

# Association of Biological Sex and Gender-related Factors with Public Engagement in Protective Health Behaviours during the COVID-19 Pandemic

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## Introduction

- Public behaviour plays an important role during public health emergencies [1].
- There is a dynamic relationship between the voluntary adoption of public health behaviours and infection transmission during infectious disease epidemics [2].
- There is a difference in preventive behaviours and pandemic related concerns based on sex and gender-related factors.
- Understanding what factor drives people to engage in or refrain from health behaviours during a pandemic is vital to planning tailored public health interventions.

## Objective

To examine whether sex and gender-related factors were associated with public's adherence to COVID-19 recommended protective health behaviours.

## Methods

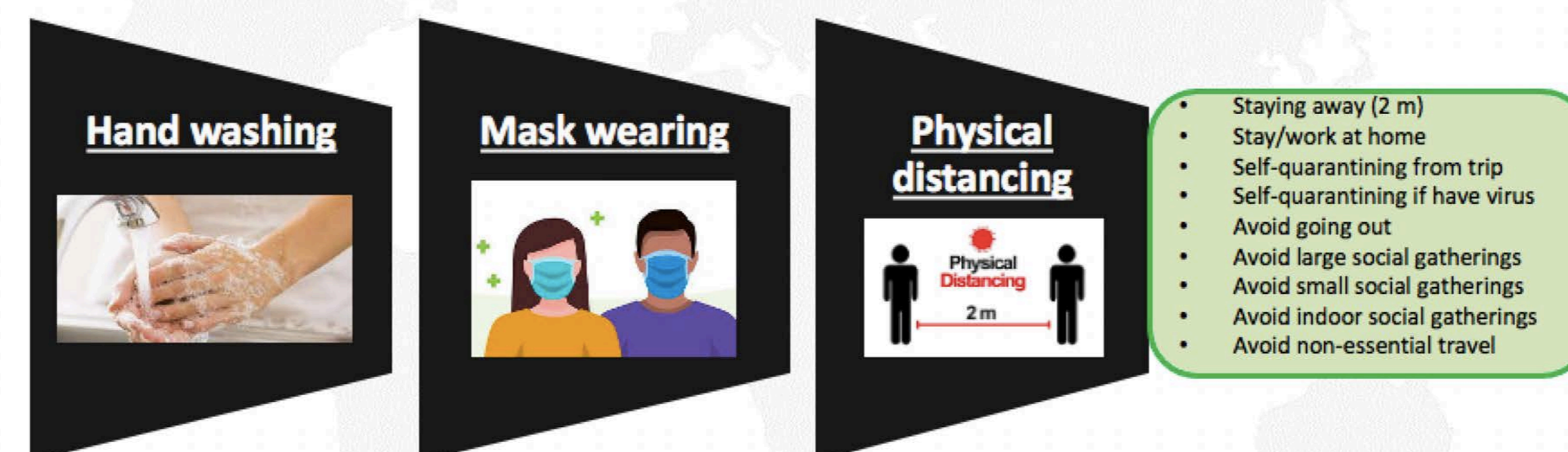
**Study design-** Retrospective analysis of International COVID-19 Awareness and Responses Evaluation (iCARE) survey collected between March 2020 to February 2021 from 175 countries.

**Participants-** Convenience sample around the world.

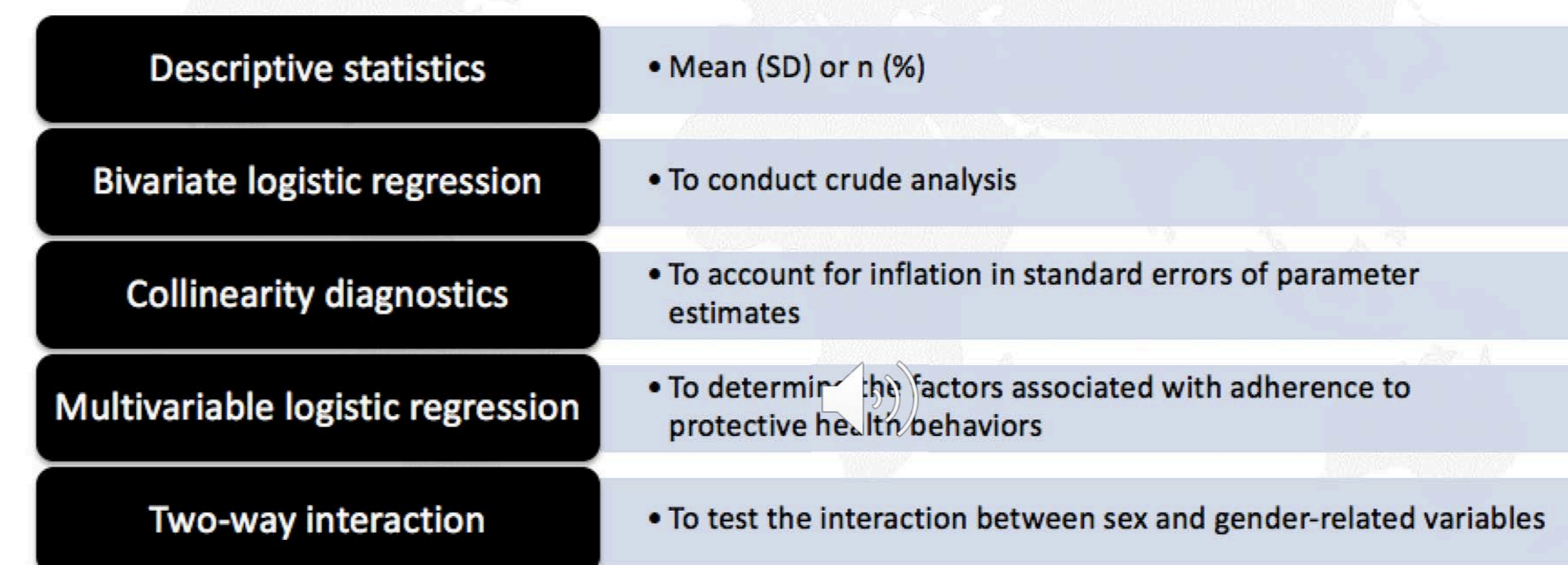
## References, Acknowledgements & Funding

