

Even if smokers receive a vaccine\*, they can not build sufficient immunity

\*novel coronavirus vaccine / hepatitis B vaccine

2021/6/13

[Various thoughts from Mr. Matsuzaki]

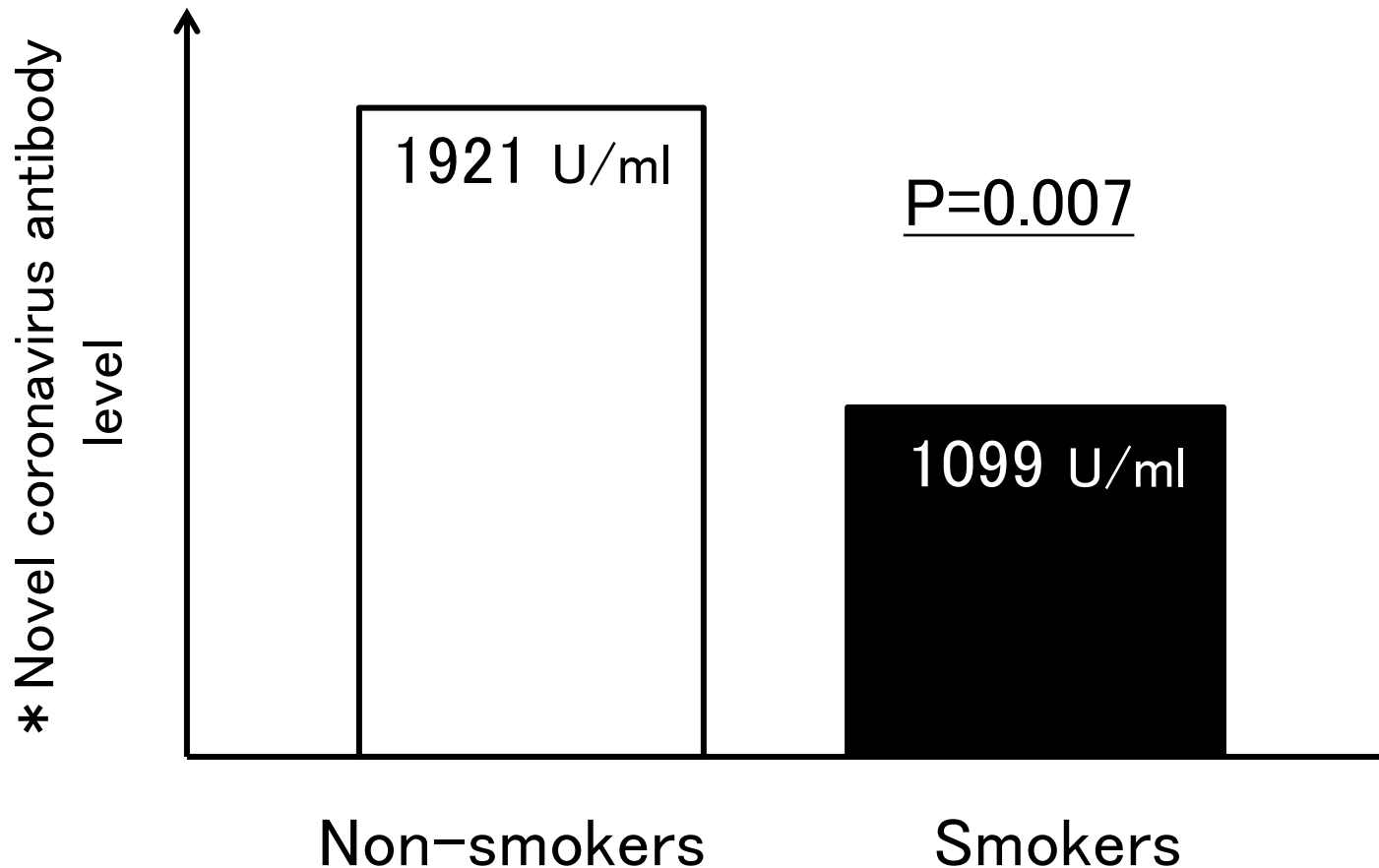
If you only get the vaccine, it will not necessarily be OK. Even if antibodies are likely produced from the vaccine, a question remains as to whether sufficient antibodies can be produced. Compared to non-smokers, there are many cases where tobacco smokers clearly do not generate sufficient levels of antibodies. The lower the level of antibodies, the higher the risk of infection. To build a strong antibodies against the novel coronavirus, we recommend that you quit smoking before getting the vaccine.

