



## LETTER TO THE EDITOR

## Prevention of COVID-19 in retail food stores in Portugal: The importance of regulations in behavioural change



## Prevenção de COVID-19 em pontos de venda de alimentos em Portugal: a importância de las regulaciones para el cambio de comportamiento

COVID-19 is mainly transmitted by close contact with people infected by the virus or by contact with contaminated objects or surfaces.<sup>1</sup> In order to stop these transmission chains in retail food stores in Portugal, the Portuguese Directorate-General of Health issued laws on the measures to be adopted by the establishments and the individuals to slow the spread of disease. On March 21st 2020, the best practices recommended included the following: posting signage on the floor to help customers maintain adequate social distancing; creating physical barriers between employees and customers; disinfecting the store area at least once a day and providing alcohol-based solutions to customers.<sup>2</sup> On April 13th 2020, the use of face masks by the community was recommended as a complementary measure to physical distancing in indoor spaces,<sup>3</sup> and on May 16th 2020 it was considered mandatory and fines started to be applied to those who do not comply.<sup>4</sup> The aim of this observational study was to describe the influence of public health laws issued in different phases: (1) legislation only for retail food stores; (2) face mask use recommendation; and (3) face mask use (surgical or handmade) is mandatory and fines are applied for non-compliance- in the implementation of measures to protect employees by retail food stores and in the adoption of preventive behaviours by customers.

A descriptive observational study was developed with a convenience sample of eight retail food stores in the municipality of Braga (Portugal) and 238 customers, observed in the three phases of law implementation: (1) Between 5th–8th April 2020; (2) Between 18th–27th April 2020; and

(3) Between 18th–27th June 2020. Data was collected in different types of stores (mini-markets, supermarkets, and hypermarkets) regarding the following topics: I. Measures adopted outside the store; II. Measures adopted inside the store; III. Measures adopted by employees (cashiers and store operators); and IV. Measures adopted by customers, by sex.

From the first to the last observation moment, retail food stores improved the measures adopted outside the store: all showed signs of floor disinfection and signage encouraging the practice of safety procedures ( $n = 8$ ) (Table 1). However, measures to prevent overcrowding outside the store almost stopped. Measures adopted inside the store have increased, with all outlets indicating the necessary physical distancing between customers and providing hand sanitizer (at moment 1 only three stores provided it). All the employees wore a face mask (at moment 1 only the store operators of one store wore them). The use of gloves seems to be reducing both among cashiers and store operators. Regarding customers, the majority were women (60.0%). The use of a surgical or a handmade mask increased from about 30% in both sexes at moment 1 to 96.6% among males and 100% among females at moment 3. In general, no differences were found between women and men, except at moment 2, when a higher proportion of women wore a mask (71.1% vs. 51.4% among men).

Data from this study showed that in general retail food stores in Braga, Portugal, comply with the regulation on the prevention measures to avoid COVID-19 contamination, being registered an improvement since the beginning of the implementation of the regulations. These spaces are supportive environments for the adoption of healthy behaviours by the community. Data thus support that most intrusive public health interventions, as regulations on the mandatory use of a face mask in public, and the application of fines for violators, are effective and justified by the high health benefits of this behaviour.<sup>5</sup> The continuous monitoring of the preventive behaviours, as the use of face masks and hand sanitizer, for example, is crucial to guarantee their adequate maintenance.

**Table 1** Measures adopted to prevent the transmission of COVID-19 by retail food stores (N = 8) and customers (N = 238).

	Observation moment*					
	1		2		3	
	n (%)		n (%)		n (%)	
<b>Measures adopted outside the store</b>						
<i>Signs of floor disinfection</i>	6 (75.0)		7 (87.5)		8 (100)	
<i>Disinfection of shopping carts/baskets</i>	4 (50.0)		5 (62.5)		5 (62.5)	
<i>Measures to prevent overcrowding</i>	7 (87.5)		8 (100)		1	
<i>Signage encouraging the practice of safety procedures</i>	7 (87.5)		8 (100)		8 (100)	
<b>II. Measures adopted inside the store</b>						
<i>Indication of the necessary physical distancing</i>	7 (87.5)		7 (87.5)		8 (100)	
<i>Provision of hand sanitizer</i>	3 (37.5)		4 (50.0)		8 (100)	
<i>Provision of gloves</i>	1 (12.5)		1 (12.5)		1 (12.5)	
<i>Provision of other personal protective equipment</i>	0		0		0	
<b>III. Measures adopted by employees</b>						
<i>Cashiers</i>						
Use of a visor or a face mask	4 (50.0)		7 (87.5)		8 (100)**	
Use of gloves	4 (50.0)		7 (87.5)		3 (37.5)	
Existence of acrylic separator walls at counters	7 (87.5)		7 (87.5)		7 (87.5)	
<i>Store operators</i>						
Use of a visor or a mask	1 (12.5)		6 (75.0)		8 (100)**	
Use of gloves	4 (50.0)		6 (75.0)		5 (62.5)	
<b>IV. Measures adopted by customers</b>						
	Male	Female	Male	Female	Male	Female
	(n = 31)	(n = 47)	(n = 35)	(n = 45)	(n = 29)	(n = 51)
<i>Use of a face mask (surgical or handmade)</i>	10 (32.3)	15 (31.9)	18 (51.4)	32 (71.1)	28 (96.6)	51 (100)
<i>Use of a visor</i>	0	0	0	0	1	0
<i>Use of gloves</i>	10 (32.5)	15 (31.9)	13 (37.1)	18 (40.0)	13 (44.8)	18 (35.3)

Note: \*Observation moments: (1) legislation only for retail food stores; (2) face mask use recommendation; and (3) face mask use is mandatory. \*\* All wore a face mask.

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