- References:**
- [1] Jalloh MF, Nur AA, Nur SA, et al. Behaviour adoption approaches during public health emergencies: implications for the COVID-19 pandemic and beyond. *BMJ Global Health*. 2021;6(1):e004450.
- [2] Poletti P, Caprile B, Ajelli M, Pugliese A, Merler S. Spontaneous behavioural changes in response to epidemics. *Journal of Theoretical Biology*. 2009;260(1):31-40.

### Outcome measures-



### Statistical analysis-



## Results

- Among 48,668 respondents (mean age: 43 years; 71% female), 98.3% adopted hand washing, 68.5% mask wearing, and 76.9% physical distancing.
- Females in countries with higher gender inequality indexes were less likely to report hand washing and females who were employed were less likely to report mask wearing (**Table 1**).

**Table 1. Association between gender-related variables and adoption of protective health behaviours, by sex**

Variables	Hand washing (n=43318) OR (95% CI)		Mask wearing (n=42767) OR (95% CI)		Physical distancing (n=43368) OR (95% CI)	
	Female	Male	Female	Male	Female	Male
<b>Age distribution</b>						
• Up to 25 (Ref)						
• 26-50	4.44 (1.68-11.76)*	1.89 (0.63-5.68)	0.77 (0.26-2.35)	0.59 (0.07-5.04)	2.01 (1.54-2.63)**	2.5 (1.53-4.21)**
• 51 and older	13.39 (2.87-62.6)*	2.25 (0.81-6.27)	0.35 (0.12-1.03)	0.52 (0.06-4.47)	3.57 (2.72-4.68)**	3.9 (2.47-6.46)**
<b>Education level</b>						
• Low level (Ref)						
• High level	0.78 (0.32-1.91)	0.37 (0.14-1.01)	0.84 (0.43-1.66)	0.37 (0.10-1.33)	1.39 (1.13-1.74) *	0.87 (0.61-1.25)
<b>Work status</b>						
• Unemployed (Ref)						
• Employed	1.19 (0.50-2.83)	1.91 (0.89-4.13)	0.22 (0.1-0.5) **	0.15 (0.04-0.53) *	0.39 (0.32-0.49) **	0.38 (0.27-0.5) **
<b>Household income</b>						
• Bottom third (Ref)						
• Middle third	1.92 (0.83-4.43)	1.07 (0.41-2.81)	0.76 (0.32-1.84)	1.64 (0.57-4.74)	1.26 (0.99-1.59)	1.54 (1.01-2.32)*
• Top third	3.20 (0.84-12.15)	2.54 (0.77-8.41)	0.89 (0.35-2.28)	5.93 (1.64-21.48) *	1.53 (1.17-2.01) *	2.13 (1.36-3.35) *
<b>Gender Inequality Index</b>						
• High GII (Ref)						
• Low/Medium GII	2.11 (0.95-4.71)	0.57 (0.25-1.32)	0.18 (0.06-0.5) *	0.29 (0.09-0.91) *	0.72 (0.58-0.88) *	0.87 (0.64-1.19)

## Conclusions

- While females showed greater adherence to COVID-19 protective health behaviours, gender-related factors, including employment status and high-country wide gender inequality were independently associated with non-adherence..
- These findings may inform public health and vaccination policies in current as well as future pandemic.

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