Immediate Sequential Bilateral Cataract (ISBCS): A Public Health Solution for a Global Public Health Pandemic

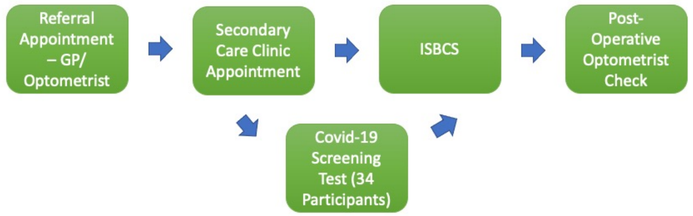
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Introduction

ISBCS is an accepted global public health strategy and recommended by the Royal College of Ophthalmologists (RCOphth) as an appropriate response to the Covid-19 public health pandemic [1]. An initial study on 10 patients in the Western Isles showed patients attended four appointments +/- additional appointments (see figure 1) in the bilateral cataract surgery pathway and concluded ISBCS saved 43.8kg of travel-related green-house gases per participant. In this study, a subset of patients attended post-Covid-19 national lockdown and thereby an additional appointment was necessary (see figure 1).

Figure 1: ISBCS Pathway



Objectives

1. To calculate travel-related carbon emission savings in ISBCS over two years.
2. To evaluate the impact of Covid-19 on the ISBCS pathway and travel-related carbon emissions.
3. Identify post-operative complications of ISBCS.

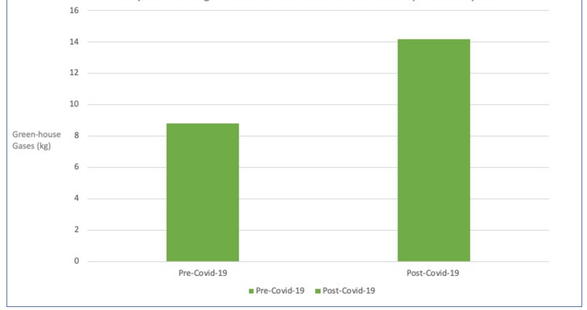
Methods

Demographic data was collected for all who had ISBCS at Balfour Hospital, Orkney over 2018 – 2020. The initial WI study provided a theoretical ISBCS patient journey number. A standardised online route planner was used to calculate kilometers traveled. UK government carbon conversion factors were used. The carbon footprint of the return journey to the operation, and to the post-operative check was combined to produce carbon savings. In the Covid-19 subset, an additional trip to Balfour hospital was added.

Results

102 bilateral operations were recorded in two years. Following exclusion, 98 participants were eligible for analysis. There were 59 females and 38 males. An average of 8.8 kg (see figure 2) of carbon green-house gas emissions per participant was saved when participants underwent bilateral cataract surgery vs unilateral, totaling 849.60 kg. A subset of 34 participants had bilateral cataract surgery after the UK covid-19 lockdown and thereby underwent five return journeys. Bilateral cataract surgery saved an average of 14.2kg per participant of travel-related carbon emissions vs unilateral surgery in this subset (see graph 1). There were no posterior capsular rupture; 0.5% of participants had CMO.

Graph 1: Average Travel-Related Carbon Emissions per Participant



Key Points

- ISBCS targets the urgent need for **environmentally sustainable health care**, enhances health-care capacity, reduces financial cost and **reduces patient Covid-19 contact points.**
- ISBCS produces safe quality outcomes above/ compatible with NOD Audit averages.

References

1. The Royal College of Ophthalmologists, United Kingdom & Ireland Society of Cataract & Refractive Surgery. Immediate Sequential Bilateral Cataract Surgery (ISBCS) during COVID recovery: RCOphth/UKISCRS rapid advice document. [Internet] 2020. Available from: **https://www.rcophth.ac.uk/wp-content/uploads/2020/07/Immediate-Sequetial-Bilateral-Cataract-Surgery-Guidance-2.pdf**

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