

BMJ OPEN

Plentiful mid-life stress linked to heightened risk of dementia in late life

Response to common life events may trigger physiological changes in the brain

[Common psychosocial stressors in middle-aged women related to longstanding distress and increased risk of Alzheimer's disease: a 38-year longitudinal population study doi 10.1136/bmjopen-2013-003142]

Coping with a lot of stress in middle age may boost the risk of developing dementia in late life - at least among women - suggests research published in the online journal BMJ Open.

The response to common life events may trigger long lasting physiological changes in the brain, say the authors.

They base their findings on 800 Swedish women whose mental health and wellbeing was formally tracked over a period of almost 40 years as part of the larger Prospective Population Study of Women in Gothenburg, Sweden, which started in 1968.

The women, who were all born in 1914, 1918, 1922 and 1930, underwent a battery of neuropsychiatric tests and examinations in 1968, when they were in their late 30s, mid 40s, and 50s, and then again in 1974, 1980, 1992, 2000 and 2005.

At their initial assessment, the women were quizzed about the psychological impact on them of 18 common stressors, such as divorce, widowhood, serious illness or death of a child, mental illness or alcoholism in a close family member, personal or partner's unemployment, and poor social support.

How many symptoms of distress, such as irritability, fear, and sleep disturbances, and how often they had experienced these in the preceding five years, were noted at every assessment.

In 1968 one in four of the women had experienced at least one stressful event; a similar proportion (23%) had experienced at least two, while one in five had experienced at least three, and 16% four or more. The most commonly reported stressor was mental illness in a close family member.

During the monitoring period, 425 of the women died (at the average age of 79). Between 1968 and 2006, around one in five (19%, 153) developed dementia, 104 of whom developed Alzheimer's disease.

On average, it took 29 years for dementia to develop, with 78 the average age at which the condition was diagnosed.

The number of stressors reported by the women was associated with longstanding symptoms of distress at all of the time points assessed, irrespective of the year of birth.

And the number of stressors reported in 1968 was associated with a 21% heightened risk of developing Alzheimer's disease and a 15% heightened risk of developing any type of dementia, the analysis showed.

The findings held true even after taking account of factors likely to influence the results, including a family history of mental health problems.

The authors emphasise that further research is needed to confirm the results of their study, and to look at whether stress management and behavioural therapy might help.

But they suggest that "stress may cause a number of physiological reactions in the central nervous, endocrine, immune and cardiovascular systems," and point to other studies showing that stress can cause structural and functional damage to the brain and promote inflammation.

Furthermore, research has also shown that stress hormones can remain at high levels many years after experiencing a traumatic event.