Traditional soup broths appear to have antimalarial properties

Scientists have been looking into the healing properties of various broths.

New United Kingdom research has found that traditional clear soup broths, which are often touted as being good for our health, appear to have antimalarial properties.

Carried out by researchers at Imperial College London, Great Ormond Street Hospital for Children NHS Trust and Eden Primary School London, the new study analyzed soups brought in by children at the school to see whether vegetable or meat soup broths could have antimalarial properties.

The recipes for the soups had been passed down through the generations for the treatment of fever, and the children came from diverse ethnic backgrounds, from across Europe, North Africa and the Middle East.
In total, the researchers tested 56 clear broths by incubating filtered extracts of each for 72 hours with different cultures of Plasmodium falciparum (P falciparum).

P falciparum is the deadliest of the malarial parasites, and is transmitted through the bite of an infected mosquito. The researchers wanted to see if any of the broths could stop the growth of sexually immature parasites which cause malaria, as well as block sexual maturation, which is the stage at which the parasite can infect the mosquito.

The idea to look at broths as a natural remedy came from the development of artemisinin-based combination therapies for malaria. Antimalarial artemisinin comes from qinghao, prescribed in traditional Chinese medical practice for over 2000 years to treat fever, in particular fever associated with malaria, leading the researchers to wonder if other “natural” remedies might also have antimalarial properties.
The findings, published today in the Archives of Disease in Childhood, showed that five of the broths were able to slow the growth of the sexually immature parasite by more than 50%, and in two of these broths, the effect was comparable to a leading antimalarial drug dihydroartemisinin.

In addition, four other broths were more than 50% effective at blocking sexual maturation, which could also potentially stop the transmission of the disease.

The researchers also found that although the recipes for each of the broths varied, there was no particular ingredient which was common to the soups with the strongest antimalarial activity. However, they also warned that none of the active ingredients in the broths studied have yet been identified and tested in clinical trials.

The study is thought to be the first of its kind, and suggests that natural resources such as broth could help fight malaria, a disease which poses a risk to half the world’s population. In addition, the disease is also becoming resistant to the drugs used to treat it.

“The utility of any broth found to have antimalarial activity will, of course, depend significantly on standardization of soup preparation and ultimately identification of the active source ingredient, its fractionation and, towards its progression, detailed toxicology with first human cells and later preclinical trial,” said the researchers. However, they added that, “This journey, mirroring that of artemisinin from the Qinghao herb, may as yet reveal another source of potent anti-infective treatment.” RGA

The research appears in the BMJ journal *Archives of Disease in Childhood*, and professor Jake Baum, from the Department of Life Sciences at Imperial College London in the United Kingdom, is the last and corresponding author of the paper. As Prof. Baum and his colleagues mention, almost half of the world's population is at risk of developing a malaria infection, with half-a-million children dying as a result of the condition each year across the globe.

Several parasite species from the *Plasmodium* genus cause malaria, but *Plasmodium falciparum*, specifically, is responsible for 99% of the
deaths. *P. falciparum* is increasingly resistant to antimalarial drugs, explain the researchers, which makes the need for new therapies imperative.

Prof. Baum and team started from the observation that the newest antimalarial drug, called artemisinin, derives from qinghao, a traditional Chinese herb from the Artemisia family. In fact, qinghao has been a part of traditional Chinese medicine for over 2,000 years, and people have used it to treat malaria-related fever.

So, the researchers wondered, are there any other traditional, natural remedies with antimalarial properties? To find out, they screened 60 traditional soup broths — with renown fever-reducing properties — that originated from countries in Europe, North Africa, and the Middle East.

**4 soups may fully block malaria infection**

The team obtained the soups by asking pupils from various ethnic backgrounds in a primary school in London to bring in their homemade soups. Of the 60 soup samples that the pupils brought in, some did not filter because they were too dense, and others because they were too oily.

After eliminating these soups, the researchers had 56 soups available for testing. The team incubated filtered soup extracts for 72 hours with different *P. falciparum* cultures to see if the soups would stop the growth of the parasites.

Specifically, the scientists wanted to see if the broths would block sexually immature, disease-causing parasites from maturing to the point where they become infectious. The results revealed that five broth samples stopped the parasite's growth by more than 50%, with two of these being as effective against malaria as a common antimalarial drug called dihydroartemisinin.

**Four other samples were more than 50% effective in stopping *P. falciparum*, which suggests they may be able to block the transmission of malaria entirely.**
These broths were either vegetarian or contained chicken or beef, and the researchers could not find one common ingredient between all of them. However, they did not collect the recipes for the soups. Intriguingly, two of the four soups that were more than 50% effective at stopping malarial infection came from the same household.

Finding out which ingredients have the highest antimalarial activity should be the focus of future research, say the authors. They also write that "The utility of any broth found to have antimalarial activity will [...] depend significantly on standardization of soup preparation and ultimately identification of the active source ingredient." "[D]etailed toxicology with first human cells and later preclinical trials" will also be necessary. But, they continue, "This journey, mirroring that of artemisinin from the qinghao herb, may yet reveal another source of potent anti-infective treatment.

MAKE BONE BROTH PART OF YOUR ROUTINE

Easy Bone Broth Recipe
1. Fill crockpot with bones from pasture-raised animals.
2. Top with purified water, and add 1 Tbsp. organic apple cider vinegar.
3. Cook on low heat for 10-24 hours (up to 48 hours for beef bones).
4. Remove bones, salt to taste, and store in the refrigerator for up to a week.

Note: After cooling broth in the fridge, scoop the top layer of fat into a container and use it for cooking.