

Abstract

The Effects of Glutamine on Sucrase, Maltase, Lactase Activity and Spectrin, Clathrin Expression in Repairing Microvilli Intestine in Rats Malnutrition

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Background: Malnutrition is a global health problem. It is a leading cause of morbidity and mortality in developing countries. Malnutrition is a complex condition that affects the body's ability to absorb and use nutrients. It can lead to a variety of health problems, including stunted growth, weakened immunity, and increased susceptibility to infections. The purpose of this study was to investigate the effects of glutamine on the activity of sucrase, maltase, and lactase, and the expression of spectrin and clathrin in the intestine of malnourished rats.

Objective: The purpose of this study was to investigate the effects of glutamine on the activity of sucrase, maltase, and lactase, and the expression of spectrin and clathrin in the intestine of malnourished rats. The study was designed to determine if glutamine supplementation could improve the activity of these enzymes and the expression of these proteins in the intestine of malnourished rats.

Method: The method employed in this study was experimental research. The study was conducted in a laboratory setting. The study was designed to determine if glutamine supplementation could improve the activity of these enzymes and the expression of these proteins in the intestine of malnourished rats. The study was conducted in a laboratory setting. The study was designed to determine if glutamine supplementation could improve the activity of these enzymes and the expression of these proteins in the intestine of malnourished rats.

Results: Sucrase activity between malnutrition with malnutrition+glutamine groups there were no significant differences in duodenum, but significance in jejunum and ileum (p = 0.04). Maltase activity when compared malnutrition+glutamine groups there were no significant differences in duodenum, jejunum and ileum (p = 0.00). Lactase activity when compared malnutrition+glutamine groups there were no significant differences in duodenum (p = 0.03), jejunum (p = 0.04) and ileum (p = 0.03). Spectrin and clathrin were evidence enlarge of enterocyte in jejunum and ileum being given glutamine compared to malnutrition group after 15 days. Spectrin and clathrin expression similar appearance on jejunum and ileum. Spectrin and clathrin molecular weight protein in the duodenum, jejunum and ileum, with a molecular mass of 130-250 KDa. Relationship between sucrase, maltase, lactase, spectrin and clathrin pathway signaling proteins ERK-1 in the duodenum (p = 0.03), jejunum (p = 0.03), and ileum (p = 0.03).

Conclusion: Malnutrition is a global health problem. It is a leading cause of morbidity and mortality in developing countries. Malnutrition is a complex condition that affects the body's ability to absorb and use nutrients. It can lead to a variety of health problems, including stunted growth, weakened immunity, and increased susceptibility to infections. The purpose of this study was to investigate the effects of glutamine on the activity of sucrase, maltase, and lactase, and the expression of spectrin and clathrin in the intestine of malnourished rats.

Key words: sucrase, maltase, lactase, spectrin, clathrin, malnutrition

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