Human Anatomy and Physiology II LAB

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**Physiological parameters experiment )Pulse, BP(**

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**Introduction:**

Vital signs are group of physiological parameters that show the general situation of the body, they are the most important indicators about how well are the body essential functions.There is puls and blood pressure it consist of a lower value called “diastolic” represents arterial blood pressure during the stretch of heart ventricles –diastole- and a higher value called “systolic” represents arterial blood pressure during ventricular contraction –end of systole-. another parameter are respiration rate, it’s measured for an inspiration and an expiration as one breath by noticing chest respiratory movements, it gives a view about respiratory system situation. , body temperature, oxygen saturation (SPO2) and Pain are also vital signs.

**Objectives:**

1. Learn how to take vital signs on dynamap (heart rate, blood pressure, and respiratory rate), and interpret the readings on the screen.

2. Identify the factors that affect vital signs, including the effect of warm and cold water, the effect of physical activities, and standing for a period of time on vital signs.

3. Knowing how these factors affect the body from the inside, which leads to a change in vital signs.

4. Comparing the vital signs of each person before making any change in his activity or the surrounding environment and after making these changes.

**Results:**

|  |  |  |  |
| --- | --- | --- | --- |
| physiological parameter (group c )  |  sabreen  |  ayat |  fatiema  |
| 1. Heart rate ( beat per min) |  |  |  |
| HR at rest (normal) | 80 | 70 | 66 |
| HR at cold water | 94 | 101 | 77 |
| HR at warm water | 88 | 88 | 76 |
| 2. Blood pressure (mmhg) |  |  |  |
| BP at rest | 115/75 | 110/79 | 116/69 |
| BP at cold water | 112/72 | 120/96 | 112/67 |
| BP at warm water | 98/63 | 83/48 | 176/70 |
| 3. RISPIRATORY RATE  |  |  |  |
| RR at rest | 16 | 14 | 16 |
| RR at cold water | 20 | 23 | 23 |
| RR at warm water | 24 | 18 | 18 |

|  |  |  |  |
| --- | --- | --- | --- |
| physiological parameter ( group a )  |  nor  |  adham |  fatiema  |
| 1. Heart rate ( beat per min) |  |  |  |
| HR at rest (normal) | 70 | 80 | 88 |
| HR at cold water | 88 | 101 | 77 |
| HR at warm water | 97 | 87 | 79 |
| 2. Blood pressure (mmhg) |  |  |  |
| BP at rest | 119/75 | 110/79 | 116/69 |
| BP at cold water | 110/72 | 120/96 | 112/67 |
| BP at warm water | 91/77 | 88/48 | 176/73 |
| 3. RISPIRATORY RATE  |  |  |  |
| RR at rest | 16 | 17 | 16 |
| RR at cold water | 21 | 20 | 22 |
| RR at warm water | 22 | 17 | 18 |

|  |  |  |  |
| --- | --- | --- | --- |
| physiological parameter (group b )  |  Deema  |  Nor  |  aya  |
| 1. Heart rate ( beat per min) |  |  |  |
| HR at rest (normal) | 81 | 72 | 70 |
| HR at cold water | 99 | 100 | 77 |
| HR at warm water | 80 | 70 | 76 |
| 2. Blood pressure (mmhg) |  |  |  |
| BP at rest | 119/70 | 117/81 | 117/60 |
| BP at cold water | 112/79 | 124/96 | 114/68 |
| BP at warm water | 88/60 | 83/48 | 170/80 |
| 3. RISPIRATORY RATE  |  |  |  |
| RR at rest | 16 | 14 | 16 |
| RR at cold water | 20 | 22 | 23 |
| RR at warm water | 23 | 19 | 18 |

|  |  |  |  |
| --- | --- | --- | --- |
| physiological parameter (group d )  |  Raid  | Ibraheem  | Mahmoud  |
| 1. Heart rate ( beat per min) |  |  |  |
| HR at rest (normal) | 77 | 66 | 75 |
| HR at cold water | 98 | 105 | 71 |
| HR at warm water | 80 | 70 | 75 |
| 2. Blood pressure (mmhg) |  |  |  |
| BP at rest | 121/70 | 118/81 | 117/60 |
| BP at cold water | 112/79 | 129/96 | 114/68 |
| BP at warm water | 89/60 | 80/48 | 179/89 |
| 3. RISPIRATORY RATE  |  |  |  |
| RR at rest | 15 | 14 | 15 |
| RR at cold water | 21 | 22 | 20 |
| RR at warm water | 23 | 18 | 15 |

 **Discussion:**

Blood veins and arteries narrow under cold temperatures, decreasing blood flow and reducing oxygen to the heart. To circulate blood via the restricted blood arteries, your heart must work harder. Your blood pressure and heart rate will rise as a result. A proof of this statement is the results of adham, whose normal sitting blood pressure was 120/81 and then increased to 120/96 after emerging his hand in cold water. On the other hand, blood pressure seemed to drop when his hand was immersed in warm water. This is because high temperatures cause blood vessel dilation, which lowers blood pressure.

During exercise, your body may need three or four times your normal cardiac output, because your muscles need more oxygen when you exert yourself. During exercise, your heart typically beats faster so that more blood gets out to your body. Your heart can also increase its stroke volume by pumping more forcefully or increasing the amount of blood that fills the left ventricle before it pumps. Generally speaking, your heart beats both faster and stronger to increase cardiac output during exercise. So ,the result has been increase heart rate after the physical activity.

**Conclusion:**

In calculating the values of the parameters of the group it was shown that each sign changed its value when carrying out different activities in addition to the factors that affected these values (cold weather, hot weather, exercise ...). The group found that biomarkers are not constant and that they change according to the surrounding factors directed by the human being and the surrounding conditions.