

MicroChat

Mothers: guardians and givers of microbiomes

(Kenneth Timmis)



Artwork by Joana B. Caldeira, University of Coimbra

Maisy: Mummy, all my class is talking about the microbiome and its importance for our wellbeing. Is this true?

Mummy: yes, darling it is true.

Maisy: And what does wellbeing mean?

Mummy: well, it means how healthy you are and how good feel: for example, whether you are happy most of the time, whether or not you sneeze a lot in Spring when the rapeseed crop is in full bloom, or whether you sometimes feel anxious or stressed without any obvious reason.

Maisy: and I heard that there is such thing as faecal transplants - which sounds horrible; is eating poo, right? - that improve microbiomes which are not good.

Mummy: well, yes, there are reports of excellent results with faecal microbiota transplantation, but of course these do not involve people eating poo sausages recovered from the toilet bowl which, I admit does not sound terribly appetising, but rather medicines that contain organisms from poo.

Maisy: and I also heard that our microbiomes come from our mummies, when we are born.

A child-centric microbiology education framework

Mummy: yes, that is true. Although daddies are good for some things, mummies give the first microbiome. Scientists call us the *human microbiome seed bank*.

Maisy: what is a seed bank?

Mummy: a seed bank is a safely stored collection of seeds - like flower seeds (do you remember how Granny used to collect seeds from her *Nasturtium* plants every autumn that would provide the plants producing the beautiful flowers the following year?) - that conserve the diversity of the plants, animals, or in this case the microbes of the microbiome, for the future.

Maisy: so you are the seed bank of all the children in our family?

Mummy: yes: gosh - you are so clever! And my mummy was the seed bank for my microbiome.

Maisy: but does that mean that my microbiome comes from my granny, and her mummy, and her granny, and so on, and so on?

Mummy: golly - you are wise beyond your years! Absolutely, the seed bank is carried through the mummies over generations! Of course, the seed banks change a bit from one generation to the next, because we all live a bit differently, and the way we live and the things we experience affects which microbes we carry.

Maisy: so mummies are responsible for our wellbeing, not only because they take care of us, but because they give us the seedbank. Gosh: this means I carry the seedbank for my children, your grandchildren!!!!

Mummy: yes, my darling: you do!

Maisy: but what can I do to make sure that my seedbank stays good and gives my babies the best possible wellbeing?

Mummy: oh my goodness: you are asking such profound questions for an 8-year-old! The main thing is to lead a healthy life by eating up all of your fruit and vegetables (including the greens), not eating too many sweets and sweet foods, brushing your teeth after every meal, having plenty of exercise, making sure you minimise infections by wrapping up well in cold weather.And by not getting into mischief.....and by keeping your room tidy.

Maisy: But: if I am the giver of the microbiome, surely I am vastly superior to Johnny, who fiddles all day with his iPhone, eats only pizza when he can, runs around in shorts with his sneaker laces undone, and never washes behind his ears!

Mummy: (cough) erm, well, you mustn't say that because he does do some good things, such as...errr...but now it *really* is time for you to get down to your homework!

<https://cdhf.ca/health-lifestyle/introducing-the-human-gut-microbiome-animation/>
<https://www.youtube.com/watch?v=YB0WDP-Stys&t=303s>