

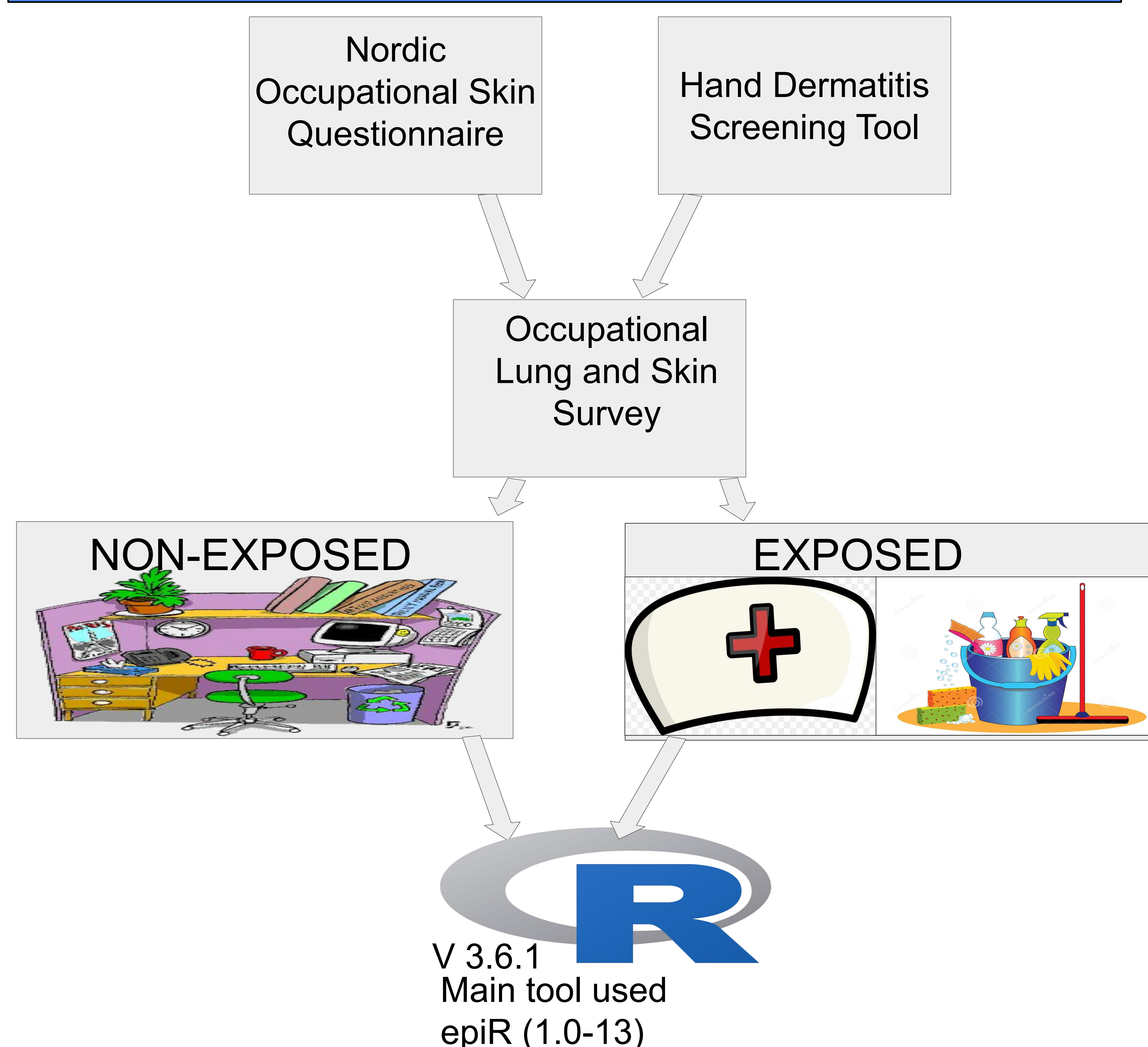
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