

Can We Say Child Abuse Causes PCOS (PMOS)?



2022 study proved association
+
2025 study proved association

Evidence supports association,
NOT
causation.

More research



Scientific example: Researchers have investigated whether **childhood maltreatment** is associated with **polycystic ovary syndrome (PCOS)** and related reproductive symptoms. A 2022 study examined relationships between different types of childhood maltreatment and PCOS, finding that some forms of maltreatment were associated with probable PCOS. A 2025 survey also found associations between several measures of childhood abuse or neglect and PCOS-related features, such as menstrual irregularity and male pattern hair growth. However, both studies were observational: researchers looked at participants' experiences of childhood maltreatment and their reproductive health outcomes as they already existed. This allowed them to identify an association between child abuse and PCOS, but not to determine whether one caused the other. The researchers emphasized the need for further research.

How does this connect to the nature of science?

This example shows that **scientific knowledge develops from evidence**, but evidence must be **interpreted correctly**. The two studies provide evidence of relationships between childhood maltreatment and PCOS-related outcomes, but their observational designs cannot establish causation. Scientists therefore need to consider factors such as study design, measurement methods, and alternative explanations before drawing conclusions. Scientific evidence does not simply produce a “yes” or “no” answer. Researchers determine how strongly the evidence supports a particular explanation. As additional studies use different populations, methods, and measurements, scientists can evaluate whether the observed relationship is consistent and investigate possible mechanisms.

Why does it matter?

Understanding how evidence supports scientific knowledge helps learners **evaluate claims critically**. People may encounter headlines or social media posts that turn an association into a claim of causation, such as saying that childhood abuse “causes” PCOS. Knowing how study design affects the conclusions that researchers can make helps students ask whether a claim is actually supported by the evidence. This skill is important for making informed decisions about health and for understanding science as an evidence-based process rather than a collection of unquestionable facts.

Classroom use: Use this case card as a discussion prompt after students learn about association and causation. Ask learners: “Based on these studies, can we conclude that childhood abuse causes PCOS? Why or why not?” The activity can help reveal and challenge the common misconception that correlation automatically demonstrates causation.

References:

1. Misra, A., Wolfe, O., & Azziz, R. (2025). The impact of childhood abuse and neglect on the development of features of polycystic ovary syndrome: A pilot study. *Women's Health Reports*, 6(1). <https://doi.org/10.1089/whr.2024.0130>
2. Pringle, D., Suliman, S., Seedat, S., & van den Heuvel, L. L. (2022). The impact of childhood maltreatment on women's reproductive health, with a focus on symptoms of polycystic ovary syndrome. *Child Abuse & Neglect*, 133, 105831. <https://doi.org/10.1016/j.chiabu.2022.105831>