

### Introduction

All inhaled anaesthetics are potent greenhouse gases with heat trapping properties (global warming potential) hundreds to thousands of times greater than an equivalent mass of carbon dioxide. Low flow anaesthesia (LFA) is an anaesthesia method defined in the 1950s by Foldes and is very important in terms of reducing the carbon footprint produced by anaesthesia (1). The benefits of LFA are that it reduces the greenhouse effect, as it minimizes the amount of volatile gas released into the atmosphere, improves the heat and humidity of inhaled gases.

In Turkey, 2-6 L/min fresh gas flows (FGF) are mostly used in general anaesthesia practice. Turkish Society of Anaesthesiology and Reanimation (TSAR) has been working on low LFA and minimal flow anaesthesia since 2018 to reduce the FGF and reduce the impact of anaesthetic gases on the environment. For sustainable anaesthesia, TSAR aimed to reduce the applied FGF to at a maximum flow of 1 L/min. For this purpose, a total of 20 LFA courses were organized in our country. Approximately 750 anaesthetists in total had LFA training in these courses.

We herein present our survey results in which we questioned the effects of the *Hands-on Low Flow Anaesthesia Courses* on the change in our clinical practices.

### Material- Method

A questionnaire was prepared to determine the rates of LFA applications in Turkey and to analyse the effectiveness of the TSAR hands-on LFA courses. All participants were invited to respond the questionnaire.

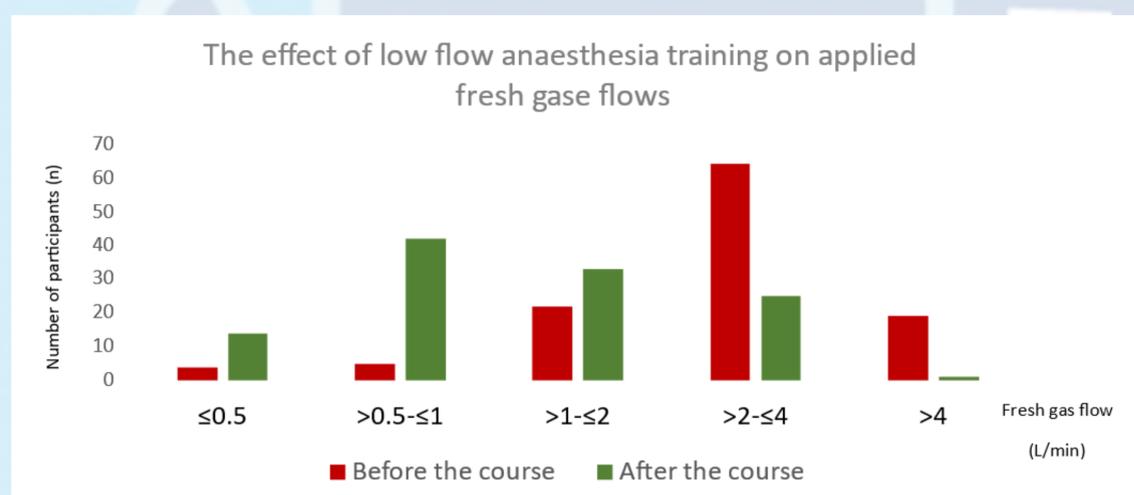
### Results

A total of 439 anaesthesiologists answered the questionnaire. 115 of them attended TSAR Hands-on LFA Courses. Questionnaire results are summarized in table and figure.

Table. Demographic data of the participants

<b>Age (years)</b>	<b>n (%)</b>
<30	115 (26.2)
30-40	158 (35.9)
40-50	93 (21.1)
>50	73 (16.6)
<b>Gender</b>	<b>n (%)</b>
Female	251 (57.1)
Male	188 (42.8)
<b>Task</b>	<b>n (%)</b>
Teaching staff	116 (26.4)
Specialist	135 (30.7)
Resident	188 (42.8)
<b>Expertise (years)</b>	<b>n (%)</b>
0-5	189 (43.0)
6-10	75 (17.0)
11-2	91 (20.7)
>20	84 (19.1)

Figure. The effect of low flow anaesthesia training on applied fresh gas flows



### Discussion

In our country, there is no guide yet on reducing the carbon footprint and sustainability in the operating room and intensive care units, especially in the field of health. Additionally, anaesthesiologists mostly prefer the use of anaesthetic agents with high FGF in their clinical practice due to some concerns such as hypoxia, carbon dioxide retention, hypoventilation, toxic gas retention. It is known that especially practical applied courses cause changes in clinical practice more often than only theoretical training. For this purpose, when we examine the data of 20 hands-on LFA courses in our country, we saw that the rates of LFA application by the anaesthesiologists participating in the course have increased. 62.2% of those receiving LFA course stated that their inhalation anaesthetic agent consumption decreased.

We think that with the continuation of national hands-on LFA trainings, the formation of anaesthesia-related carbon footprints can be reduced by increasing awareness among anaesthesiologists.



PS: Hands-on LFA courses were founded by Dräger