



## THE IMPORTANCE OF DETERMINING A PERSON'S BLOOD TYPE

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### 1-Introduction:

Blood kinds, blood groups <sup>(1)</sup>, or blood groups (in English: Blood Group) in humans are various for each person <sup>(2)(3)(4)</sup>. Every person has a specific blood type that belongs to one of the following four series: A, B, AB, O. Each group differs from the other collection due to the presence of certain substances in blood cells and serum. If two completely incompatible groups are mixed, an imbalance occurs that may have serious consequences. To avoid this, when transfusing blood, it must be taken into account that the blood of the giver (donor) is completely compatible with the blood of the taker (recipient). The donor's blood can be from group O, as it does not include antibodies, and is known as the general donor. The RH factor must be taken into consideration, and there are two types: negative RH -ve and positive RH +ve. The difference in blood types between couples may sometimes lead to the death of the fetus when the husband (RH positive) and the wife (RH negative). In the first pregnancy, if the fetus is (RH positive), the mother's body forms antibodies to the RH factor due to the fetus's blood mixing with the mother's blood in the placenta. With repeated pregnancy with an RH+ve fetus, the percentage of antibodies in the mother's blood increases, which leads to the transfer of these antibodies across the placenta to the fetus, thus mixing with its blood and destroying it in the first weeks of pregnancy. This problem is eliminated by giving the mother an injection including antibodies against the Rhesus factor. Type O Rh minus blood (Type O Rh -ve) is one of the blood types familiar to Westerners, while in China the number of its carriers occupies one in 300-400 individuals. Blood <sup>(5)</sup> is a fluid in the body of humans and other animals that transports necessary substances such as nutrients and oxygen to cells, and transports metabolic wastes such as carbon dioxide away from those cells themselves<sup>(6)</sup>. It consists of red and white blood cells, plasma, and platelets. It is a connective tissue, and its normal temperature is 37 degrees Celsius<sup>(7)(8)(9)</sup>. Blood makes up 8% of body mass. If a person's mass is 60 kg, for example, 4.8 kg of it is blood (about 5 litres). Blood cells contain hemoglobin, an iron-containing protein, which facilitates the transport of oxygen by reversibly binding to gases through the process of respiration of organisms and greatly growing its solubility in the blood. In contrast, carbon dioxide is transported mostly outside the cell as bicarbonate is transported in plasma. Blood circulates throughout the body through blood vessels by pumping heart. In organisms with lungs, arterial blood carries oxygen from inhaled air to the body's tissues, and venous blood carries carbon dioxide, a metabolic waste

produced by cells, from the tissues to the lungs for exhalation. Blood has many important functions <sup>(10)</sup>.

Defending the body: This is by producing antibodies that fight germs and get rid of attacking microbes, which cause many diseases. Water balance in the body: Blood maintains water balance in the body by transporting excess water from the digestive system, or eliminating it through the skin in the form of sweat, or through the kidneys in the form of urine. Regulating body temperature: through the secretion of sweat to moisturize the skin, or through increasing the burning of sugar in the blood in order to generate energy and raise the body temperature.

Delivering oxygen to cells. Providing nutrients such as glucose, amino acids and fatty acids.

Removal of wastes such as carbon dioxide, urea and lactic acid. Stopping bleeding by platelets that temporarily block the blood flow, then produce elements that help wounds heal.<sup>(11)</sup>

### 2-Material and Methods:

The study begun in (the holy city of Mecca in Saudi Arabia), start writing the research and then recording the questionnaire in June 2022, and the study ended with data collection in October 2022. The researcher used the descriptive analytical approach that uses a quantitative or qualitative description of the social phenomenon (The importance of determining a person's blood type). This kind of study is characterized by analysis, reason, objectivity, and reality, as it is concerned with individuals and societies, as it studies the variables and their effects on the health of the individual, society, and consumer, the spread of diseases and their relationship to demographic variables such as age, gender, nationality, and marital status. Status, occupation <sup>(12)</sup>, And use the Excel 2010 Office suite histogram to arrange the results using: Frequency tables Percentages <sup>(13)</sup>. A questionnaire is a remarkable and helpful tool for collecting a huge amount of data, however, researchers were not able to personally interview participants on the online survey, due to social distancing regulations at the time to prevent infection between participants and researchers and vice versa (not coronavirus participation completely disappearing from society). He only answered the questionnaire electronically, because the questionnaire consisted of ten questions, all of which were closed. The online approach has also been used to generate valid samples in similar studies in Saudi Arabia and elsewhere <sup>(14)</sup>

