

## Shalom Bayis Newsletter Issue 23

### What's hiding in your cup and does it really matter?

By Rabbi Yehoshua Berman

Just this week, a perturbing scientific discovery was announced which may have a bearing on fertility. At the 41st Annual Meeting of the European Society of Human Reproduction and Embryology in Paris, lead researcher Dr.



Emilio Gomez-Sanchez shared the findings of his team's groundbreaking research on the presence of microplastics in human reproductive fluids<sup>1</sup>.

Follicular fluid from 29 women and seminal fluid from 22 men were examined. Although not shocking – given the known ubiquity of microplastics everywhere from the depths of Mariana Trench to the heights of Mount Everest Balcony – the results were concerning.

A range of commonly used microplastic polymers, including polytetrafluoroethylene, polystyrene, polyethylene terephthalate, polyamide, polypropylene and polyurethane, were identified in 69% of the follicular fluid samples analyzed and in 55% of the seminal fluid samples.

“Previous studies,” commented Dr. Gomez-Sanchez, “have already shown that microplastics can be found in various

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<sup>1</sup> <https://www.eurekalert.org/news-releases/1088676?>

human organs. As a result, we weren't entirely surprised to find microplastics in fluids of the human reproductive system, but we were struck by how prevalent they were."

While much research has drawn attention to the potentially wide-ranging deleterious health effects of microplastics<sup>2</sup>, this current research did not directly assess if microplastics actually impact human fertility.

It just showed that they're there.

That being the case, as unsettling as it can be to know that there may be a plethora of nano plastic bits sharing space with critical reproductive molecules, the bottom-line question is, does it really matter? And, if it does matter, is there anything one can do about it?

While some researchers assert that other studies have clearly demonstrated that microplastics can cause damage to the reproductive system - for example, by decreasing sperm count or motility<sup>3</sup> - according to Dr. Gomez-Sanchez, the jury is still out. He elaborated:

*What we know from animal studies is that in the tissues where microplastics accumulate, they can induce inflammation, free radical formation, DNA damage, cellular senescence, and endocrine disruptions.*

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<sup>2</sup> <https://globalhealthnow.org/2025-02/macro-impacts-microplastics>

<sup>3</sup> [https://www.thelancet.com/journals/ebiom/article/PIIS2352-3964\(24\)00405-5/fulltext](https://www.thelancet.com/journals/ebiom/article/PIIS2352-3964(24)00405-5/fulltext),

<https://pubmed.ncbi.nlm.nih.gov/36253987/>

*It is possible that microplastics could impair egg or sperm quality in humans, but we don't yet have enough evidence to confirm that.*

*There's no need for alarm at this point. Microplastics are just one of many elements that may play a role in fertility.*

*However, it is sensible to consider ways of reducing our exposure to them. Simple steps, such as using glass containers to store and heat food, or limiting the amount of water we consume from plastic bottles, can help minimize our intake.*

Considering that one research team found that plastic bottled water contains an average of 240,000 microplastics per liter<sup>4</sup>, there is an understandable tendency among experts to recommend cutting down on plastic bottles and drink filtered tap water instead.

Experts recommend additional ways to cut down on microplastics exposure<sup>5</sup>:

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<sup>4</sup> <https://www.nih.gov/news-events/nih-research-matters/plastic-particles-bottled-water>

<sup>5</sup> <https://earth911.com/health/reduce-microplastic-exposure/>,  
<https://www.thesun.co.uk/health/34638650/ways-prevent-microplastics-destroying-brain-dementia-plastic-water-bottle/>,  
[https://www.nrdc.org/sites/default/files/2025-06/10\\_things\\_you\\_can\\_do\\_to\\_reduce\\_your\\_and\\_your\\_familys\\_exposure\\_to\\_microplastics.pdf](https://www.nrdc.org/sites/default/files/2025-06/10_things_you_can_do_to_reduce_your_and_your_familys_exposure_to_microplastics.pdf),  
<https://www.givelegacy.com/resources/how-to-reduce-microplastics-in-your-body-protect-your-sperm/>

