

Table S4: Summary of quality assessment based on the Newcastle-Ottawa quality assessment scale for **cross-sectional studies on transmission and secondary attack rates** [1].

Study	Design	Study quality						Overall quality (sum)	Reference
		S1	S2	S4	C1	O1	O2		
Baker 2022	Cross-sectional study (outbreak investigation)	-	-	*	**	*	*	5	[2]
Hsu 2022	Cross-sectional study	*	-	*	*	*	*	6	[3]
De Gier 2021	Population-based analysis	*	-	*	*	*	-	4	[4]
Lyngse 2022	Population-based analysis	*	-	*	*	*	*	5	[5]
Lyngse 2022	Population-based analysis	*	-	*	*	*	*	5	[6]
De Gier 2021	Population-based analysis	*	-	*	*	*	-	4	[7]
Grüne 2022	Cross-sectional study	*	-	*	-	-	*	3	[8]

### Selection

S1: Representativeness of the sample (maximum: \*)

S2: Sample size (maximum: \*)

S4: Ascertainment of exposure (complete vaccination of index case) (maximum: \*\*)

### Comparability

C1: Comparability of cohorts on the basis of the design or analysis (vaccination status of contacts \*; other parameter may be duration and frequency of contacts, frequency of COVID tests; proportion of recovered contact persons; physical distancing behaviour at home; hand hygiene behaviour at home \*) (maximum: \*\*)

### Outcome

O1: Assessment of outcome (confirmed COVID-19 case among contacts) (maximum: \*\*)

O2: Statistical test (maximum: \*)

Additional explanation: The modified Newcastle-Ottawa quality assessment scale typically includes an assessment of the non-respondents (selection, point 3). This quality parameter was considered to be of very limited relevance for the question of the review because viral load measurements were not dependent on the study participants response rate.

### References

1. Moskalewicz, A.; Oremus, M. No clear choice between Newcastle-Ottawa Scale and Appraisal Tool for Cross-Sectional Studies to assess methodological quality in cross-sectional studies of

health-related quality of life and breast cancer. *J. Clin. Epidemiol.* **2020**, *120*, 94–103, doi:10.1016/J.JCLINEPI.2019.12.013.

2. Baker, J.M.; Shah, M.M.; O'Hegarty, M.; Pomeroy, M.; Keiser, P.; Ren, P.; Weaver, S.C.; Maknoja, S.; Machado, R.R.G.; Mitchell, B.M.; et al. Primary and Secondary Attack Rates by Vaccination Status after a SARS-CoV-2 B.1.617.2 (Delta) Variant Outbreak at a Youth Summer Camp - Texas, June 2021. *J. Pediatric Infect. Dis. Soc.* **2022**, piac086, doi:10.1093/JPIDS/PIAC086.
3. Hsu, L.; Hurraß, J.; Kossow, A.; Klobucnik, J.; Nießen, J.; Wiesmüller, G.A.; Grüne, B.; Joisten, C. Breakthrough infections with the SARS-CoV-2 Delta variant: vaccinations halved transmission risk. *Public Health* **2022**, *204*, 40–42, doi:10.1016/J.PUHE.2022.01.005.
4. De Gier, B.; Andeweg, S.; Backer, J.A.; Hahné, S.J.M.; van den Hof, S.; de Melker, H.E.; Knol, M.J. Vaccine effectiveness against SARS-CoV-2 transmission to household contacts during dominance of Delta variant (B.1.617.2), the Netherlands, August to September 2021. *Euro Surveill.* **2021**, *26*, 2100977, doi:10.2807/1560-7917.ES.2021.26.44.2100977.
5. Lyngse, F.P.; Mortensen, L.H.; Denwood, M.J.; Christiansen, L.E.; Møller, C.H.; Skov, R.L.; Spiess, K.; Fomsgaard, A.; Lassaunière, R.; Rasmussen, M.; et al. Household transmission of the SARS-CoV-2 Omicron variant in Denmark. *Nat. Commun.* **2022**, *13*, 5573, doi:10.1038/S41467-022-33328-3.
6. Lyngse, F.P.; Mølbak, K.; Denwood, M.; Christiansen, L.E.; Møller, C.H.; Rasmussen, M.; Cohen, A.S.; Stegger, M.; Fonager, J.; Sieber, R.N.; et al. Effect of vaccination on household transmission of SARS-CoV-2 Delta variant of concern. *Nat. Commun.* **2022**, *13*, 3764, doi:10.1038/S41467-022-31494-Y.
7. de Gier, B.; Andeweg, S.; Joosten, R.; ter Schegget, R.; Smorenburg, N.; van de Kasstelee, J.; Hahné, S.J.M.; van den Hof, S.; de Melker, H.E.; Knol, M.J.; et al. Vaccine effectiveness against SARS-CoV-2 transmission and infections among household and other close contacts of confirmed cases, the Netherlands, February to May 2021. *Eurosurveillance* **2021**, *26*, 2100640, doi:10.2807/1560-7917.ES.2021.26.31.2100640.
8. Grüne, B.; Grüne, J.; Kossow, A.; Joisten, C. Vaccination and Transmission Risk during the Outbreak of B.1.1.529 (Omicron). *Vaccines* **2022**, *10*, 1003, doi:10.3390/VACCINES10071003.