The nationwide study is finished and the discussion now begins. During the past year, almost 1,000 post-polio women, ages 34 to 99, openly disclosed their menopause secrets with researchers at the University of Michigan. What did we learn and what could this information really mean to women who had polio? When I interviewed chief investigator Claire Kalpakjian, PhD, she clarified the essence of the study’s thirteen major findings. We also discussed what each point might tell us about how post-polio women could best care for themselves during their well-earned senior years. Each formal study result warrants a slightly closer look, which is accompanied by this author’s perspective: feminine, menopausal, pre-retirement and post-polio.

1. **Severity of post-polio sequelae was significantly related to severity of menopause symptoms.** One of the study’s most important questions asked if worse late effects of polio are connected to worse menopausal symptoms. The answer is “yes.” Women with greater post-polio sequelae experienced more menopausal problems in four areas:
   - sensory (numbness, tingling, loss of feeling, constipation, dry eyes);
   - psychological (tense feelings, moodiness, depression, irritability);
   - sleep (sleeplessness, cold hands and feet); and
   - vasomotor (hot flashes, sweating).
   There was a link, but one doesn't necessarily cause or predict the other.

What do we do with this information? If a woman knows that her late effects of polio are fairly complicated, she can be on the lookout for the above symptoms and be ready to address them with her physician, as a special prevention effort.

2. **Greater menopause symptom severity was significantly related to lower emotional well-being.** The worse menopause symptoms are, the more likely one will feel a greater amount of stress, have more negative feelings and feel less satisfied with life.

   From this, one might surmise that if we can stay on top of the symptoms with our physicians, then we will end up feeling better about life in general.

3. **Menopause status was associated with severity of post-polio symptoms and physical functioning; age-matched men did not significantly differ from women within each menopause status on these outcomes with the exception of late postmenopausal women who reported significantly greater severity of post-polio sequelae than age-matched men.** Women who were further along in menopause had more severe post-polio symptoms and more difficulty with activities of daily living than post-polio men their same age. We should seek help for new symptoms. We should take to our physician the brochure, due out soon, that shares the results of this study and discusses the management of polio’s late effects.

4. **While there were no significant differences by menopause status on emotional well-being outcomes, peri-menopausal women had significantly greater life satisfaction and lower negative affect than age-matched men, and the late postmenopausal women had significantly greater perceived stress than age-matched men.**
Women approaching menopause were more satisfied with their lives and less unhappy than post-polio men their age. However, women who were at least five years postmenopause were more stressed out than post-polio men the same age. If we know we might tend to be more stressed after we have been through menopause, then we should take what’s known about stress management very seriously and read up on techniques or take a class.

5. Despite unknown elevation of risks of use in the context of physical disability, women in this sample used hormone replacement therapy (HRT) at a significantly higher rate than estimates for their nondisabled peers. Casually stated, more of these post-polio women (39%) were using HRT than their nondisabled sisters across America (23%). We may want to revisit the wisdom of this choice, in light of the new research that has been published in the last year about HRT use.

6. Use of HRT was not associated with better physical functioning or lower post-polio severity nor was it associated with better emotional well-being. The bottom line is that using HRT does not help improve polio symptoms, the ability to do things, or how good a woman feels.

7. HRT use did not mitigate severity of post-polio sequelae or physical functioning by menopause status, but late postmenopausal women using HRT had significantly greater severity of post-polio severity and higher basic ADL functioning than age-matched men. Not only did HRT not alleviate post-polio symptoms, women HRT-users who were more than five years post-menopause actually had worse late effects of polio than post-polio men their same age. This does not necessarily mean that HRT caused the late effects. Also, unexpectedly, despite worse symptoms, the women’s ability to do basic self-care tasks was better than the men.

8. Hysterectomy rates among women in this study were significantly higher than the average rate for women in the US. Close to 35% of the post-polio women in this study had had hysterectomy, contrasted to only 21% among American women in general.

9. Age at final menstrual period was average compared to nondisabled women in the US. Both post-polio and nondisabled women across the country had their last period when they were about 50 years old.

10. The experience of menopause among these women was largely positive or neutral. One woman quipped, “Maybe cold polio feet and hot flashes equal out!”

11. Rates of employment of these polio survivors were lower than their similar-aged peers, except for individuals over the age of 65 years who were employed at similar rates as their peers. Polio survivors in the study appeared to have stopped being part of the national workforce earlier than their fellow Americans. This reminds us that knowing the often intricate details of later life planning (finances, housing, health care, transportation, estate planning, etc.) is especially important if we are likely to retire early.

12. Middle-aged (45 to 54 years old) polio survivors reported substantially greater perceived stress than their peers in a national probability sample. Middle-aged polio survivors were more stressed out than nondisabled Americans who were the same age. Once again, managing stress seems to be highly relevant for us.

13. In general, older participants enjoyed greater positive and lower negative mood and perceived stress. Post-polio people who were 65 and older reported less stress and greater

The final report of Post-Polio, Menopause and Aging project, funded by The Research Fund of Post-Polio Health International, is available at www.post-polio.org/grf-2nd.html.