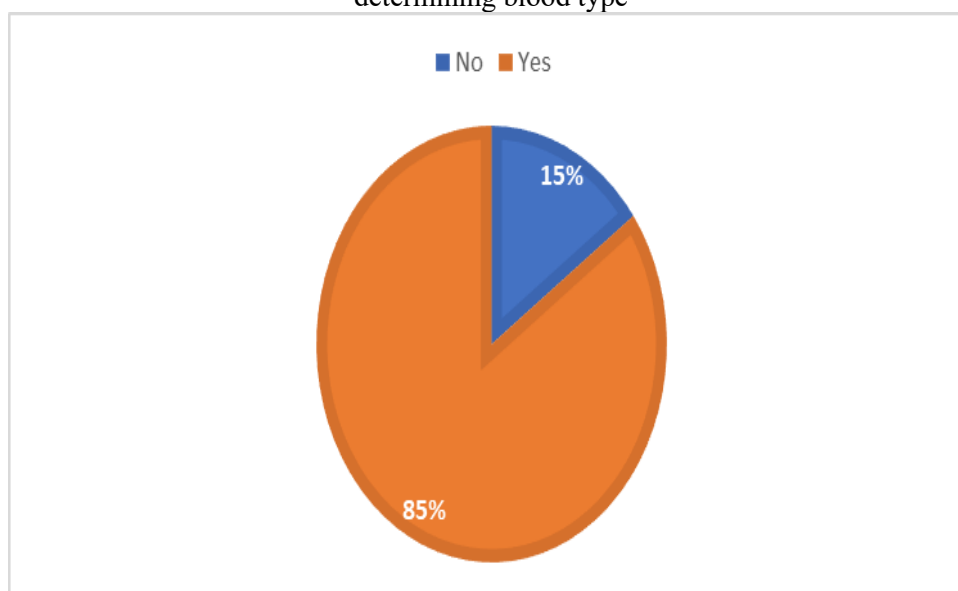
### 3- Results and discussion:

The research questionnaire was distributed to the residents of the city of Mecca, where the percentage of participants who agreed to respond to the

questionnaire was 99.9% and those who refused was 0.1%. As for the percentage of their ages, their percentage was according to the age group from 25-34 years, their percentage was 30%, and from the ages of 35-45 years. 35%, and from 46-55 years old 35%. In terms of the nationalities of the participants, the percentage of males was 75% and the percentage of females was 25%. As for their percentage in terms of education, it was as follows: primary 0%, secondary 0%, intermediate 0%, high school 10%, university 75%, master's 10%, doctorate 5%. In terms of their professions, they were as follows: administrative (all administrative categories, 20%), technicians (all categories that work in technical work) 80%, When moving to the questionnaire questions, the participants' responses were as

follows: The first question: Is knowing the blood type medically important, especially in emergency situations? Yes 85% and no 15%. The second question: Is there a blood type that is more affected by the emerging coronavirus (Covid-19)? Yes, 75% and no, 25%. The third question: Does blood type affect a person's personality? Yes 80% and no 20%. The fourth question: Is there an importance to the difference in blood types? Yes, 90% and no, 10%. The fifth question: Does blood donation contribute to providing rare blood types? Yes 100% and no 0%. The sixth question: Is it possible to know blood types without analysis? Yes 0%, and no 100%. The seventh question: Is determining blood type during pregnancy important? Yes, 75% and no, 25%.

**Figure No.1:** Opinions and attitudes of participants in the research questionnaire regarding the importance of determining blood type



#### 4-Conclusion:

Determining the blood type is very important, especially in emergency situations (accidents) or a serious condition that requires a blood transfusion. Therefore, it is not possible to transfuse blood to a person except after performing the necessary tests, the most important of which is knowing the type of the person who is injured or in need of a transfusion, so through the answers to the questionnaire questions. All participants in the questionnaire agreed on the importance of knowing a person's blood type, whether they are in need of knowing it now or in the future, God forbid, in the event of disasters and crises, God forbid.

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