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can not build sufficient immunity**

**\* novel coronavirus vaccine/hepatitis B  
vaccine**

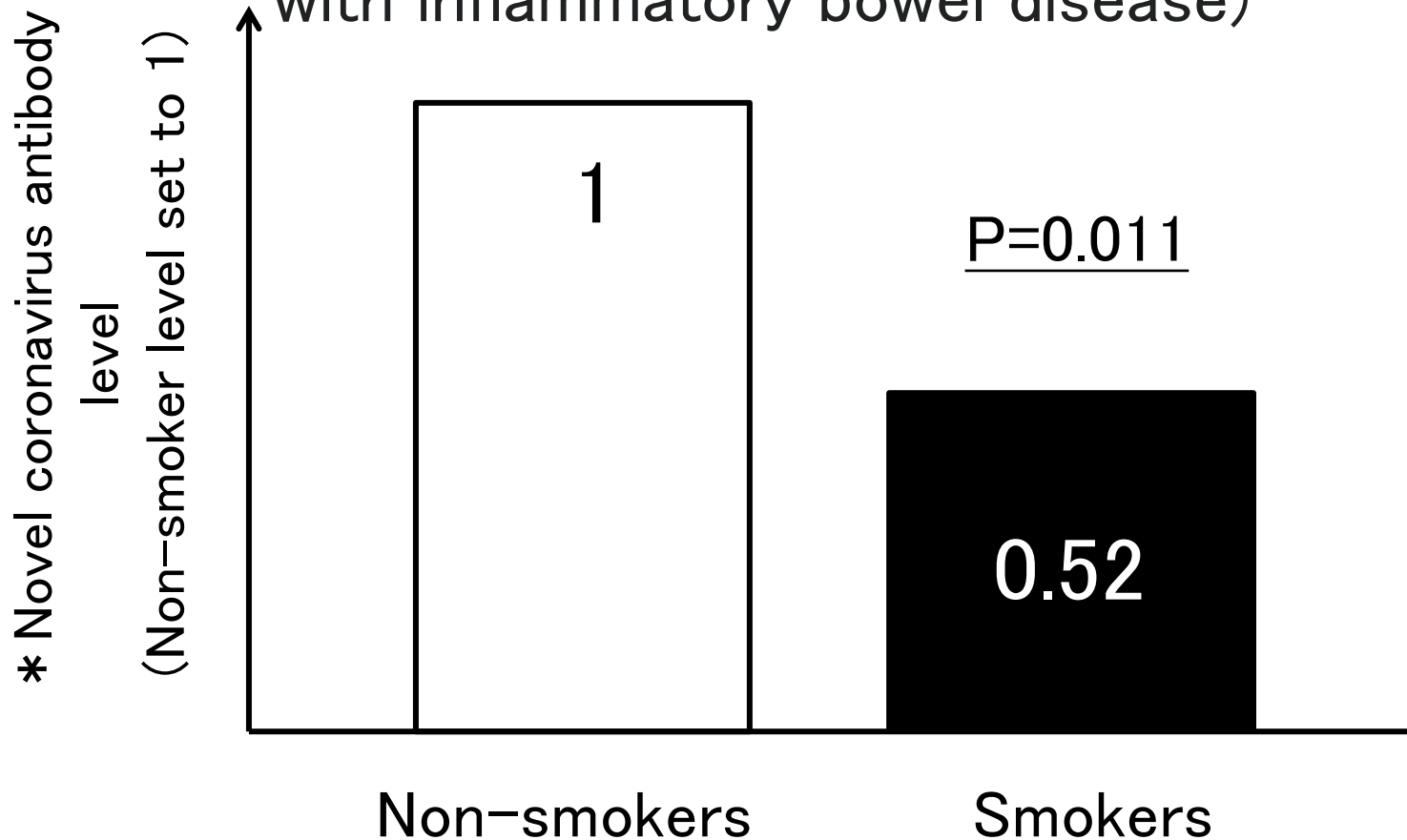
Increase in antibodies from novel coronavirus vaccination:  
Smokers have one half of the level of nonsmokers  
(healthcare workers)



