

## The habit of finger-licking: getting a solution out of the pandemic

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### ABSTRACT

The habit of finger-licking is an insanitary habit observed everywhere including hospital wards and other medical facilities, among providers and other staff members. It is an enduring habit that has been present before and during the pandemic and will continue unless serious notice of it is taken. Herein, we illustrate the risks imposed by this everyday habit on individuals practicing it and on surrounding people, we describe the challenges with prior attempts to defeat this habit, and we explain how the face mask can eliminate this everlasting habit.

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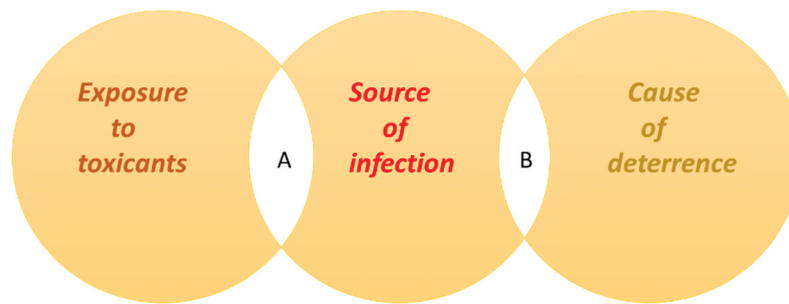
Finger-licking is an insanitary habit that remains unnoticed. This habit involves a countless number of daily activities. To name a few, these activities include opening grocery bags, separating prints or turning pages, counting money, and playing cards.

Studies have shown that the pertinacious habit of finger-licking is far more common than thought, even among celebrities and health professionals. Fast bowlers along with players at the National Football League (NFL), Major League Baseball (MLB), and National Basketball Association (NBA) lick their fingers [1–4]. While some players lick their fingers to gain an extra grip on the ball, others do so because the habit indwells in the sport's culture and gets passed on through generations. Maughan et al. [5], conducted a study to evaluate food safety behaviors among celebrity chefs. Twenty one percent of the celebrity chefs evaluated in the study, licked their fingers during their cooking shows. La Ban et al. [6], performed a survey study to assess the frequency of habitual repetitive finger-licking among various healthcare professionals. Ten percent of the healthcare professionals in the study admitted to having the habit of repetitive finger-licking. On the other hand, sixty percent of those who participated in the study had observed other professionals who repetitively licked their fingers.

The aftereffects of finger-licking embroil persons having this habit along with individuals surrounding them (Figure 1). The habit of finger-licking can deter the surrounding people. The author of a correspondent titled 'The Shopman's Finger Lick' described how he walked out of a shop leaving the goods on the counter because of the shopman's finger-licking habit [7]. This habit can be a source of

infection to the individual having the habit and the surrounding people. The saliva involved in the habit of finger-licking may contain pathogens that can be transmitted via fomites, which are inanimate objects. Paper is an example of a fomite that is commonly involved in the habit of finger-licking when turning pages or counting bills. Studies have shown that both bacterial and viral pathogens can survive on paper [8,9]. Such pathogens can be transmitted to others either directly through surface-to-mouth contact or indirectly through fingers' contamination and subsequent hand-to-mouth, hand-to-eye, or hand-to-nose contact [10]. Furthermore, studies have shown a significant association between the finger-licking habit and serum levels of noxious compounds specifically polybrominated diphenyl ethers (PBDEs), flame retardants used in an array of products [11,12]. The inimical effects of PBDEs are many and include thyroid along with other endocrine system disruptions, neurotoxicity, infertility, transfer through the placenta, and fetal exposure [12].

Finger-licking is an unconscious habit, which makes its elimination a challenge. Persons with this habit would continue to do it unwittingly even when it is called to their attention. In the midst of the coronavirus disease 2019 (COVID-19) pandemic, a public health expert licks her finger in a press conference right after she warned people not to touch their faces [13]. This demonstrates how onerous it is to overcome this habit. While some thought it is difficult to see how health authorities can act out the habit of finger-licking beyond public education [14], others tried to eliminate this objectionable habit [6,15,16]. Nevertheless, no one presented a precise way through which a person can stop this will-less



**Figure 1.** The aftereffects of finger licking involve individuals with this habit (A) and surrounding people (B).

habit. In the early 1900's, the Medical Society of City Hospital Alumni of St. Louis adopted a resolution relative to the finger-licking habit among post office employees [15]. The resolution stated that employees who continue practicing the habit of finger-licking, despite a notice and warning brought to them, will be deprived from their position. Without providing the means to overcome this unwitting habit, this resolution was set up to fail and the finger-licking habit continues to exist among many including post office employees. The study of La Ban et al. that assessed the frequency of finger-licking habit among health workers in their facility, prompted them to install 70% ethyl alcohol hand wash dispensers in their hospital corridors [6]. These dispensers generated a new challenge of how to keep them filled to match the daily demand. The dispensers were then removed as they were considered a flammable hazard by the Office of Fire Safety. Although installing the dispensers was considered a direct consequence of the study, they do not directly address the habit of repetitive finger-licking. One of Japan's largest taxi operators installed an employee policy that prohibits fingertips licking when leafing through papers or counting out bills [16]. Even though this policy was induced to control the habit of finger-licking, it does not grant a way of how its employees can stop this undeliberate habit.

Interestingly, despite the many hardships of the COVID-19 pandemic, it brought a potential solution for those who struggle with the habit of finger-licking: the face mask. Although touching the mask can cause contamination of the hands, persons with the finger-licking habit are much less likely to touch their mouth when wearing a mask. The face mask serves as a prod that reminds the individual of not touching the mouth when the individual attempts to do so unconsciously. This acts similarly to the orthodontic appliances that have proven efficacy in inhibiting the habit of finger sucking through their reminder role [17]. Subsequently, wearing a face mask may be a simple and effective way in eliminating the habit of finger-licking. This ushers in the inquiry of how

long an individual needs to use a face mask in order to break the finger-licking habit. One study assessing the time it takes to form a new habit found that it may vary anywhere between 18–254 days [18]. Breaking a habit is harder than forming a new one [19]. If it can take over 8 months to form a new habit, it can take even more time to break a habit.

We hereby suggest that persons with the habit of finger-licking should be encouraged to wear a face mask at least during their work hours. Calls are made to public health professionals to work on subduing poorly modeled behaviors [5]. The initiative can be started in hospitals and other health system facilities; then, it can expand to other places like libraries, retail stores, and other public facilities. A recent study [20] shows that cardiovascular disease was present in over fifty percent of hospitalized patients with the diagnosis of coronavirus in the pre-COVID-19 era and was correlated with a high risk of adverse outcomes including mortality. This presents how patients with cardiovascular disease are highly vulnerable to such a virus with deleterious consequences. The notorious habit of finger-licking can lead patients, who are in the hospital for ischemic chest pain or other cardiovascular disease manifestations, to contract COVID-19 along with maleficent sequelae. This puts a spotlight on the importance of addressing such a habit particularly in the background of highly transmissible diseases such as coronavirus infections and specifically in hospitals and other medical facilities settings.

The finger-licking habit has been an ever-lasting problem. In 1937, Dr. Bristowe wrote about the habit of finger-licking and asked [7]: is it not time for the health authorities to take serious notice of this filthy habit? Over 80 years later, we say: yes, it is time to do so.

#### Disclosure statement

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