

SHORT COMMUNICATION**IMPORTANCE OF IMPLEMENTING PROGRAM
SCREENING NEONATAL HEMOGLOBINOPATHIES IN
CAPE VERDE****Leonel Barbosa Gonçalves****Author's Affiliations:** Clinical Medical Center Cardiology - Clinical Laboratory Analysis, Palmarejo – Praia- Cape Verde**Correspondence:** Leonel Barbosa Gonçalves, Email: leonelb87@gmail.com**ABSTRACT**

Hemoglobinopathies are hereditary blood diseases, the most frequent sickle cell anemia. To date not have curative treatment, unless bone marrow transplant, which has yet been carried out experimentally. The implementation of screening programs of hemoglobinopathies in health services in Cape Verde is shown to be of great relevance and importance to public health, as it will allow early detection and treatment associated with hemoglobinopathies.

Keywords: sickle cell disease, Capt Vert, Hemoglobinopathies, Screening neonatal program.**INTRODUCTION**

Hemoglobinopathies are considered as one of the most common genetic diseases in the world, with a prevalence of heterozygous carriers of their main types in approximately 5% of the world population. In the case of hemoglobin S prevalence occurs in tropical Africa and among the black population of countries participating in the slave trafficking. Sickle cell anemia is a disease which occurs in sickle cell mutation of genes regulating the synthesis of amino acid (sequence) globin polypeptide chain, changing its structure.⁴ According to the World Health Organization, worldwide, 270 million people have genes that determine abnormal hemoglobin. Epidemiological studies show that 300 to 400 thousand live births have sickle cell anemia or some form of thalassemia grave.⁶ Ministry of Cape Verdean health do not think much in sickle cell disease so there is no screening program of hemoglobinopathies in neonatal services and not a support program for families and individuals with this disease.

Given the importance of the subject and the scarcity of data in Cape Verde, this article shows the importance of screening of hemoglobinopathies in the neonatal centers, so this article is shown as being fundamental in the National Health System, for data and provide crucial information for policy decision inclusion of mandatory screening of hemoglobinopathies in health Services in Cape

Verde, thus contributing significantly to the improvement of health care in Cape Verde.

HEMOGLOBINOPATHIES

The hemoglobinopathies are a group of genetic diseases characterized by changes in protein portion of the hemoglobin molecule. These diseases are classified into two groups: the structural and synthesis. The structural changes are characterized by the amino acid sequence of globin chains, resulting in the presence of an abnormal hemoglobin and can also be referred to as hemoglobin variants. The hemoglobin synthesis or thalassemias are due to reduced synthesis or absence of one or more globin chains.⁴

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The Hemoglobinopathies are hereditary diseases with a prevalence of 10 to 30% of patients in the African population.²

In Cape Verde there are Ministry of Health official data on the prevalence and incidence of sickle cell disease, however there are some studies in the Cape Verdean population. Specific studies carried out in Portugal with populations from the islands

provide some indication of some variants or hemoglobin or G6PD. In a study by with 1015 adults and 249 adults of Santiago del Fuego, all male, detected for the hemoglobin variant in these two populations, a frequency of 0.044 and 0.008, respectively.³

Study in pregnant at the Mother and Child Center in Santiago for your bachelor's report determined based on solubility test and hemoglobin electrophoresis one carrier frequency in the order of 5.9%.⁵ Study by Alves in 2010 reports the following genotype frequencies: HbAA= 92%, HbAS =7% and HbSS = 1% (n = 217). The hemoglobin S allele was found only in individuals of Santa Catarina (HbAS 4% and HbSS 3% sample of this county) and Praia (11% of HbAS), revealing a very low frequency (5%). There are differences between the frequencies of genotypes for the different municipalities ($p=0.212$).¹

An important fact in the institution of these programs is to be ensured clinically and emotional support for parents and affected children.

These study results highlight the need to rethink health policies with the aim of obtaining preliminary results of the Neonatal Screening for Sickle Cell Disease in neonatal services in Cape Verde. Ministry of Health Cape Verdean should stimulate national researchers, students and health professionals of the importance of the abnormal hemoglobin studies for our country, which has been done in some neighboring countries of the African continent.

More studies are needed to develop methodological procedures of awareness of the population heterozygous for HbS and other hemoglobinopathies in the risks of having a child affected by these diseases and what the implications of this family and society.

CONCLUSION

Early detection of carriers of hemoglobinopathies lets take proper treatment to patients. National Health System Cape Verde should bet on the implementation of the National System of Integrated Support for People with sickle cell disease, therefore, can function as a means to avoid costs to the health system if there is an increase in the number of carriers.

REFERENCE

1. Alves JB. Malaria epidemiology in Cape Verde - Human Genetic factors and population structure of the mosquito vector. Institute of Hygiene and Tropical Medicine.2010, Master's thesis, University New of Lisbon: 205p.
2. Brito M., Reis A., Tchonli C., Clemente I., Deus I., Mayer C. (2014). Preliminary Results of Neonatal Screening Sickle Cell Disease in the General Hospital of Bengo, Caxito, Angola. In <http://repositorio.ipl.pt/bitstream/10400.21/3869/1/Resultados%20preliminares%20do%20rastreo%20neonatal%20de%20doen%C3%A7as%20das%20c%C3%A9lulas%20falciformes%20no%20Hospital%20Geral%20do%20Bengo.pdf>
3. Cruz JM., Brandão C., Barreira MJ., Amorim, A & Reimbias MC. Genetic Studies in Cape Verde Archipelago (hemoglobin, haptoglobin and ABO and MN blood groups). *Trabalhos do Instituto de Antropologia "Dr Mendes Corrêa*, 1979. 36: 9p.
4. Naoum, P. C., Naoum, F.A. (2004). Sickle cell disease. S. P. Sarvier.
5. Pires. CM. Estudo da prevalência e caracterização epidemiológica das hemoglobinopatias numa população de mulheres grávidas/consulta e planeamento familiar do CSR da Fazenda, Praia, Cabo Verde, 2007. Relatório de Estágio para a obtenção do grau de Licenciatura. IHMT-UNL/UM.
6. WHO Working Group. (1982). Hereditary anemia. genetics basic, clinical features, diagnosis and treatment. WHO, 60: 643-60.