

# Personal Heat Protective Measures During the 2017 Heatwave in Hong Kong: A Telephone Survey Study

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## Objective

To understand community's risk perception in a subtropical city, warning signal awareness and personal protective measure taken for heat related events.

## Background

Since 2000, the Hong Kong Observatory (HKO) established a 'very hot weather' warning which accounts for temperature, humidity, and wind speed. In 2017, Hong Kong recorded its hottest temperature (36.6 degrees C) in over a century. It is uncertain how communities may respond to heat warnings and what their uptake of personal protective health measures are.

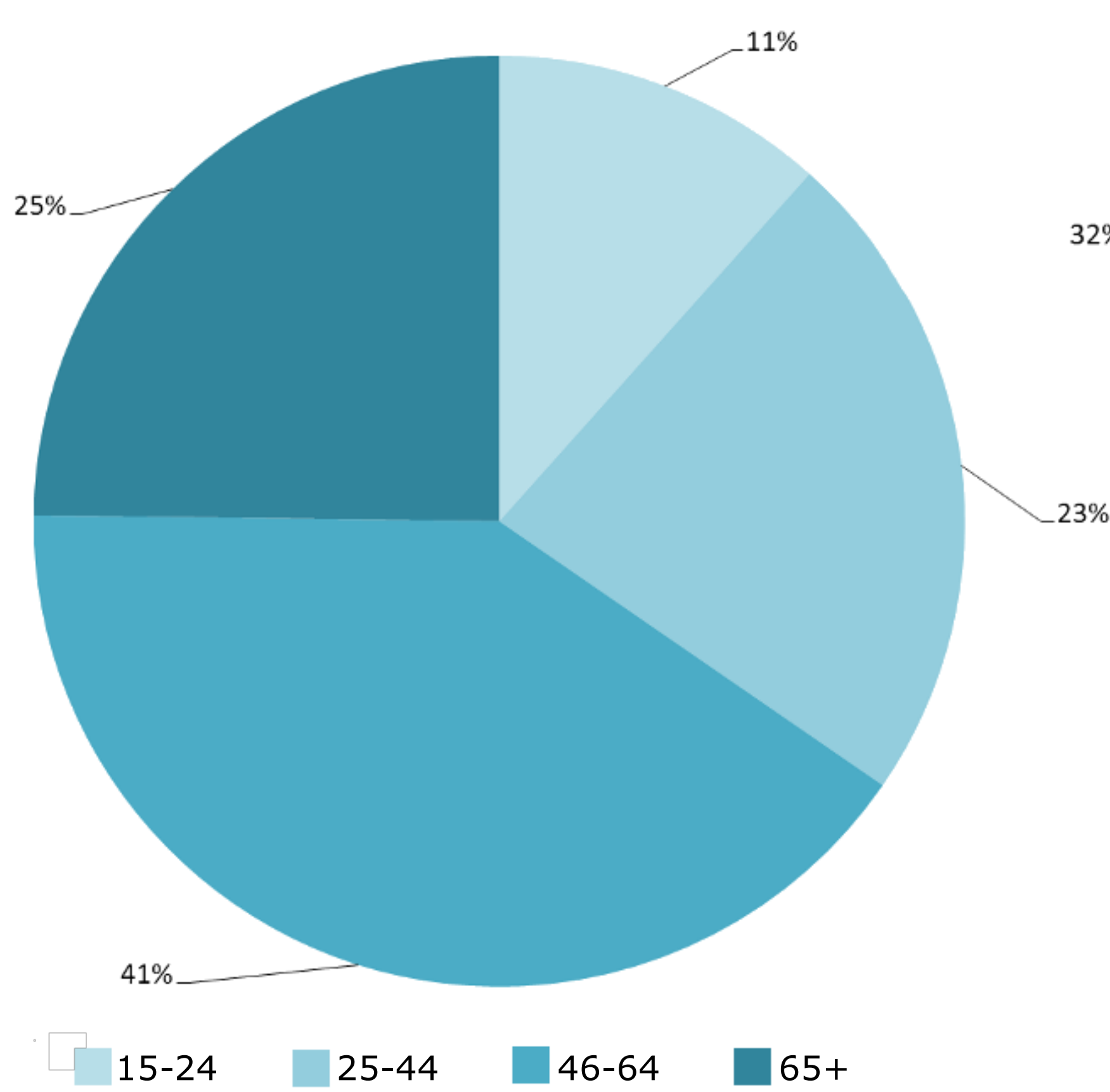


Figure 1. Respondents Who Knew HKO Issued a 'Very Hot Weather' Warning During the 2017 Heatwave by Age

