Sickle cell anemia among patients attending selected hospitals in Khartoum state during 2008

Abstract:

**Background** - Sickle Cell is an inherited, chronic blood disease where the red blood cells become crescent shaped and function abnormally. When the blood cells become crescent/sickle shaped, they are unable to deliver adequate amounts of oxygen to other cells. The Sickle Cell Disease results in anemia (low blood counts), episodes of pain and increased susceptibility to infections.

**Objectives** - The aims of present study to determine the most common tribes and regions in Sudan affected by the sickle cell disease, the effect of consanguinity in the appearance of the disease, at which age the symptoms start to appear, the most common symptom start to appear as a first presentation, the most common presentations of sickle cell disease. To identify the precipitating factors of clinical manifestations of sickle cell disease. To determine rate of appearance of symptoms per year, if the socio-economical status can affect on the disease, the frequency of hospitalization.

To assess the effect of regular follow up on the rate of hospitalization and to identify the percentage of the patients whom are received folic acid, antibiotics prophylaxis and vaccination against bacterial infections.

**Methods** - Descriptive, cross sectional, community based study. The study time interval was during August and September 2008. The data was collected by questionnaire giving information on patients have sickle cell disease confirmed by laboratory diagnosis; interview with questionnaire was made with 117 patients or their parents in case in younger children, and analyzed by using SPSS version 16.

**Results** - The study revealed that The most tribes are affected by sickle cell disease are those occupied the west part of sudan; most common ones are mesaria (17%), rezagat (10%), and zagawa (9%). the disease occur commonly in children whose parents are cousins (69.2%). The clinical presentation of the disease start to appear most commonly before age of sixth month (56.4%), and Hand and foot syndrome the commonest one appear in the beginning (78.6%). The most common presentations are hand and foot syndrome 84.6%, arthritis 68.4%, acute abdomen 62.4%, acute chest syndrome 54.7% and osteomyelitis 34.2%. cold is the most common precipitating factor 40% also dehydration 12%, fatigue 10.3%, humidity 10.3% and infection 3.4%. The clinical manifestation occur commonly tow – five times per year 37.6%. there is a strong reverse correlation between income the frequency the symptoms appearance per year this because those with low income live in rural area. Most patients enter the hospital more than five times 35.9% and there is no relation between regular follow up and appearance of the clinical presentation. and mostly all the patients are are taking folic as supplementary remedy 95.7% and some patients received antibiotics as prophylaxis 44.4% and a few had been vaccinated against bacterial infections 15.4%.
**Recommendations** - This study recommended that the parents must give a detailed information about the disease and its clinical manifestations and must be teach how to cope them if they appear, and to give special care to their child who is affected by disease. To let teachers and caregivers know about the child's illness. Help them understand what kinds of exercises and situations can be harmful to the child, and teach them to recognize signs of infection, to make the sickler’s clinics available in rural area and must be highly effective, The medicines of sickler must be available are must be cheaper and to vaccinate sicklers against bacterial infections.