Liaison of blood $O_2$ level and ride phobia

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Abstract

Oxygen saturation is the fraction of oxygen-saturated hemoglobin relative to total hemoglobin in the blood. The human body requires and regulates a very precise and specific balance of oxygen in the blood. Normal arterial blood oxygen saturation levels in humans are 95–100. If the level is below 90 percent, it is considered low and called hypoxemia. Low concentration of oxygen may cause a large number of pulmonary disorders. It is actually accumulation of large number of phobias relating to fear of heights, close rooms, and dark places etc. Rides phobia can be overcome with the help of certain therapies. Pulse oximetry is an estimate the percentage of oxygen. Oxygen level play a vital role in our body. From this study it has made clear that people with high level of blood oxygen are more afraid of rides as compared to those whose oxygen level in blood is low.

Introduction

Oxygen saturation refers to the fraction of the hemoglobin molecules that are saturated with oxygen as compared to the total amount of hemoglobin present in blood. The normal human blood oxygen level is considered to be between 95 and 100. Lower level of oxygen refers to the condition hypoxemia. This may cause body tissues complications of organ damage [1]. The normal oxygen level in arteries ranges between 75 and 100. This can be measured by using the non-injecting device known as pulse oximeter. Low concentration of oxygen may cause a large number of pulmonary disorders. It is actually accumulation of large number of phobias relating to fear of heights, close rooms, and dark places etc. A person may suffer from nausea, fear, and dizziness. Rides phobia can be overcome with the help of certain therapies. Such people suffering from rides phobia usually avoid the rides. This fear of rides also known as rides phobia can be avoided with the aid of certain therapies. Psychiatric aid can be used for this purpose. Moreover, the help of close friends and relatives can also help to avoid such fears as this kind of fear in not innate and can be raised due to any unhappy incidents [2]. Pulse oximetry is a method used to estimate i.e. hemoglobin oxygen saturation. The objective of this study is to calculate the oxygen level with our fears.

Materials and methods

Cyanotic congenital heart disease (CCHD) usually portends poor prognosis as it reflects a more complex form of congenital heart disease (CHD). Mixing of deoxygenated blood with oxygenated blood, resulting in cyanosis, can occur at the level of the systemic veins, atria, ventricles, great vessels, and at distal pulmonary vascular bed. Fear of rides also known as rides phobia [3]. Pulse rate: A measurement of the heart rate, or the number of times the heart beats per minute. The normal pulse for healthy adults ranges from 60 to 100 beats per minute. The pulse rate may fluctuate and increase with exercise, illness, injury, and emotions. This experiment is biological or scientifically important because it helps understands how fear can manipulate or affect the pulse rate of a human. The data collected during the testing session of the experiment showed that the person’s pulse rate was increase when they were in the high peak of their fear. The experiment is how fear affects human’s pulse rate and the rides that are included is high speed roller coasters that are also scary. This showed that the researcher’s hypothesis is correct and proven by the experiment. [4]

1. Rapid heart rate (tachycardia) – In serious cases, can interfere with normal heart function and increase the risk of sudden cardiac arrest.
2. Blood pressure – If chronic, can lead to coronary disease, weakening of the heart muscle, and heart failure.
3. Decreased heart rate variability – May result in higher incidence of death after an acute heart attack.

Calculation of peripheral $O_2$ saturation

It refers to the amount of oxygen level estimation in the blood and it is measured with the help of the device known as pulse oximeter. The amount of oxygen can be calculated by using the formula given below. [5]

$$SpO_2 = \frac{HbO_2}{HbO_2 + Hb}$$

Where $HbO_2$ refers to the level of oxygenated hemoglobin and $Hb$ refers to the deoxygenated hemoglobin level.

Project design

We measured the blood oxygen level of the subjects with the help of pulse oximeter. Pulse oximetry is a non-invasive and painless test that measures your oxygen level, or the oxygen levels in your blood. It can rapidly detect even small changes in how efficiently oxygen is being carried to the extremities furthest from the heart, including the legs and the arms [6]. The subjects come to us one by one and the results were noted accordingly. A questionnaire was prepared and distributed among the subjects [7,8]. This questioner includes the questions regarding rides phobia. About 200 subjects participates including 141 girls and 59 boys.

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Statistical analysis

Statistical analysis was performed by using Mstat.

Results and discussion

The results have shown that from the 200 subjects who took part in this study about 45% girls and 12% boys are afraid of rides while 26% girls and 18% boys are afraid of rides [9]. Those subjects whose oxygen concentration in blood 98 are more afraid of rides as compared to those whose blood oxygen concentration is 96 or less (Table 1). From this study it has made clear that people with high level of blood oxygen are more afraid of rides as compared to those whose oxygen level in blood is low.

Conclusion

It is concluded from this study that all those subjects whose blood oxygen concentration is high i.e. 98 or high are more afraid of rides as compared to those people whose blood oxygen concentration is low i.e. 96. The conclusion of the experiment was that the pulse of human’s does increase when the fear in the human is higher than normal. This showed that the researcher’s hypothesis was correct and proven by the experiment.

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| Gender | People with fear of rides | People with no fear of rides | P Value |
|--------|---------------------------|-------------------------------|---------|
| Female | 95.37±7.56                | 96.20±4.90                   | 0.0001* |
| Male   | 97.08±4.21                | 96.11±5.34                   | 0.44    |
| Both   | 98.61±2.04                | 96.26±4.98                   | 0.003*  |

Table 1. Association of Fear of rides with blood oxygen concentration.