Unforeseen consequences of the COVID-19 pandemic: Increased frequency of kite-string injuries in magnificent frigatebirds (Fregata magnificens) in Rio de Janeiro state, Brazil

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Abstract

Kite flying is a popular hobby and sport for children and adults. Despite being illegal in Rio de Janeiro state, Brazil, the use of abrasive threads remains widespread and poses a health risk to both humans and animals. In this study, we analysed the records of 462 magnificent frigatebirds (Fregata magnificens) submitted to rehabilitation centres or found dead along the southern coast of Rio de Janeiro state from October 2016 to August 2020. Of these, 244 individuals (52.8%) presented wing lesions consistent with kite-string injury, which can have a critical impact on the ability of frigatebirds to fly and will ultimately cause their death. Even when veterinary care is provided, only a small proportion of the individuals (2%) will fully recover the ability to fly in order to be released back to the wild. In 2020, an atypical increase in the number of individuals with kite-string injuries (~1,200% increase compared to other years) was noted in the weeks following the suspension of school activities and commerce in response to the COVID-19 pandemic. The number of frigatebirds with kite-string injuries recorded in a given week was positively correlated with internet searches for kite-related terms, which also peaked during the quarantine period of the COVID-19 pandemic. This illustrates how pandemic events may aggravate existing human-wildlife conflicts, and how preparedness plans need to incorporate measures to help communities cope with boredom and isolation during quarantine in ways that do not negatively impact the welfare and conservation of wildlife.

Keywords: animal welfare, human-wildlife conflict, kite flying, manjha, pandemic, seabird

Introduction

Kite flying is a popular hobby and sport for children and adults all over the world, and sometimes includes kite fighting, where the objective is to cut the opponent’s kite string by means of kite lines coated with a mixture of either ground glass and glue (known as ‘manjha’ or ‘cerol’), or quartz powder and aluminum oxide (‘linha chilena’) (Babu et al 2015). As a result of the use of abrasive threads, an increasing number of kite-string injuries have been reported in both humans and animals (Ladeira et al 2012; Roy & Shastri 2013; Muvalia et al 2019). In India, kite-flying festivals pose a major threat to raptors, vultures, pigeons and parrots, amongst others, including endangered species, such as the white-rumped vulture (Gyps bengalensis) (Roy & Shastri 2013; Babu et al 2015). In Brazil, kite-string injury is also a frequent cause of admission of birds to rehabilitation centres, especially birds of prey (Joppert 2007; Brito 2017).

Although abrasive kite threads have been prohibited in Rio de Janeiro since July 2019 (state law no 8478), their use remains widespread. In the first semester of 2020, when school activities and commerce were suspended due to the COVID-19 pandemic, magnificent frigatebirds (Fregata magnificens) in Rio de Janeiro began experiencing kite-string injuries at unprecedented levels (Figure 1). In this study, we quantify the occurrence of kite-string injuries in frigatebirds along the southern coast of Rio de Janeiro state, and discuss the need to incorporate measures that help communities cope with boredom and isolation during quarantine in a manner that does not negatively impact the welfare and conservation of wildlife.