



# ICOH 2022

33rd International Congress  
on Occupational Health

## Prevalence of anti-SARS-CoV-2 antibodies among Belgian workers before vaccination

Antoon De Schryver, Marleen Cosyns, Lieve  
Vandersmissen, Kristien Johannik, Celien  
Wauman, Lode Godderis

IDEWE Occupational Health Services  
Interleuvenlaan 58  
3001 Leuven -Belgium

I have no conflicts of interest to disclose

# Prevalence of anti-SARS-CoV-2 antibodies among Belgian workers before vaccination

## **Introduction (1)**

The coronavirus pandemic (Covid-19) is having profound effects on global public health and economies.

Antibody testing could help by providing epidemiological information on the number of affected individuals, the age-specific susceptibility to SARS-CoV-2, related to control measures and to better understand the dynamics of a past outbreak, particularly the occupational risk.

We assessed the prevalence of COVID-19 antibodies in workers showing the burden of infection, its spread, including the occupational risk and, in the absence of vaccination, the effectiveness of preventive control measures.

# Prevalence of anti-SARS-CoV-2 antibodies among Belgian workers before vaccination

## **Material and methods**

We studied seroprevalence of IgG antibodies against Covid-19 in a sample of workers working in enterprises affiliated with the occupational service IDEWE in Belgium between March 1<sup>o</sup> 2020 and November 1<sup>o</sup> 2020, using SARS-CoV-2 IgG assay, a chemiluminescent microparticle immunoassay (CMIA) used for the qualitative detection of IgG antibodies to SARS-CoV-2 in human serum and plasma on the ARCHITECT System.

We studied seroprevalence with respect to age and work-related factors, including preventive measures , both at work and in leisure time.

# Prevalence of anti-SARS-CoV-2 antibodies among Belgian workers before vaccination

## Results (see table1)

In total data were available for 4321 workers. Global prevalence in the study group was 2.7 % (115/4321), lower than in the general population in Belgium at the time of the study (3-6%) . Prevalence was lowest in the 35-44 age group.

Prevalence in workers always working at home was 0% vs 2.7% in those who did not ( $p>0.05$ ).

Preventive measures, use of hand gel at work and in leisure time and use of FFP2 masks in leisure time resulted in a non-significant reduced prevalence (hand gel at work: 2.7 % in users vs 4.3% in non-users;  $p>.05$ ; hand gel in leisure time 2.7 % in users vs 4.5% in non-users;  $p>.05$ , FFP2 masks 0.7% in users vs 2.8% in non-users;  $p>.05$ ).

Handwashing, use of gloves, plexi screens, social distancing and use of masks during working time showed no effect on prevalence.

Frequency of applying preventive measures showed no effect on prevalence (data not shown)

**Table 1 Prevalence of anti-SARS-CoV-2 antibodies among Belgian workers before vaccination : distribution of characteristics**

	Total N=4321	Missing	Seropositive n= 115 (%)	OR with 95 % CI	P
Gender		364			
Female	2121		46 (2.2)	Ref	
Male			58 (3.3)	1.53 (1.05-2.24)	0.03
Age group		448			
< 25 yrs			1(5.3)	1.75 (0.41-18.45)	>0.05
25-34 yrs			18(3.5)	1.85 (1.01- 3.39)	>0.05
35-44 yrs				Ref	
45-54 yrs			45(3.4)	1.80 (1.10-2.96)	<0.05
>=55 yrs			18(2.3)	1.18 (0.64-2.18)	>0.05
Handgel at work :Y	4124		113 (2.7)	1.61 (0.41-6.29 )	>0.05
No	46		2(4.3)		

# Prevalence of anti-SARS-CoV-2 antibodies among Belgian workers before vaccination

## Results and conclusions

In logistic regression, using all preventive measures as covariates, following measures reduced prevalence :

- using hand gel at work : OR 0.18 ; 95% CI 0.04-- 0.85 ; p =.03)
- not using carpooling : OR 0.27 ; 95% CI 0.07 - 0.96 ; p = .04)

### Conclusions

Prevalence of seropositivity in workers was lower than in the general population. In logistic regression, not carpooling to come to work and use of hand gel at work were shown to be effective in lowering prevalence of infection.