

## Evidence in Action

### A Parent Seeks Information about His Overweight Son's Recurrent and Constant Headaches

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*Your former patient asks for advice regarding his son's headaches. You know the boy is overweight and generally sedentary.*

You are aware that you need to examine the child to see if he is suffering from tension-type headache or from migraine, but before you ask the parent to bring him in, you wish to learn about other factors related to the presence of headache in adolescents. The child is 13 years old.

*Your approach might be:*

You decide to do a literature search on the topic of headache in adolescents. Because you wish to limit yourself to papers that do not discuss pharmaceutical management, you are careful to conduct your search using certain limits.

You go to Pubmed ([www.ncbi.nlm.nih.gov/pubmed/](http://www.ncbi.nlm.nih.gov/pubmed/)) and do the following:

- On the initial screen for Pubmed, you click on the button that says "Limits," which is just underneath the standard search box.
- On the new screen that appears, you select first a date from the initial "Dates" box at the top, choosing "1 year" as your time frame because you wish to use the most current information.
- In the "Type of Article" box, you select "Clinical Trial" and any other paper type you want included.
- In the "Languages" box, you select "English;" in "Species," you select "Human;" in "Ages," you select "Adolescent;" and in "Subsets," you choose "Complementary Medicine."
- You use search terms Chiropractic AND (migraine OR tension-type headache).

This is a more directed search strategy than simply entering a couple of search terms alone. You have been paying attention to training you've received about evidence-based practice and you knew about the "Limits" tab and how it could help you narrow your search to better locate pertinent information. Here, you have ensured that when you look at headache, the studies that come up will specifically include only adolescent populations and will be drawn only from the literature base containing what Pubmed considers "complementary medicine," which includes chiropractic.

*An evidence-based consideration:*

Information-seeking in an evidence-based environment follows the so-called 5 A's of Ask, Acquire, Appraise, Apply, Assess. We have asked a question that involves looking at factors that may affect adolescents with headache, and we have now acquired the article I note below. We will then assess this article to see if it provides information that we might apply to the patient. Then, we will assess our results (our outcome) and see if that provides guidance. If not, we might undertake this cycle a second time.

*You find the following study:*

Robberstad L, Dyb G, Hagen K, Stovner LJ, Holman TJ, Zwart J-A. An unfavorable lifestyle and recurrent headaches among adolescents: the HUNT study. *Neurology* 2010;75:712-717.

This study's objective was to look at the relationship between recurrent headache (such as migraine and tension-type) and lifestyle factors in adolescents. The primary factors examined were overweight, low physical activity, and smoking. This was a cross-sectional study from Norway, in which close to 6,000 students were interviewed about headache and completed a questionnaire

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that asked about their levels of physical activity and smoking habits. All children were also weighed and underwent a physical examination. Methodologically, students were then divided into 2 groups: one was defined as having a good lifestyle status (those who were active, did not smoke, and were not overweight), while the other was defined as having a negative lifestyle status (having one or more of the negative factors noted above). The researchers conducting the analysis found that recurrent headache was associated with being overweight (odds ratio=1.4), low physical activity (OR=1.2), and smoking (OR=1.5). Further, the odds of having recurrent headache increased if a child had more than one of the risk factors. This suggests that altering these lifestyle factors may help to mitigate the presence of recurrent headaches in this population.

**Comment:** Let us first consider what we mean by an “odds ratio.” Simply put, an odds ratio is nothing more than the probability that an event will occur vs. the probability it will not. Even more simply, it is a ratio of odds. If we see the ratio is 1.4, it means that the probability of having something happen in one group is 1.4 times more likely than in the other. So, looking at the findings from the above, adolescents are 1.4 times more likely to have recurrent headaches if they are overweight (compared to those who are not overweight), 1.2 times more likely to have them if they are inactive, and 1.5 times more likely to have headaches if they smoke. Because the child in question is both overweight and

inactive, the odds, while not numerically doubled, are increased. Odds ratios are calculated in cross-sectional and case control studies, which are designed to look at relationships.

### *What does this mean to you?*

When you read this study, it provides information you can use when you convince the parent to bring the child in for examination. It lets you know that beyond the day-to-day management of headache, you can provide information that may help to reduce future incidence of headache for the child. Beyond that, you also know that doing so will help the child in other ways since it will increase fitness and cardiovascular health.

### *Note on terms used:*

- *Cross-sectional study:* Assesses the health status and exposure levels of persons in a population at one point in time. Such studies are useful to discover associations, but incapable of determining if one factor caused the other.
- *Odds ratio:* The ratio of the odds of developing the condition of interest in the exposed group divided by the odds of developing the condition in the unexposed group. ■

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