- Nylon tea bags have been found to release billions (!) of microplastics into tea<sup>6</sup>. Use tea bags made from natural fibers or brew loose-leaf tea (just make sure to pass it through a halachikally acceptable strainer before drinking to avoid consuming insects<sup>7</sup>).
- To reduce airborne microplastics in your home, choose natural fiber products for clothing, carpeting, bedding, and towels. In addition, vacuum floors at least once a week with a HEPA filter.
- Avoid using plastic cooking utensils, microwaving food in plastic containers, or serving hot food on plastic dishes.
- Whenever possible, avoid walking or exercising directly along busy roads as vehicle tires have been found to be one of the largest sources of microplastics pollution<sup>8</sup>.
- Plastic cutting boards have been estimated to expose the average person to tens of millions of microplastics per year<sup>9</sup>. Swap them out for wood, bamboo, or glass.

Interestingly enough, there are scientists who are exploring the possibility that certain antioxidant compounds may reverse microplastics-induced fertility damage<sup>10</sup>.

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<sup>6</sup> <https://pubs.acs.org/doi/10.1021/acs.est.9b02540>

<sup>7</sup> <http://bit.ly/44oBGiZ>

<sup>8</sup> <https://e360.yale.edu/features/tire-pollution-toxic-chemicals>

<sup>9</sup> <https://pubmed.ncbi.nlm.nih.gov/37220346/>

<sup>10</sup> <https://pubmed.ncbi.nlm.nih.gov/36253987/>,

<https://pmc.ncbi.nlm.nih.gov/articles/PMC11803829/#sec3>

Considering the fact that we live in a world where plastic is everywhere – it is estimated that, worldwide, 10 to 40 **million metric tons** are released into the environment each year<sup>11</sup> – no matter how much one tries to cut down, there is no way to avoid microplastics altogether.

That being the case, it is understandable that researchers are looking for ways to reverse their deleterious effects.

While many in the scientific community are sounding the alarm on the profound harm that microplastics are likely wreaking on human health<sup>12</sup>, some scientists insist that the research available to date is simply not enough to prove that assertion.

While they, too, generally agree with recommendations to minimize exposure where possible, they maintain that inducing a sense of panic or alarm into the public is unwarranted<sup>13</sup>.

In as much as microplastics have made the vast expanse of earth's air and water its permanent home, I cannot help but wonder how significant the benefits of personal

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<sup>11</sup> <https://med.stanford.edu/news/insights/2025/01/microplastics-in-body-polluted-tiny-plastic-fragments.html>

<sup>12</sup> <https://scitechdaily.com/scientists-sound-the-alarm-microplastics-are-quietly-creating-superbugs-that-defy-antibiotics/>, <https://www.earth.com/news/sounding-the-alarm-microplastics-are-disrupting-photosynthesis-around-the-world/>, <https://cape.ca/the-plastic-pandemic-why-are-physicians-sounding-the-alarm-on-our-bodies-chemical-burden/>,

<https://med.stanford.edu/news/insights/2025/01/microplastics-in-body-polluted-tiny-plastic-fragments.html>

<sup>13</sup> <https://www.thesun.co.uk/health/34638650/ways-prevent-microplastics-destroying-brain-dementia-plastic-water-bottle/>

microplastics mitigation efforts can be. I eagerly look forward to further research that will hopefully answer this question definitively.

In the meantime, trying to cut down on microplastics exposure and perhaps even increasing one's intake of antioxidants makes sense as an area of reasonable *hishtadlus*, in particular if a person is struggling with a specific health challenge such as infertility.

So, bottom line, are there *potentially* hazardous particles hiding in your cup?

Yes. Lots of them!

Should you try to do anything about it?

The scientific consensus seems to be a resounding yes. But with one caveat: don't become neurotic about it.



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