( \* Antibody levels from spike protein after two doses of Pfizer Biontech vaccine )

Watanabe M, et al. Central obesity, smoking habit, and hypertension are associated with lower antibody titres in response to COVID-19 mRNA vaccine. Diabetes Metab Res Rev. 2021

Increase in antibodies from novel coronavirus vaccination:  
Smokers have one half of the level of nonsmokers (patients  
with inflammatory bowel disease)

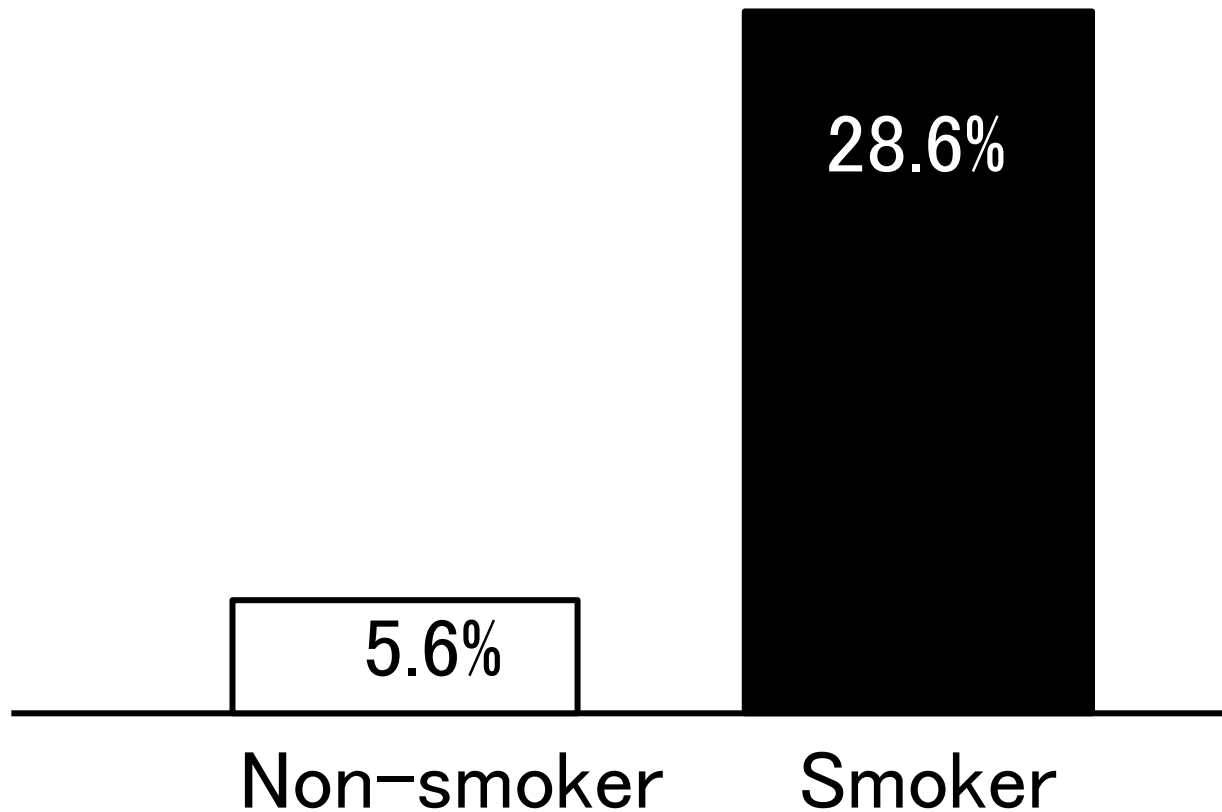


(\* Antibody levels from spike protein after one dose of the Pfizer Biontech vaccine)

Kennedy NA (Gastroenterology, Royal Devon and Exeter NHS Foundation Trust, Exeter, UK.), et al. Infliximab is associated with attenuated immunogenicity to BNT162b2 and ChAdOx1 nCoV-19 SARS-CoV-2 vaccines in patients with IBD. Gut. 2021 Apr 26: PMID: 33903149.

