



Summary Review: Rethinking Childhood adversity in Chronic Fatigue Syndrome

30th October 2017

We recently posted the conclusion of a [new study](#) from a research group at Newcastle University, led by Professor Julia Newton, which evaluated existing claims that childhood adversity was a high-risk factor in the development of ME/CFS.

This new study demonstrated that if you remove comorbid depression from the picture, the prevalence of childhood adversity in ME/CFS patients is significantly lower than previously found (17% compared with 66%). Meaning that childhood adversity is more likely to be associated with the development of depression and should not be considered a primary risk factor for ME/CFS.

“Having taken clinical histories from large numbers of people with ME/CFS over a period of 30+ years I have always been struck by the fact that the clear majority have had entirely normal and happy childhoods – as I did before developing ME/CFS as an adult.

“This type of very consistent 'patient evidence' clearly contradicts a small number of research studies which have concluded that various aspects of 'childhood adversity' are more common in people with ME/CFS and are therefore predisposing people to develop ME/CFS when the right trigger factor – normally a viral infection – appears in later life.

“So, it is very encouraging to find that a well-respected research group at the University of Newcastle, headed by Professor Julia Newton, have revisited this issue and completed a very thorough piece of research which has found that childhood adversity is far more likely to be associated with major depressive disorder than in the causation of ME/CFS.”

Dr Charles Shepherd, Hon Medical Adviser, ME Association.

Several previous studies had determined an increased prevalence of childhood trauma (physical or emotional) in people with ME/CFS. This had led to the view that exposure to childhood stressors was a risk factor for developing the disease, with rates of ME/CFS being two to three-fold higher in those who experienced childhood adversity (a review of these studies and their findings can be found [here](#).) This association may have influenced how the pathophysiology of ME/CFS was viewed and may have been used to support the psychosomatic theory of perpetuation.

The new study from Newcastle showed that these earlier studies had not considered the symptoms of depression, and it proposed that the increased prevalence of childhood adversity may relate to the high comorbidity with depression in ME/CFS patients, rather than adversity being a primary risk factor for the disease.

To test this idea, they assessed the prevalence of childhood adversity in a group of 52 adults (39 females and 9 males, with a mean age 45.9) who all met the Fukuda criteria for ME/CFS.

Then they calculated the risk of childhood adversity in the development of ME/CFS with and without depression. This calculation was done using “novel mediation analysis” (explained below).

Phase I: Case-control study of childhood adversity

Self-reported childhood adversity was recorded in 52 CFS patients and 19 healthy controls who had been screened for psychiatric disorders. Although the control group used in this study was gender and age-matched, it was quite small, which may have made the results from this group less reliable.

Childhood adversity was assessed using the Childhood Trauma Questionnaire (CTQ), which has been found to be a reliable measure ⁽¹⁾, looking at 5 subtypes of childhood experience; Emotional neglect, Emotional abuse, Physical neglect, Physical abuse and Sexual abuse.

The questionnaire also measured the amount of minimization or denial of childhood experiences, which is often reasonably high amongst adults, especially in relation to sexual abuse. Failure to take this into account can have a significant impact on results. ⁽²⁾

Results from the questionnaires revealed that the, ‘CTQ total scores and scores for all the sub-scales did not differ between participants in the CFS and control groups’. This means that there was *no difference* in the reported history of childhood trauma between people with ME/CFS and healthy controls.

Further analysis of the results showed that participants that had higher numbers of ‘threshold’ depressive symptoms also had a higher CTQ score, demonstrating a relationship between childhood adversity and depression.

Phase II: Calculating risk of childhood adversity in developing ME/CFS

The ‘Mediation analysis’ that was used (which is a type of modelling that predicts the likelihood of something happening based on something else) required the input of several already-known probabilities, taken from other studies, to calculate those they wanted.

First, they calculated the probability of people who have experienced childhood adversity having depression. To do this they used these three already-known statements:

1. The overall probability of having experienced childhood adversity in the healthy population is 35%
2. The probability of having experienced childhood adversity in depressed patients is 75%
3. The lifetime prevalence of depression is 16%

This led the authors to statement one: ‘We would expect 35% of individuals who meet threshold criteria for childhood adversity to have a diagnosis of major depressive disorder.’

Next, they calculated the probability of an individual receiving a diagnosis of ME/CFS if they already had a diagnosis of major depressive disorder (MDD). To do this they used the following three statements:

1. The lifetime prevalence of ME/CFS is estimated at 2%
2. The lifetime prevalence of depression is 16%
3. The likelihood of having depression in ME/CFS patients is 67%.

