract Disease" (statement by medical experts to a United Nations panel).]
2. www.aarda.org/women.html ["Autoimmune disease in women – the facts"]
3. www.aarda.org/press_release_martin.htm [October 20, 2000 press release: "New U.S. Priorities for Women's Health Research Catapult Autoimmune Disease to Forefront, According to New NIH Report"]
4. www.aarda.org/press_release11.html. [September 8, 2000 press release: "Autoimmunity Named a Leading Cause of Death Among Women in New Study"]
5. Walsh SJ, Rau LM. Autoimmune diseases: a leading cause of death among young and middle-aged women in the United States. *Am J Public Health*. 2000;90(9):1463-1466.
6. National Institutes of Health. Agenda for Research on Women's Health for the 21st Century. Executive Summary. NIH Publication No. 99-4385, 1999.



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