

## A Comprehensive Analysis of the Oxygen Inhalation Lounges

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© 2023 جامعة العلوم والتكنولوجيا، اليمن. يمكن إعادة استخدام المادة المنشورة حسب رخصة مؤسسة المشاع الإبداعي شريطة الاستشهاد بالمؤلف والمجلة.

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### Abstract:

Oxygen lounges have become increasingly popular in recent years as a way to boost energy and alleviate stress. The concept behind oxygen lounges is based on the idea that extra oxygen can provide numerous health benefits, such as increasing energy, improving mental clarity, and reducing stress and anxiety. However, the scientific evidence to support these claims is limited, and there are potential risks associated with their use, such as oxygen toxicity. This article explores the history and science behind oxygen lounges, their potential health benefits, as well as any potential risks associated with their use. Additionally, it discusses the regulation of oxygen lounges in Yemen especially Sana'a that has no establishments of what sort, where there are currently no specific regulations or guidelines for their operation, despite that Sana'a is famous of lacking of oxygen due to the geographical nature of the city, as the city is located on mountain heights. While oxygen lounges may provide some potential health benefits, the scientific evidence on their effectiveness is limited, and customers should approach them with caution, particularly if they have any underlying medical conditions.

**Keywords:** Oxygen bars, Relaxation, Alternative therapies, Aromatherapy, Meditation, Stress reduction, Respiratory health, Indoor air quality, Air pollution, Chemical exposure.

## تحليل شامل لصالات استنشاق الأكسجين

### الملخص:

اكتسبت صالات الأكسجين شعبية متزايدة في السنوات الأخيرة كوسيلة لتعزيز الطاقة وتخفيف التوتر. يعتمد المفهوم الكامن وراء صالات الأكسجين على فكرة أن الأكسجين الإضافي يمكن أن يوفر العديد من الفوائد الصحية، بما في ذلك زيادة الطاقة وتحسين الوضوح العقلي وتقليل التوتر والقلق. ومع ذلك، فإن الأدلة العلمية لدعم هذه الادعاءات محدودة، وهناك مخاطر محتملة مرتبطة باستخدامها، مثل سمية الأكسجين. تستكشف هذه المقالة التاريخ والعلم وراء صالات الأكسجين، وفوائدها الصحية المحتملة، بالإضافة إلى أية مخاطر محتملة مرتبطة باستخدامها. بالإضافة إلى ذلك، تناقش تنظيم صالات الأكسجين في اليمن وخاصة في صنعا التي لا يوجد بها منشآت من أي نوع، حيث لا توجد حالياً لوائح أو إرشادات محددة لتشغيلها، على الرغم من أن صنعا تشتهر بنقص الأكسجين بسبب الطبيعة الجغرافية للمدينة. حيث تقع المدينة على مرتفعات جبلية. في حين أن صالات الأكسجين قد توفر بعض الفوائد الصحية المحتملة، فإن الأدلة العلمية على فعاليتها محدودة، ويجب على المستخدم التعامل معها بحذر، لا سيما إذا كان لديهم أي حالات طبية أساسية.

الكلمات المفتاحية : قصبان الأكسجين، الاسترخاء، العلاجات البديلة، العلاج بالروائح، التأمل، تقليل التوتر، صحة الجهاز التنفسي، جودة الهواء الداخلي، تلوث الهواء، التعرض للمواد الكيميائية.

## 1. Introduction

Oxygen cafes, also known as oxygen lounges, are established where users can inhale pure oxygen for a short period of time. In recent years, oxygen lounges have become increasingly popular as a way to boost energy and alleviate stress. People are flocking to these lounges to inhale pure oxygen through a mask or nasal cannula for a short period of time. While some claim that oxygen lounges provide numerous health benefits, including increase in energy, improve in mental clarity, and reduces stress, others remain skeptical of their effectiveness. This article aims to explore the history and science behind oxygen lounges, their potential health benefits, as well as any potential risks associated with their use.

## 2. History and Background

Oxygen lounges have been around since the 1990s, when they first appeared in Japan as a way to combat the effects of air pollution [1] as shown in Figure 1. The trend quickly spread to other countries, including the United States, where oxygen lounges became popular in cities such as Los Angeles and New York. Oxygen lounges typically offer customers the opportunity to inhale pure oxygen for a few minutes, often flavored with scents such as lavender or eucalyptus. Some oxygen lounges also offer additional services, such as massage or aromatherapy.



Figure 1: An Oxygen Bar In Tokyo, To Combat Pollution

## 3. The Science behind Oxygen Lounges

The concept behind oxygen lounges is based on the idea that extra oxygen can provide numerous health benefits, including increased energy, improved mental clarity, and reduced stress and anxiety. The human body needs oxygen to survive, and normally we breathe in air that contains about 21% oxygen. However, at higher altitudes or in polluted environments, the oxygen content of the air can be lower than 21%, which can lead to fatigue and other health problems.