This led the authors to statement two: 'Current evidence... shows that there is an 8% chance of an individual receiving a diagnosis of CFS if they have MDD.'

It should be noted that the use of an ME/CFS prevalence of 2% would be considered rather high and unreasonable by many. The more widely used prevalence range of 0.2-0.4% – if incorporated into these calculations – would have led to a much lower risk of developing ME/CFS because of childhood adversity.

Finally, they calculated the probability of someone who has no depression but has experienced childhood adversity being diagnosed with ME/CFS. To do this they used the following three statements:

1. The probability that someone will not have depression after experiencing childhood adversity is 23%
2. The lifetime prevalence of CFS is 2%
3. The prevalence of childhood adversity in CFS patients without depression is 17% (calculated from their own case-control study's results)

This led to statement three: '...if an individual experiences [childhood adversity], but does not develop MDD there is a 1.5% risk that they will develop CFS'.

The authors then used the numbers from these three generated statements to put into a path diagram (see below) to calculate the total probability of having ME/CFS given a history of childhood adversity.

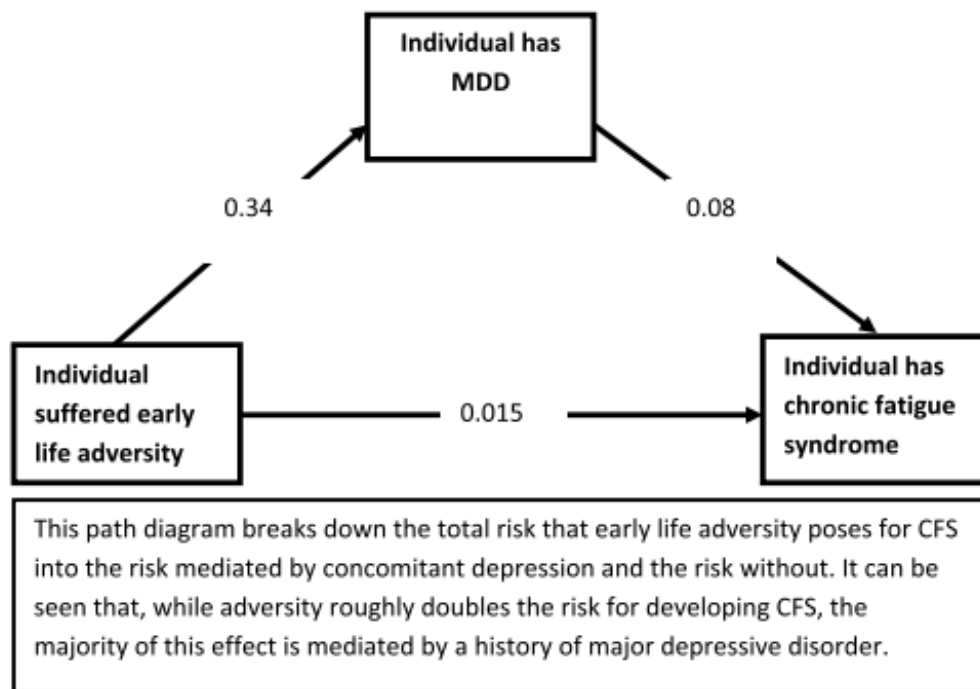


Figure 1. Path diagram.

This risk was calculated to be 4%, which is a 2-fold increased risk compared with the general population (when using the estimate of a 2% prevalence of ME/CFS). This means that there is a 4% increased risk of developing ME/CFS if you have experienced childhood adversity.

However, it was found that most of this risk (3%) was due to the presence of major depressive disorder (MDD) in patients also diagnosed with ME/CFS. Therefore, the impact of childhood adversity seen in ME/CFS varies depending on the proportion of patients in the study who have MDD.

The study calculated that the prevalence of childhood adversity in an un-screened population of ME/CFS patients (*with* MDD) was around 66%, which is in line with two large studies that also examined the effects of childhood adversity in ME/CFS. However, after removing the risk brought about by depression, this prevalence drops to 17% – which is not very high at all.

Conclusions

This study was the first to look at the prevalence of childhood trauma in an adult ME/CFS population that was also screened for major depressive disorder (MDD).

The high risk of child adversity in ME/CFS found in previous studies now appears to have been a gross over-estimation of the situation, largely influenced by the presence of co-morbid depression.

When looking at ME/CFS on its own, then childhood adversity poses a negligible risk (1.5%). Furthermore, had the studies used a smaller, more realistic, prevalence rate of ME/CFS in their calculations, the risk would have been even smaller.

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References

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