

Morinda citrifolia L. (noni) improves the Quality of Life in adults with Osteoarthritis

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Running title: Noni improves the QoL of adults with osteoarthritis

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Abstract

Background: *Morinda citrifolia* Linn (*noni*), as a “pain killer”, has been used as a traditional medicine by Polynesians for over 2000 years. It was reported to have a broad range of therapeutic effects including analgesic and anti-inflammation. The *in-vitro* and *in vivo* anti-inflammatory and analgesic properties of noni juice (NJ) suggest that NJ may be a useful adjunctive treatment for osteoarthritis (OA). In this pilot study we explored whether NJ improves the symptoms and Quality of Life (QoL) for adults with OA. We also sought to evaluate the tolerability and safety of NJ for patients with OA in a primary care setting.

Methods: This was an open label three-month intervention pilot study. Data were collected by pre/post intervention survey and laboratory testing. Inclusion criteria were: adults of both sexes aged 40 to 75, with a diagnosis of OA on the hip or knee by x-ray examination provided by their primary care physician, not on prescription medicine for OA, and who were willing to drink 3 oz of NJ a day for 90 days.

Results: Of the 64 questions measuring different aspects of QoL asked on the pre/post survey, 49 (77%) had significant pre/post mean scale differences as measured by independent *t*-test. The OA patients reported being significantly more satisfied with their current health conditions including mobility, walking and bending, hand, finger, and arm functions, household tasks, social activity, arthritis pain, work ability, level of tension, and mood. The study participants were also more positive about their future health and reported taking less over-the-counter (OTC) pain relievers. Pre/post laboratory testing including: lipid panel, liver and kidney functions were in the normal ranges. High Sensitive C Reactive Protein (hsCRP), an inflammatory biomarker, was reduced by 10% after the intervention.

Conclusion: As a nutritional supplement, NJ demonstrated a potential therapeutic effect and improved the symptoms and the QoL for adults with OA. A larger, double blinded, and placebo controlled clinical trial study is needed to confirm these benefits. NJ has the potential to become an adjunctive therapy for OA patients.

Clinical trial registration number: NCT01070264.

Key words: *Morinda citrifolia (noni)*, Noni juice (NJ), Osteoarthritis, Quality of life (QoL), pain scales