Review of: "Long-term beneficial effect of faecal microbiota transplantation on colonisation of multidrug-resistant bacteria and resistome abundance in patients with recurrent Clostridioides difficile infection"

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Potential competing interests: No potential competing interests to declare.

Let me first just state that I am a statistician, not a FMT-interested medicine doctor nor a genomics expert. Yet still, I believe that a statistical evaluation should, in best case, be done for every manuscript.

- The main issue I have encountered is in the “Results - Prevalence of multidrug-resistant bacteria decreases after FMT”: “Before FMT, 20/87 (23.0%) of patients carried an MDR bacterium (figure 1A, table 2). Three weeks after FMT, the colonisation rate decreased to 10/87 (11.5%; p<0.0001)”. On the first sight the p-value is extremely low given the counts of patients and the reduction from just 20% to 10%. I am not able to replicate the calculation. It either needs to be explained how the value was obtained or it needs to be corrected in the manuscript. The p-value for post FMT vs. long term is also rather suspicious but the number of positive patients at the post-FMT time point for the 22 patients analyzed is not provided to allow for a check.

```
data <- matrix(c(7, 3, 13, 64), nrow = 2,
    dimnames = list("Pre FMT" = c("pre Posittive", "pre Negative"),
                    "Post FMT" = c("psot Posittive", "post Negative")))
data
mcnemar.test(data)
```

A matrix: 2 × 2 of type dbl

	psot Posittive	post Negative
pre Posittive	7	13
pre Negative	3	64

```
        McNemar's Chi-squared test with continuity correction

data:  data
McNemar's chi-squared = 5.0625, df = 1, p-value = 0.02445
```

```
sessionInfo()
```

```
R version 4.2.2 (2022-10-31)
```

- In the “Statistical analyses” section it is claimed that “When multiple tests were conducted simultaneously, p-values were adjusted using Holm’s method.” but there is no indication in the text where (or whether at all) was the adjustment used despite many tests are presented throughthou the manuscript. (The result of Holm's correction is crucially dependent on all the p-values included in the family of tests being corrected.)
- I am concerned by the Method saying: “Pre-FMT samples are collected during or after antibiotic treatment”. Is it not problematic that some pre-FMT samples were actually collected before the treatment with antibiotics was completed? How can the effect of antibiotics be separated from the effect of FMT? This should be explained or listed as a limitation in the discussion.
- Overall, (as already mentioned in another review), limitations of the study should be presented in the discussion.

I do not believe that the manuscript is very bad and should be rejected from publication, but two stars is the highes rating still requiring the authors to actually reflect the comments in a new version of the manuscript.