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Anti-sickling property of selected fruit extracts

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Sickle cell disease is a genetic disorder and is a major health concern in many parts of India, Mediterranian and Africa. Sickling of red cell occurs due to the polymerization of mutant haemoglobin. As this being a disease commonly observed among the tribes or aborigines, they have developed ethno-medicinal practices to combat the disease. Based on the traditional knowledge, an attempt was made to verify the anti-sickling properties of certain commonly available fruits. Blood cells were obtained from sickle cell patients and the sickling of the blood cells was confirmed using the sodium-metabisuphite test. Aqueous fruit extract was prepared by homogenizing at a concentration of 10% (w/v) excluding the seed. To the sickle blood metabisulphite preparation, $5\mu L$ fruit extracts were added and observed for anti-sickling property. Controls were prepared by adding the fruit extract to normal blood metabisulphite preparation. Among the ten fruit extracts studied only *Rubes ellipticus* and *Solanum nigrum* shown to have anti-sickling property. *Rubes ellipticus* and *S. nigrum* are locally available common plants and are considered to have high medicinal property by the tribes dwelling in the Nilgiri hills. The result validates the usage of these plants and suggests detailed phyto-chemical evaluation to identify the active principle behind this and the mechanism of action.

Keywords: Anti-sickling, Ethnomedical practice, Phytochemicals, Sickle cell.

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