Growing studies revealed that spices and herbs contain antioxidant constituents, so they may be used as natural food preservatives. These studies have indicated that the antioxidant ability of spices and vegetables is a result of their phenolics, mainly. The study aimed to evaluate the content of the phenolics and the antioxidant activity of extracts of different types of spices (cloves, cinnamon, nutmeg, cumin and black pepper), by using different solvents. To the acquisition of extracts, methanol, acetone and ethyl acetate were used as solvents. After the process, these extracts were maintained at a temperature of -18°C, up to the time of the analysis. The results of the content of the phenolics showed that in the extracts in which methanol, acetone and ethyl acetate were used, the spices that presented the greatest concentration of phenolics were, respectively, the cinnamon (509.73 µg of equivalents of gallic acid. mL⁻¹), the cloves (539.93 µg of equivalents of gallic acid. mL⁻¹) and the nutmeg (574.71 µg of equivalents of gallic acid. mL⁻¹). All the analyzed spices presented antioxidant activity; the cloves were outstanding as they developed more activity than any other solvent, and the greatest antioxidant activity was in the methanolic extract (18.1 mg of equivalents of ascorbic acid. mL⁻¹), followed by the nutmeg and the cinnamon. The cumin and the black pepper presented lower antioxidant activity than the others, in all solvents. The evaluated spices proved to be natural antioxidant sources, specially the cloves for their activity, followed by the nutmeg and the cinnamon.