

Riboflavin (B2 vitamin) supplementation in rheumatic diseases treatment: a review

Jozélio Freire de Carvalho

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Running head: Riboflavin for rheumatic diseases

Carta de Pesquisa

Riboflavin (vitamin B-2) is a water-soluble B vitamin that serves as a precursor of flavin adenine dinucleotide (FAD) and flavin mononucleotide. These two compounds are essential coenzymes in electron transfer reactions during energy-producing, biosynthetic, detoxifying, and electron-scavenging processes.² Clinical manifestations of riboflavin deficiency are uncommon but include cheilosis, angular stomatitis, seborrhoeic dermatitis, and other skin changes. The recommended daily dietary allowance ranges from 0.4 mg in infants to 1.8 mg in young male adults and is further increased by pregnancy and lactation [1]. Optimal glutathione reductase activity depends on adequate availability of FAD, and several rheumatic diseases, including rheumatoid arthritis, lupus, and others, are related to low antioxidant levels [2].

In this line, studies have detected low riboflavin levels in 33% of the RA patients, and interestingly, pain score, articular index, C-reactive protein, and erythrocyte sedimentation rate were increased in patients with riboflavin deficiency [2]. On the other hand, experimental studies in mice showed an inhibitory effect on spontaneous gonarthrosis in the mouse [3].

Following an extensive literature search in PubMed, Scielo, and LILACS was performed without any language restriction from 1965 to May 2024. Interestingly, no article was found on B2 vitamin and rheumatic diseases.

In conclusion, no clinical study on riboflavin supplementation in rheumatic diseases exists. Future studies in rheumatoid arthritis are possible since this vitamin plays a role in this disease.

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Núcleo de Pesquisa em Doenças Crônicas não Transmissíveis (NUPEC),
School of Nutrition from the Federal University of Bahia, Salvador,
Bahia, Brazil.

Address for correspondence:
Prof. Dr. Jozélio Freire de Carvalho
Rua das Violetas, 42, ap. 502, Pituba
Salvador, Bahia, Brazil
Tel.: +5571-99187-1169
E-mail: jotafc@gmail.com