EVALUATION THE SECURITY OF VEGETABLE FLOURS INDICATED FOR WEIGHT LOSS: LECTINS PRESENCE

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Lectins are a structurally diverse class of proteins that have the ability to bind reversibly to carbohydrates with considerable specificity. Because of their peculiarities, the lectin can be applied in several fields of medical and biotechnological interest. The objective this work was evaluate the nutritional security of flour used in order to reduce weight. We evaluated the presence of lectins in four types of flour, from: i) passion fruit; ii) eggplant; iii) green banana and iv) white beans. Ten grams of each type of flour were weighed separately in a 50 ml falcon tube and added 30 ml PBS over night for the extraction of lectins. Then, the solution was centrifuged at 7,000 rpm for 10 minutes, and this process was repeated until no pellet formation was observed. At the end, the supernatant was collected. The finding of the presence of lectins occurred through hemagglutination assay with sheep erythrocytes. The presence of lectins, were identified only in White bean flour. The concentration of lectins was assessed by serial dilution technique. The white bean presented considerable title (1/16). To establish the weight loss, we used three groups each containing five mice (Balb/C). Animals in group 1 received by gavage 0.5 mL of solution containing lectins from White Beans flour in concentration indicated by the manufacture; the group 2 received by gavage 0.5 mL of solution at a concentration two times greater than that indicated by the manufacturer and the group 3 received only 0.5 ml PBS (control). The weight of animals was monitored daily, both groups that receive lectins from white beans flour showed significant weight loss, and now we will evaluate the possible intestinal damage caused by the treatment.

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