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Predictors of physical distance in the context of the COVID-19 pandemic | Fact-sheets collection from the Portuguese COVID-19 pandemic Task Force on Behavioral Sciences

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Abstract

The promotion of physical distancing is a highly effective way of preventing the interpersonal transmission of pathogenic agents, including SARS-CoV-2. However, the protection of physical health through physical distance should not promote social distancing, which is a relevant disrupter of human subjective and psychological well-being. Interpersonal bonds are essential for the promotion and protection of mental health and quality of life. It is, therefore, necessary to identify adequate criteria for the establishment and promotion of adequate, protective, and health-promoting physical distancing.

Keywords: Public health support, Evidence-based policies, Policy brief, Health communication.

Introduction

We are social creatures. Our everyday experience, either at home, at work, or in the community, is, most usually, characterized by regular interaction with others. The relationships that we establish, which also imply, under normal conditions, physical contact with those with whom we interact, are essential to our mental health and well-being. For this reason, the reduction of social interactions can have several negative effects on both physical and mental health, being associated with increased mortality (Orben et al., 2020; Sikali, 2020).

Since the beginning of the COVID-19 pandemic, several containment strategies, with different levels of restriction of contact between people, were implemented (Hagger et al., 2020; Lüdecke & von dem Knesebeck, 2020). Although the measures of hygiene that were adopted were, in general, the same as those recommended in past pandemics, some of the physical distancing measures established in this most

recent pandemic are new and do represent an unprecedent source of disruption (Sikali, 2020). The imposition of strict confinement for persons with no known exposure to SARS-CoV-2 (this was the first time in history that non-diagnosed individuals were asked to keep isolated), the cancellation of public events (including cultural or leisure events), or the determination of the maintenance of a minimum safety distance when in the presence of others outside the household, are some examples of implemented measures, with varying degrees of severity throughout the pandemic (Coroiu et al., 2020; Lüdecke & von dem Knesebeck, 2020; SNS24, 2021).

The development of vaccines for SARS-CoV-2 also occurred in an unprecedent acceleration. Nevertheless, keeping interpersonal distance (with different norms for different momenta and contexts) was, for a long period, recognized as a most effective strategy to minimize the transmission of the virus (Ingram et al., 2021; Islam et al., 2020; Lewnard & Lo, 2020). Indeed, physical distance, initially inadequately though widely communicated as "social distance", mitigates the transmission of SARS-CoV-2[10]. The minimum physical distance considered as required for minimizing the risk of contamination of SARS-CoV-2 was of two meters of distance from individuals who are not from the same household, both inside and outside closed spaces. For coping with this pathogenic agent, physical distance is effective if accompanied by other safety measures, such as the ventilation of closed spaces, the use of masks (mainly when sharing close spaces with other persons), frequent hand hygiene, and avoiding touching the face (Centers for Disease Control and Prevention, 2020).

The rule to adopt at least two meters of distance away from others to reduce transmission of SARS-CoV-2 is based on the premise (difficult to confirm with certainty) that the main avenues of transmission of this virus are the respiratory droplets that can reach other people. Smaller particles expelled by infected individuals, presumably less infectious, can spread up to eight meters, even without ventilation or airflow that carries them away (The Centre for Evidence-Based Medicine, 2020). However, the risk of SARS-CoV-2 transmission decreases as physical distance increases in open spaces (small air movements are enough to diffuse the viral load expelled by one person, thus reducing the potential for infection; in closed spaces, this rule does not apply, and the greatest distance possible, with a minimum of two meters, should be maintained).

In this sense, mitigation measures must consider both individual and environmental factors, depending on several factors, namely the viral load, the exposure time, the number of people in each location, space configuration, ventilation level, and whether a mask is used (The Centre for Evidence-Based Medicine, 2020).

