ANTIOXIDANT ACTIVITY OF TURKEY BERRY FRUIT EXTRACT
(Solanum torvum Swartz.)

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ABSTRACT

Turkey berry fruit (Solanum torvum Swartz.) is one of indigenous fruit vegetables that widely
used in traditional medicine. Because, it has some functional properties such as antioxidant,
antibacterial, antifungal, and antiviral. The functional properties come from the activity of some
phytochemicals compound that Turkey berry fruit contents, such as phenolics and non phenolics. This
research was designed to identify the chemical content of Turkey berry fruit, change content, and
antioxidant activity of crushed form. The research method consisted of treatment phase of fresh
Turkey berry fruit through the destruction process and extraction phase of Turkey berry fruit powder
with organic solvents (methanol, ethyl acetate, and hexane). The results showed that methanol extract of
both whole and crushed Turkey berry fruit, contains alkaloids, flavons, tannins, and saponins. The ethyl
acetate and hexane extracts of both whole and crushed form, contains alkaloids, flavons, terpenoids,
and saponins. Thus, the presence of phenolic compounds in Turkey berry fruit can be affected by
Phenylalanin Ammonia Lyase (PAL) activity, but not always influenced by the total anthocyanin. In
addition, the antioxidant activity (DPPH assay) between whole and crushed Turkey berry fruit
extracts is not significantly different (p>0.05) by t-test. It was demonstrated that the destruction
process has a little affecting to the presence of phenolic compounds that act as antioxidants, such as
anthocyanin. However, the antioxidant activity of extracts is not always determined from total
phenolic, but depending on the ability of -OH group to donate H atoms and to bind with free radicals
rapidly. The antioxidant activity of Turkey berry fruit extract was slightly be affected by ascorbic acid
(vitamin C) compound.

Keywords: Turkey berry fruit extract, phenolic, antioxidant, phytochemical