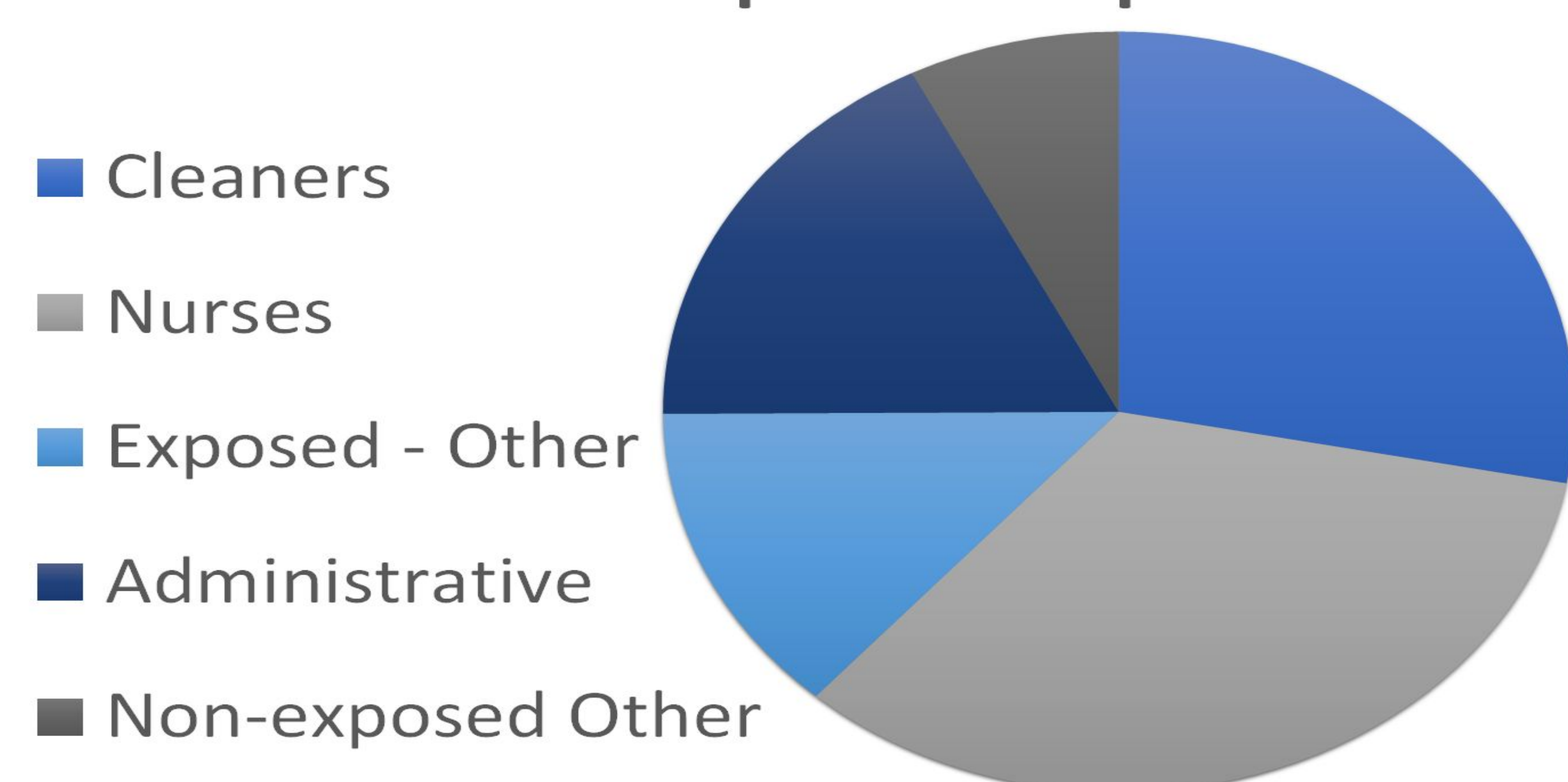
## Objectives