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Hepatitis B vaccination failure rate for smokers is 5 times higher than non-smokers (healthcare worker survey)

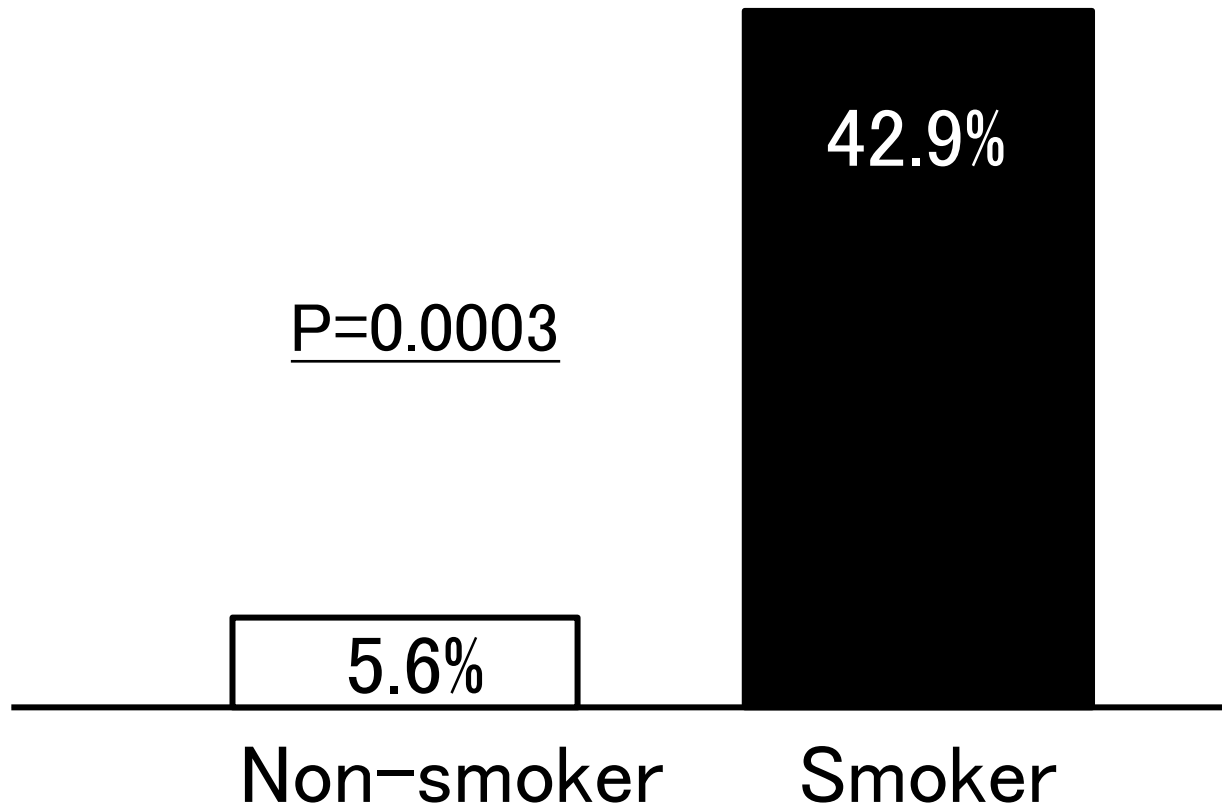


Percentage of people who did not generate antibodies after receiving the hepatitis B vaccine (%)

Winter AP, Follett EA, McIntyre J, Stewart J, Symington IS. Influence of smoking on immunological responses to hepatitis B vaccine. *Vaccine*. 1994 Jul;12(9):771-2. doi: 10.1016/0264-410x(94)90283-6. PMID: 7975854.

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Hepatitis B vaccination failure + low response rates for smokers: about 8 times higher than for non-smokers (healthcare worker survey)



Percentage of people who have zero or low antibody levels (<9U/ml) after receiving the hepatitis B vaccine

Winter AP, Follett EA, McIntyre J, Stewart J, Symington IS. Influence of smoking on immunological responses to hepatitis B vaccine. *Vaccine*. 1994 Jul;12(9):771-2. doi: 10.1016/0264-410x(94)90283-6. PMID: 7975854.