Red blood cell (RBC) transfusion is a therapeutic treatment for patients suffering from anaemia, hemorrhage, thalassemia, sickle cell disease, or other related red blood cell disorders. RBCs used in transfusions are collected from qualified donors and stored refrigerated in preservative, anticoagulant solutions. When stored, RBCs undergo various physicochemical and biochemical changes, commonly referred to as the storage lesion, which adversely affects RBC quality and function. However, there are a profusion of factors that could possibly influence the deterioration in stored RBC quality, leading to deleterious effects and decreased transfusion efficacy. The purpose of this study is to examine the effects of the donor’s lifestyle on the quality and storage time of transfused red blood cells. In particular we will determine how obesity, smoking, and alcohol consumption affect red blood cell transfusion in the patient. We will perform a clinical study where RBCs from donors with a variety of different lifestyles will be transfused into a human recipient after being stored for six weeks, and then we will measure how long the blood circulates. All donors and recipients will be of the same sex and age. We predict that blood from individuals who lead unhealthy lifestyles will not last as long as compared to RBCs from a healthy individual. The results gathered from this work will be beneficial in understanding how the prospect of personalized medicine could be used to treat individuals in the future.

Themes:

Check (highlight) the most applicable theme according to the abstract.

<table>
<thead>
<tr>
<th>Innovation and Technology</th>
<th>Health and Wellness</th>
<th>Culture and Society</th>
<th>Sustainability and Conservation</th>
</tr>
</thead>
</table>

Comments:

Consider rephrasing your prediction as a measurable hypothesis. Define what “unhealthy lifestyle” means exactly (how much alcohol, etc) in this abstract. The implied judgement may detract from the purpose of the study.