Proponents of oxygen lounges claim that inhaling pure oxygen can increase the amount of oxygen in the blood, which can lead to numerous health benefits. For example, increased oxygen levels can improve cognitive function, boost

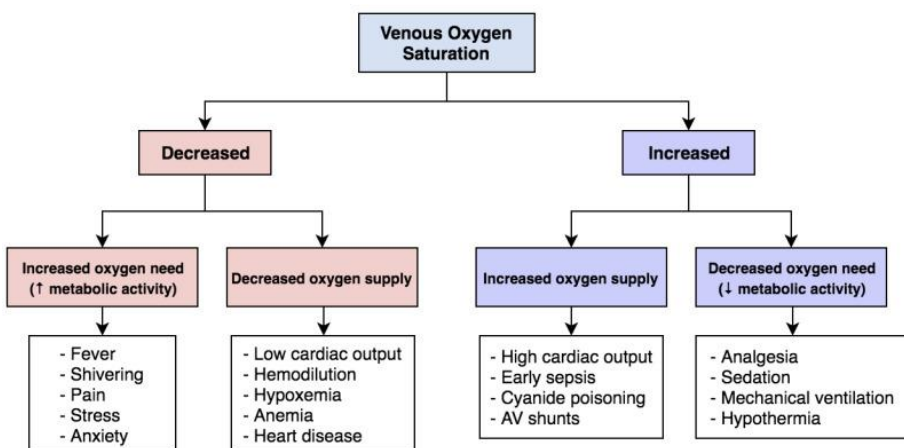
energy levels, and alleviate stress and anxiety. However, the scientific evidence to support these claims is limited, and there are few researches on the effectiveness of oxygen lounges specifically. One study performed in 2005 found that inhaling oxygen for five minutes at a concentration of 40% improved subjective feelings of fatigue and mental clarity in a group of healthy adults [2]. However, the study was small and lacked a control group, making it difficult to draw definitive conclusions. Another study published in 2017 found that inhaling oxygen for 30 minutes at a concentration of 35% improved cognitive function in a group of healthy adults [3]. While these studies suggest that oxygen may have some cognitive benefits, more researches are needed to determine the long-term effects of oxygen lounges use.

#### 4. Potential Benefits and Risks of Oxygen Lounges

Oxygen lounges typically use between 40% and 90% oxygen, compared to the 100% oxygen used in medical settings. While the scientific evidence on the effectiveness of oxygen lounges is limited, some potential benefits have been suggested, such as increase in energy and reduces stress. However, the use of oxygen lounges for medical purposes is not recommended. It is important to note that oxygen therapy for medical purposes is typically administered under the supervision of a healthcare professional.

While oxygen lounges may seem harmless, there are some potential risks associated with their use. The most significant risk is oxygen toxicity, which can occur when too much oxygen is inhaled over a prolonged period of time [4]. Symptoms of oxygen toxicity include dizziness, confusion, and seizures [5]. Additionally, there is a risk of infection if the oxygen equipment is not properly sanitized between uses.

Figure 2 shows the effect of saturation and deprivation of blood cells from oxygen, as it can causes some serious health symptoms that threaten human life [6].



**Figure 2: The Effect of Oxygen Saturation and Deprivation on Human Body [6]**

## 5. Regulation of Oxygen Lounges

In Yemen, there are currently no specific establishments or facilities that provide this service and there are no regulations or guidelines for the operation of oxygen lounges. However, the Ministry of Public Health and Population in Yemen has issued guidelines for the use of medical oxygen in hospitals and healthcare facilities, which provide some general guidelines for the safe handling of oxygen. Given the lack of specific regulations for oxygen lounges in Yemen, it is important for establishments offering this service to take appropriate precautions to ensure the safety of their customers. This may include proper sanitation of equipment, careful monitoring of oxygen flow rates, and ensuring that customers do not use oxygen for extended periods of time, as this can lead to oxygen toxicity [7].

## 6. The Future of Oxygen Lounges

While the popularity of oxygen lounges has increased in recent years, their future remains uncertain. As more research is conducted on the potential health benefits and risks of oxygen lounges, regulations and guidelines may be established to ensure their safe operation. Additionally, new technologies and techniques may be developed to improve the effectiveness and safety of oxygen lounges. For example, some researchers are exploring the use of oxygen lounges as a potential treatment for sleep apnea, a condition in which breathing repeatedly stops and starts during sleep [8]. However, more research is needed to determine the efficiency and safety of this approach.

Figure 3 shows how the Oxygen lounge became a popular trendy way to health industry now days and it is in a constant growth by the time due to the expected benefits as researchers say and it could be a new reliable technique of treatment in the coming years.



Figure 3: A Modern Oxygen Lounge in the United States

## 7. Conclusion

In summary, while oxygen lounges may provide some potential health benefits, the scientific evidence on their effectiveness is limited, and there are potential risks associated with their use. It is important for establishments offering this service to take appropriate precautions to ensure the safety of their customers, particularly in countries like Yemen where there are no specific regulations for oxygen lounges. Users should also be aware of the potential risks associated with oxygen lounges and approach them with caution, particularly if they have any underlying medical conditions.

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