Relevant pieces of knowledge for public health action

- There is solid scientific evidence regarding the effectiveness of physical distancing measures in preventing the spread of the SARS-CoV-2 virus (Ingram et al., 2021; Islam et al., 2020; Lewnard & Lo, 2020; Mahtani et al., 2020). Given the markedly social nature that characterizes the human being, the consequences that such measures may have on the mental health and well-being of the population need to be considered, because of the severe reduction of social interaction that they may imply.
- The most often cited facilitators of the adoption of physical distancing behaviours are: concern with the protection of others, concern regarding own's protection, feeling of social responsibility, and trust in science and politics. On the contrary, barriers to this behaviour include: having family or friends who need help with tasks, the perception that there are too many people on the street (i.e., *"if others can be in the street, so the risk must be low"*), not trusting government messages about the pandemic, and feeling anxious or depressed when one is alone (Coroiu et al., 2020; Epton et al., 2021; Taylor et al., 2020).
- Health beliefs are important determinants of emotions and health-related behaviours. So, intensified risk beliefs for health tend to function as predictors of negative stress and avoidance

(therefore, of maintenance of physical distance), while beliefs of lower risk related to health tend to predict non-adherence to recommendations of physical distancing (Coroiu et al., 2020; Epton et al., 2021; Taylor et al., 2020).

- Evidence is unclear regarding the effect of using masks on maintaining physical distancing: it can both increase a feeling of security/protection and promote proximity, but it can also increase the perceived need for physical distancing (Coroiu et al., 2020; Epton et al., 2021; Taylor et al., 2020).
- Men and younger people (18-24 years old) tend to adhere less to physical distancing recommendations (Coroiu et al., 2020; Epton et al., 2021; Taylor et al., 2020).
- Formal (e.g., newspapers, press releases, and educational messages), but mainly informal (e.g., social networks, opinion articles, family models, and peers) sources of information tend to affect the perception of a public health emergency, which, in turn, can determine physical distancing behaviours. So, physical distancing is more likely to be adopted when the perceived health-threat is high. On the other hand, the adoption of this behaviour by family members, friends, or colleagues also tends to promote the adoption of the behaviour by the person him/herself (Qazi et al., 2020).
- Mixed behaviours (i.e., alternating between responsible and irresponsible behaviours), personal or observed (vicarious learning), invalidate the positive effect of informal sources of information. In this sense, it is important to promote continuous activities of public education to ensure that the population adopts adequate behaviours of physical distancing (Qazi et al., 2020).
- Physical distancing can hinder a normal socialization (an important effect that can also have wider damaging implications for the youth) and therefore contribute to the increase of the feeling of social rejection, individualism, loss of sense of community, and lack of training in interpersonal skills. Likewise, these negative consequences are associated with the way the messages about the virus and the disease are conveyed. For example, the focus on the fact that others with whom we live are potential carriers of a virus, causing a disease that puts health at risk, can enhance the fear of being with other people. And this psychological effect can remain far beyond the pandemic period (Sikali, 2020).
- Physical distancing measures which have implications for children and young people, such as the closure of schools, have a direct impact on their socialization (with their peers, teachers, and school staff). This can affect their ability to establish quality and satisfying relationships, essential for their psycho-affective development, which can have marked effects on their well-being and mental health (present and future) (Oosterhoff et al., 2020; Sikali, 2020). A recent study found that young people who have adopted physical distancing, and who have done so to avoid becoming ill or being socially judged, reported having more anxiety symptoms, whereas those who did it following recommendations from friends reported more symptoms of depression (Oosterhoff et al., 2020).
- Evidence shows that the following strategies which promote the maintenance of physical distance in the interaction between people are effective: i) behaviour reinforcement; ii) information about health consequences (acting at the level of beliefs about vulnerability and severity of infection, and possible disease); iii) demonstration of behaviour (vicariant learning, especially effective when promoting perceived self-efficacy); and iv) rearrangement of the physical environment, with the implementation of directional systems and nudges (e.g., behavioural cues, including signs on the sidewalks, notifications/warnings in places of potential agglomeration). Punitive approaches, such as the use of fines, tend to be ineffective or even counterproductive for promoting physical distance adherence (Taylor et al., 2020).