The objective of this study was to investigate associations between cleaning agents and work-related skin symptoms in hospital health care workers.

## Methods



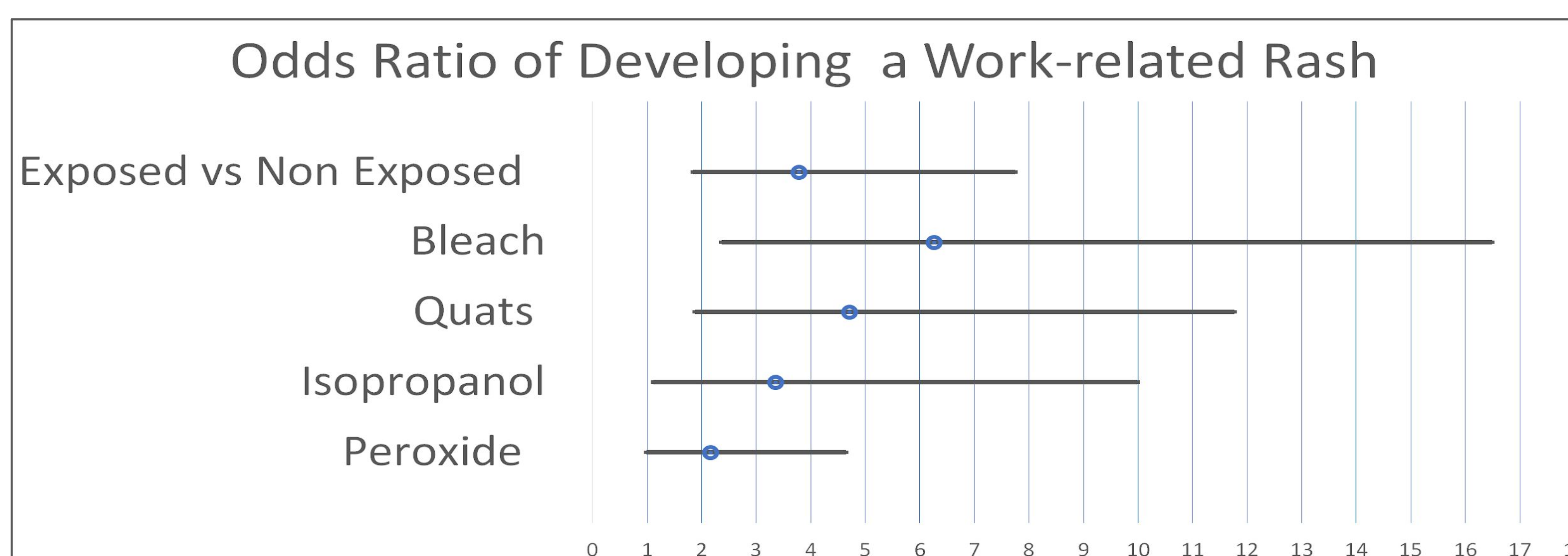
**Participant Occupation Summary**



## Results

**Table 1.** Participant Demographic Information

Demographics	Exposed (N=230)	Non Exposed (N=77)	p-Value
Sex (Female)	171	62	p=0.54
Median Time Working at Current Job (Years)	5-10	10-20	
Mean Age (Years) (+/- SD)	43.6(+/-12.1)	40.6(+/- 11.7)	p=0.10
Lifetime Rash Prevalence	42.2%	23.4%	p=0.005



**Figure 1.** Cleaning agents associated with an increased risk of developing a work-related rash. Odds ratio and 95% confidence intervals (bars).

**Table 2.** Correlations between Cleaning Tasks and Skin Rashes

Work Task	Adverse Work-Related Skin Effect	Spearman's rho	P-value
Preparation of Disinfectants	Work related hand and Wrist Rash	0.11	0.05
Cleaning Bathrooms	Work-related wrist rash	0.22	<0.001
Cleaning with Disinfectant Wipes	Work-related hand and wrist rash	0.13	0.03
Mopping	Work-related wrist rash	0.22	<0.001

Frequency of work tasks was reported as never, 1 day/week, 2-3 days/week, 4-7 days/week. The data were transformed into a score of 1-4, with 4 representing 4-7 days/week. Work-related rashes were reported as either yes or no; therefore the data were input as 0 or 1, with 1 representing the presence of a work-related rash.

## Discussion

- Exposed workers had a higher risk of developing a work-related skin rash than non-exposed workers
- Bleach was the cleaning agent with the highest association with developing a work related skin rash
- The two tasks most strongly associated with a work related wrist rash were cleaning bathrooms and mopping

## Conclusion

The positive association between cleaning agents and work-related rashes suggests appropriate measures need to be taken to prevent skin contact in the workplace with these agents

## Acknowledgements

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We would like to thank all the participants who took time out of their day to complete the questionnaire