Antioxidant Properties of a *Moringa oleifera* Protein Isolate with Hypoglycemic Activity in Alloxan-Induced Diabetic Mice

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INTRODUÇÃO. *Moringa oleifera* is a native plant from the northeastern India and has been used in folk medicine for the treatment of diabetes. In addition to its hypoglycemic effect, it has been reported antioxidant activity of *Moringa* leaf extract. This effect is beneficial to the treatment of diabetes, as this disorder is characterized by increased levels of reactive oxygen species. Our research group obtained a protein isolate from *M. oleifera* leaves (*Mo*-LPI, *Mo*: *Moringa*; **LPI**, **L**eaf **P**rotein **I**solate) which showed hypoglycemic effect in mice. **OBJECTIVES.** The aim of this study was to determine whether *Mo*-LPI has antioxidant effect on diabetic mice in addition to decrease blood glucose levels. **MATERIAL AND METHODS.** *Mo*-LPI, obtained by protein precipitation from the aqueous extract of *M. oleifera* leaf with the addition of ammonium sulfate at 90% saturation, was administered by intraperitoneal route (i.p.) for 21 days, once a day, in diabetic mice. After 21 days, blood glucose levels, hepatic malondialdehyde (MDA), and antioxidant enzymes were measured. **RESULTS AND DISCUSSION**. *Mo*-LPI promoted significant ($p<0.05$) reduction of blood glucose after 21 days i.p. administration compared with the diabetic control group. In addition, it was observed a significant ($p<0.05$) reduction in the MDA levels, which suggests that *Mo*-LPI might protect from lipid peroxidation reactions. Furthermore, *Mo*-LPI promoted a significant ($p<0.05$) increase in the catalase activity, which might explain MDA reduction in the animals, without interfering in the hepatic levels of superoxide dismutase. **CONCLUSION**: This work shows that the leaf proteins of *M. oleifera* can be included in the arsenal of hypoglycemic and antioxidant molecules available.

Keywords: *Moringa oleifera*, hypoglycemic effect, antioxidant effect
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