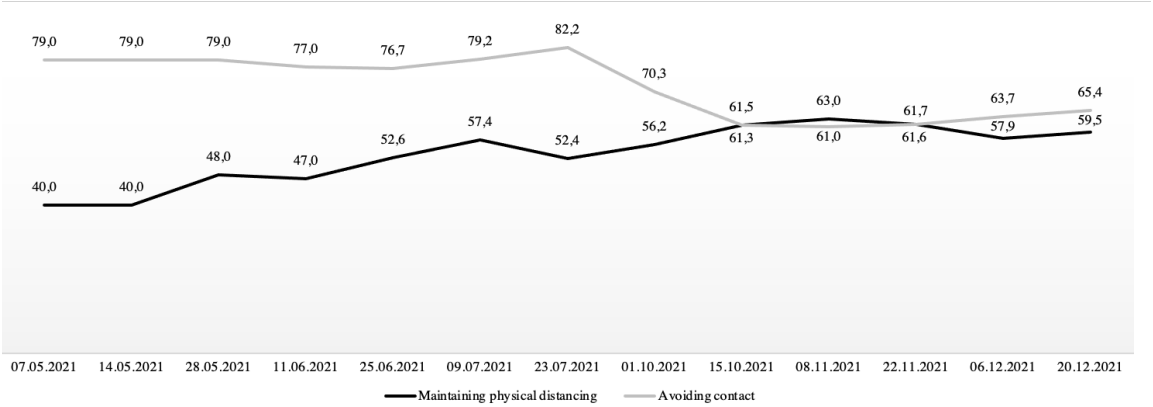

Figure 1. Evolution of physical distancing indicators (%) in Portugal, May-December 2021 (Escola Nacional de Saúde Pública, 2022). Physical distancing is here defined as "Maintaining physical distancing, being <15 minutes and/or >2 meters away from people from different households; avoiding contact, not being in groups with 10 or more people" (Source: Portuguese COVID-19 pandemic Task Force on Behavioral Sciences | Work Package 2, 2021).

Calls for action

- Physical distancing measures of collective nature (e.g., closure of schools, working from home instead of face-to-face work) have high costs at different levels, namely political, economic, and social, conducting to an aggravation of social inequalities. For these reasons, they should be adopted only in cases of extreme need. The degree of restriction of distancing measures should be determined when considering three aspects: potential physical, psychological and social harm, economic costs, and contribution to the actual control of infection rates and serious illnesses caused by the infection.
- From an ethical point of view, it needs to be considered that different restriction measures have distinct consequences for each group in the community. In this sense, socially and economically disadvantaged groups should not be discriminated in favour of public health, given the long-term implications this could have (e.g., exacerbation of inequalities in terms of educational access and success, loss of income, unemployment). Policies must be defined to reduce these risks and to guarantee the protection of those in vulnerable situations, such as young or older people, people dependent or with physical or cognitive disabilities, homeless people, incarcerated population, undocumented migrants, among other groups.
- Physical distancing measures should always consider the specificities of the context in which they will be implemented; for example, the measures established for outdoor spaces should not necessarily be the same as those defined for closed spaces, but consistent and coherent decisions concerning similar contexts, for all social groups, should be taken. In case of exceptions (for example, for economic reasons, for health care needs, among others), it is paramount to be explicit, to explain by credible (to the audience) persons, the technical details (or other type of information) that clearly explains the reason for such exception.
- It is important to communicate, in a cohesive way, with different social sectors (schools, companies, catering, culture), to identify and put into context practices that can facilitate safety behaviours to promote physical distancing. The use of nudge techniques (environmental triggers of health behaviours) is very effective if aligned with values, and norms of the social groups and communities.
- Physical distancing measures should be used in combination with other strategies, such as hygienization of the air (with possible adaptation of ventilation in specific indoor spaces), frequent hand washing/disinfection, use of masks and prompt isolation of individuals infected.
- The use of the term "social distancing" should be replaced, in all contexts of communication, by the term "physical distancing". Social distancing has

serious implications in terms of human development and well-being at all stages of the life cycle. The use of the term "physical distancing" is therefore more appropriate in the context of a pandemic, because, with the progressive lifting of strict restricting measures and the resume of interpersonal contact, the message is clearer by reflecting the need to continuously promote emotional and social closeness, regardless of the physical distancing, which is pivotal to protect the mental health of the population.

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