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Can we teach kids to think critically about health claims?

Matt Oxman, *Journalist and master's student, University of Oxford*
Lena Nordheim, *Lecturer, Western Norway University of Applied Sciences*
Atle Fretheim, *Research Director, Norwegian Institute of Public Health*

We have tested whether you can teach Ugandan children how to do something that Norwegians are unable to do: critically assess health information.

Everyday, we are bombarded with claims about how we should take care of our health.

We have to see through the unreliable claims, or else we risk wasted resources and unnecessary suffering.

Claims based on associations

Unreliable claims about health effects often stem from associations.

A recent example comes from Aftenposten, about racket sports "significantly reducing the risk of early death".

The basis for the claim was that researchers had discovered an association between playing tennis, badminton or squash and living somewhat longer.

If we were to study the relationship between squash and income level, we too would probably find an association: Squash players probably have somewhat higher incomes than people who do not play squash.

Moreover, playing squash is much more common in rich parts of the world, so the connection to economic wealth is fairly apparent.

Therefore, squash rackets should go in the aid budget.

Just kidding. Nobody believes you get rich from playing squash.

More logically, people with high incomes both play squash and live longer than others, and there are other factors than playing squash that explain the increased lifespan.

Learning to understand associations

The difference between an association and causation is unknown to many.

We asked 600 randomly selected Norwegians the following question: "A new study found people who drink alcohol regularly are more likely to get lung cancer. According to this study, which claim below best describes the effect of alcohol on the risk of getting lung cancer?"

Only one out of five chose the right answer, which is that it is impossible to say from the information provided.

The results probably would have been different if the goals of the national curriculum were fulfilled.

In the tenth grade, Norwegian children are supposed to learn how to understand causation, and identify and critically assess scientific claims in the media.

Remember facts and theories

In 2013, we asked 2000 10th-graders to identify and assess a scientific health claim in a fictive news report.

The results showed only one out of three students were able to identify the claim and assess whether it is reliable.

This is consistent with findings from the PISA-studies in science: students perform better on items that require remembering facts and theories than items that presuppose scientific thinking.

The results are not surprising. Middle school science teachers who participated in a study explained that assessing scientific claims is given little weight in schools.

When the textbooks are mostly fact-oriented, the teaching follows suit.

"Our teaching is very focused on facts, "cities in Belgium"-type stuff. This is something else," said one of the teachers about assessing health claims, adding:

"We should have a lot more of it."

A global problem

As part of an international research team, we have developed and tested learning resources meant to make children able to assess whether claims about health effects are reliable. The learning resources consist mainly of a combined textbook and comic book, as well as a guide for teachers. Everything can be downloaded for free from our homepage.

Inability to assess information about health actions is a global problem, but most pressing in low-income countries; The less you have of resources, the less you can afford to waste on poor decisions. Therefore, we chose to initially test the learning resources with school children in Uganda, together with East-African colleagues.

More than 10,000 children participated in an experiment in which we evaluated the learning resources. Half of the children used the resources, while the other half only had regular lessons. Towards the end of the semester, all of the children took the same multiple-choice test, of which the questions required assessing claims about the effects of various health actions.

Promising experiences

We have also tested the materials in students in Norway, and they were well received. One of the students referred to learning that what is newest and most expensive is not necessarily best: "Mom and me were shopping, and mom said, 'Buy this toothpaste. It's new and really good!' I looked at another and it was exactly the same, but cheaper. I actually bought the cheaper one."

This is only an example and far from proof that our learning resources work, but the experiences from the experiment in Uganda are promising.

The final results will be published in 2017.

If it is possible to make Ugandan 10-year-olds able to assess health claims, Norwegian children should be able to do the same!