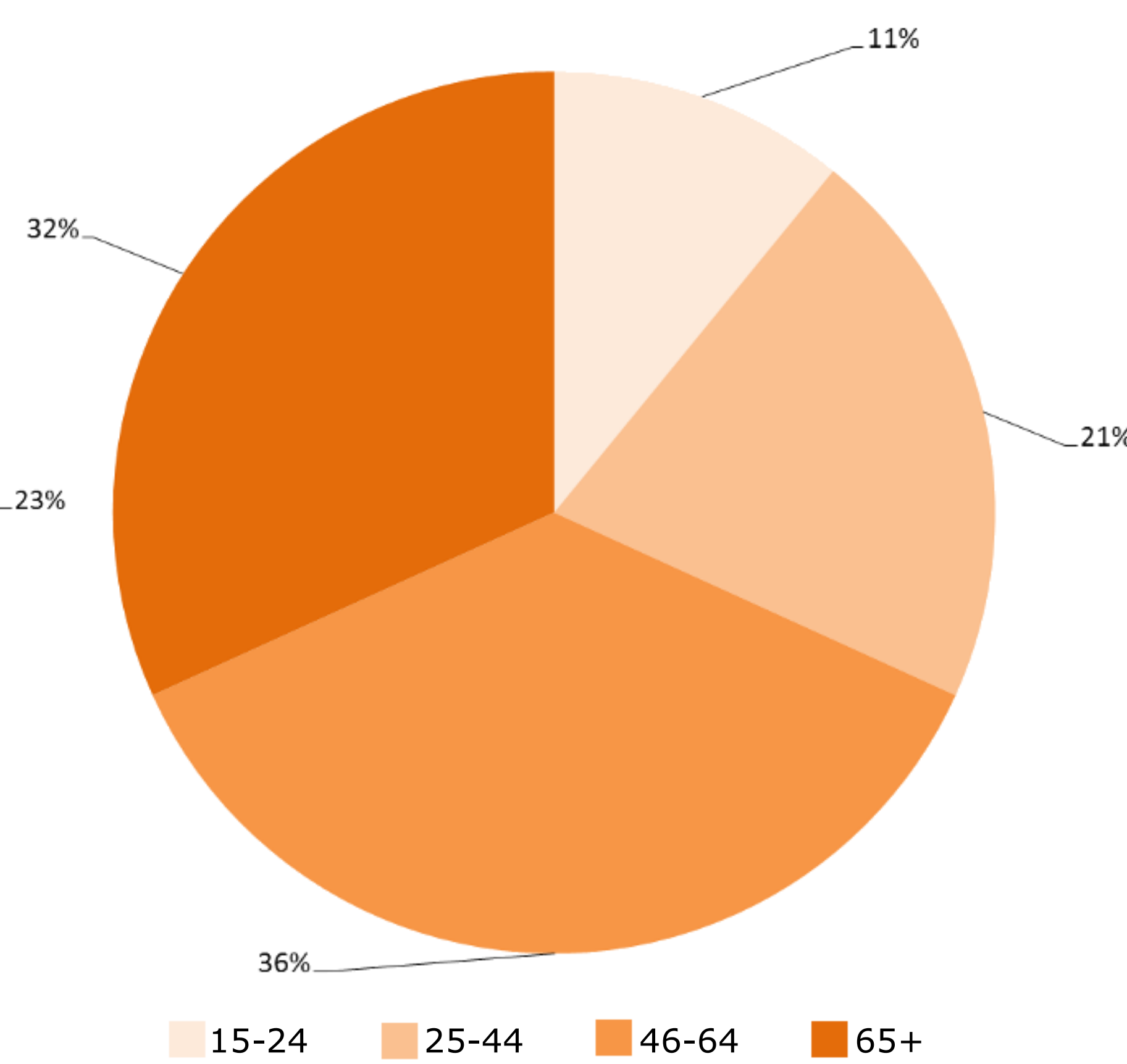


Figure 2. Respondents Who Reported Heat Will Affect Their Health By Age

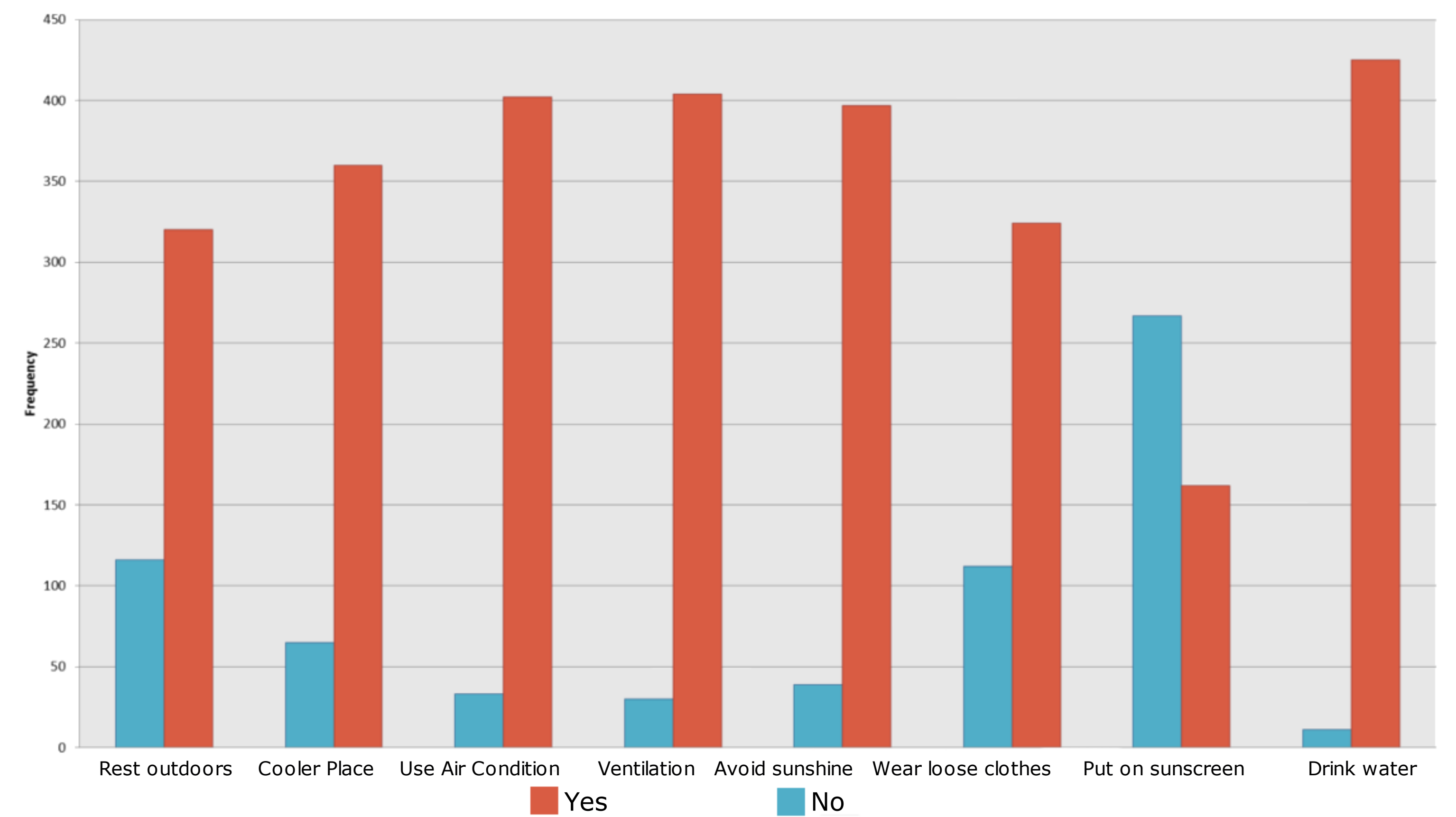


Figure 3. Frequency of Reported Heat Protective Behaviours

## Method

A telephone survey was conducted 2 weeks after a heatwave in Hong Kong (August 2017), and 436 valid respondent (response rate= 49.0%) were included. Sociodemographic characteristics, risk perception, awareness of the issue of 'very hot weather Warning', and the uptake of personal protective measure during study period. Descriptive analysis and logistic regression were conducted.

## Results

Overall, 87% were aware of the heat warning issued by HKO. 45.3% also regarded high temperature would not affect their health at all and 28.8% among the above-65-year group had neglected the health risk. During the heatwave, 37.2-97.5% had applied at least one personal heat protective measures (figure 3). The most commonly reported measures undertaken was drinking more water (97.5%) and the least uptake measure was the use of sun screen (37.2%). Males were less likely avoid the sun (OR 0.29 (95%CI 0.13, 0.65)), wear sunscreen (OR 0.41 (95%CI 0.26, 0.64)) while people with lower education level were less likely to use air-conditioners (OR 0.22 (95%CI 0.05, 0.91)) (table 1).

