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**JSS 2**

**If I were to invent something new, it would be a cure for sickle cell disease.**

As we were getting ready for church one Sunday morning, my brother Bryan heard an excruciating shriek. It came from our neighbour's eleven-year-old daughter, Rukewe. Rukewe is ill, gangly, and feeble. She frequently walks as though she lacks all power, appearing five years younger and undernourished, despite being the same age as me. Rukky suffers from sickle cell disease, and on that Sunday morning, she was enduring one of the excruciating crises that had marred her eleven years of existence. It was a heartbreaking moment.

If I were to invent something new, it would be a cure for sickle cell disease. Sickle cell disease is an inherited condition characterised by the production of abnormal haemoglobin, called haemoglobin S (HbS), which causes red blood cells to assume a rigid, sickle-shaped form. It mainly affects individuals of African, Mediterranean, Middle Eastern, and Indian descent. The disease leads to vaso-occlusive crises, chronic anaemia, and organ damage, reducing life expectancy and quality of life.

**Present Medical Interventions and Their Restrictions**

Medical advancements have improved outcomes for Sickle Cell Disease patients, but current treatments focus on managing symptoms and preventing complications rather than curing the disease. Medications reduce pain crises and hospitalizations, while immunizations and blood transfusions help prevent infections and address severe symptoms. However, these treatments do not target the underlying genetic cause of the illness.

**The Promise of a Cure and Possible Treatments**

A cure for sickle cell disease would correct the genetic mutation causing abnormal haemoglobin production, preventing red blood cells from sickling. This would improve patients' quality of life by restoring normal organ function and eliminating the associated consequences and pain.

Recent advances in gene therapy and editing tools offer hope for treating sickle cell disease. Gene therapy aims to help stem cells produce healthy red blood cells by introducing functional copies of the haemoglobin gene. Gene editing could provide a lifelong remedy for sickle cell disease by accurately correcting the flawed gene within patient cells.

**Impact on Society and Global Health**

The impact of finding a cure for sickle cell disease goes beyond those directly affected by the condition. It would improve educational and career opportunities for individuals living with the disease, alleviate the financial burden of ongoing medical treatment and hospitalizations, and promote overall health equity. Additionally, discovering a cure for sickle cell disease would bring hope to those with other genetic conditions, showcasing the potential of collaboration and scientific innovation in addressing complex medical challenges.

**Conclusion**

In conclusion, the quest for a solution for sickle cell disease represents a notable advancement in science and human welfare. It showcases our collective commitment to improving healthcare, promoting equity, and enhancing the lives of millions of people affected by this hereditary condition worldwide. Every naira or dollar spent on advocacy, innovation, and research increases the likelihood of finding a cure for SCD, offering hope and the potential for future generations to have a better life.