	Rest outdoors	Cooler place	Use Air condition	Ventilation	Avoid sunshine	Wear loose clothes	Put on sunscreen	Drink water
<b>Gender</b>								
Men					0.29 (0.13-0.65)	0.39 (0.17-0.89)	0.41 (0.26-0.64)	
Women	1	1	1	1	1	1	1	1
<b>Age</b>								
15-24								
25-44					4.21 (1.18-15.01)			
45-64					2.25 (1.16-4.39)			
65+	1	1	1	1	1	1	1	1
<b>Monthly Income</b>								
<9,999					2.88 (1.27-6.57)			
10,000-29,999								
30,000+	1	1	1	1	1	1	1	1
<b>Education</b>								
Primary					0.22 (0.05-0.91)			
Secondary								
Tertiary or above	1	1	1	1	1	1	1	1
<b>Does heat affect health</b>								
Yes								
No	1	2.49 (1.55-4.02)	1	1	1	1	1	1
<b>Aware of HKO's heat warning during heatwave</b>								
Yes								
No	1	3.04 (1.45-6.36)	1	1	1	1	2.16 (1.02-4.57)	1

Backwards logistic regression: gender, age, education, income, marital status, aware of heat warning, and does heat affect their health. Only variables with significant associations are shown

Table 1. Logistic Regression of Heat-related Protective Behaviours

## Conclusion

Heat warning signal could reach most of the community. Various personal heat protective measures were reported. Further study on understanding barriers of not applying measures among particular groups and evaluating effectiveness of health protective measures will be needed. Awareness of heat-related health impacts should be raised among vulnerable groups.