

CLINICAL STUDY OF TURMERIC AND GARLIC EXTRACT COMBINATION AS ANTIDYSLIPIDEMIC AGENT IN TYPE-2 DIABETIC-DYSLIPIDEMIC SUBJECTS

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Introduction

- ❑ Garlic (*Allium sativum* Lin.) and turmeric (*Curcuma domestica* Val.) known as traditional drugs that cure several diseases such as dyslipidemia.
- ❑ Preclinical study showed that combination of garlic and turmeric extracts have significant effect in lowering blood cholesterol level in diabetic-hypercholesterolemic animal model (Deviana, 2005; Fadlina, 2005).
- ❑ Toxicity tests showed that LD₅₀ of this combination is > 15 g /kg bw (practically not toxic) and had no effect on liver and kidney functions (Subiakto, 2005).

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Objective

- ❑ To evaluate effectivity and safety of garlic and turmeric extracts combination in type-2 diabetic-dyslipidemic subjects.

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Design Study

- ❑ Randomized, parallel and double blind study.
- ❑ Period study: 3 months
- ❑ Approved by Ethical Committee of Hasan Sadikin Hospital (March 17, 2006).
- ❑ Research was conducted at Hasan Sadikin Hospital Bandung during April 2006 – September 2007.

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Inclusion criteria

- Type-2 diabetic–dyslipidemic patients.
- Never been treated with glucose-lowering, insulin or cholesterol-lowering drug.
- Men or women > 35 years old.
- Agreed to sign the informed consent.

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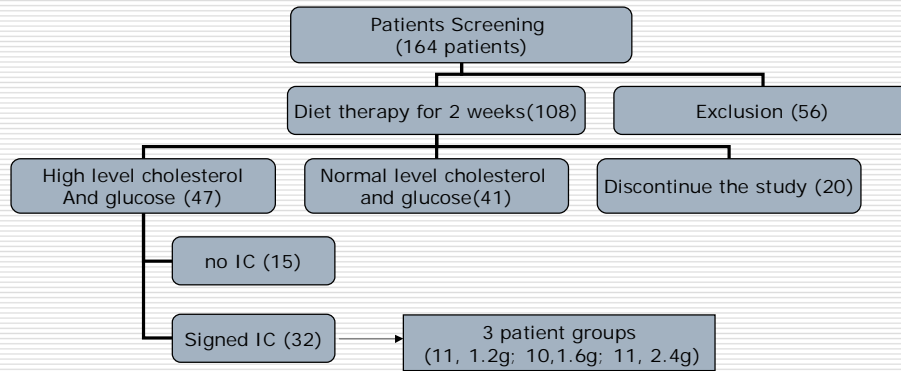
Exclusion Criteria

- Type-1 Diabetes Mellitus
- Kidney or liver failure
- Using steroid hormon or contraception drug
- Ketoacidosis complication
- Diabetic ulcer
- Coronary Heart Disease
- Pregnant or breastfeeding women.

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Research lay out



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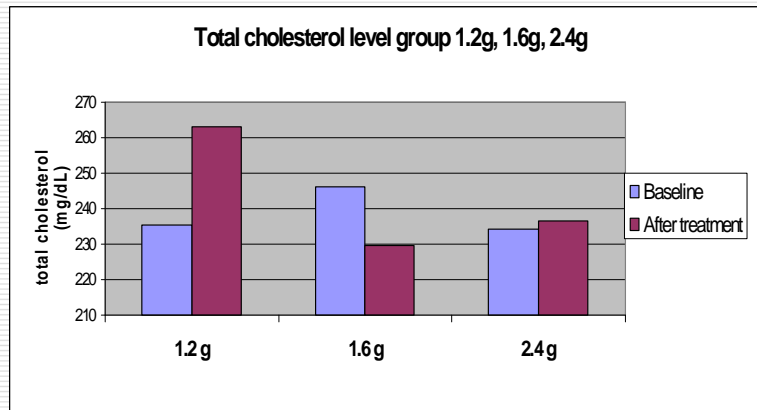
Baseline characteristics

Baseline characteristics	Group 1.2g (n=11)	Group 1.6g (n=10)	Group 2.4g (n=11)
Sex			
Men	1	1	3
Women	10	9	8
Age (years)	59.29 ± 6.82	54.44 ± 4.36	54.50 ± 8.40
Total Cholesterol (mg/dL)	229.09 ± 33.77	228.50 ± 44.67	217.45 ± 38.20
LDL (mg/dL)	148.91 ± 28.19	148.20 ± 38.13	137.82 ± 38.58
HDL (mg/dL)	48.00 ± 10.74	48.00 ± 7.50	46.45 ± 9.07
Triglyceride (mg/dL)	161.00 ± 96.14	161.70 ± 59.80	165.73 ± 58.20
Body Mass Index (kg/m ²)	25.53 ± 3.26	27.59 ± 4.83	29.17 ± 3.46

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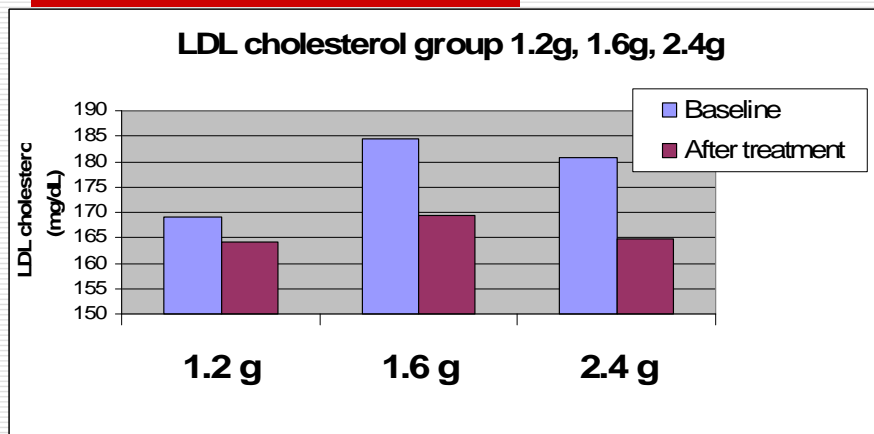
Total cholesterol level (mg/dL) at 3 months



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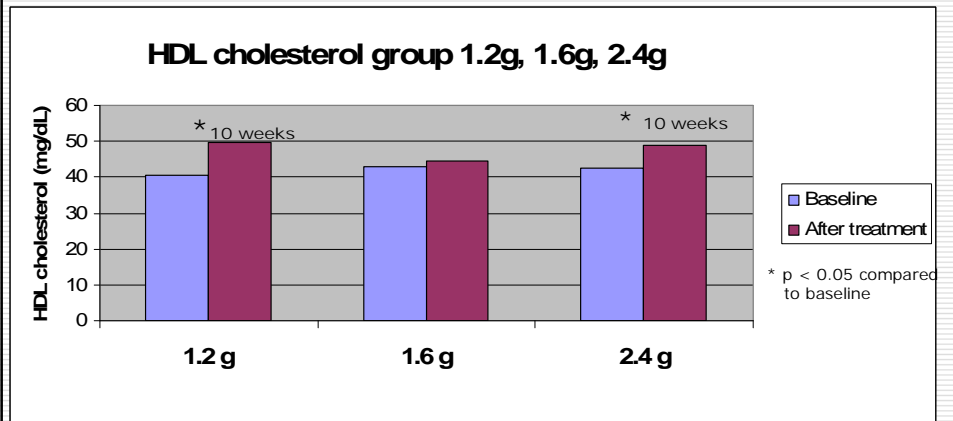
LDL cholesterol level (mg/dL)



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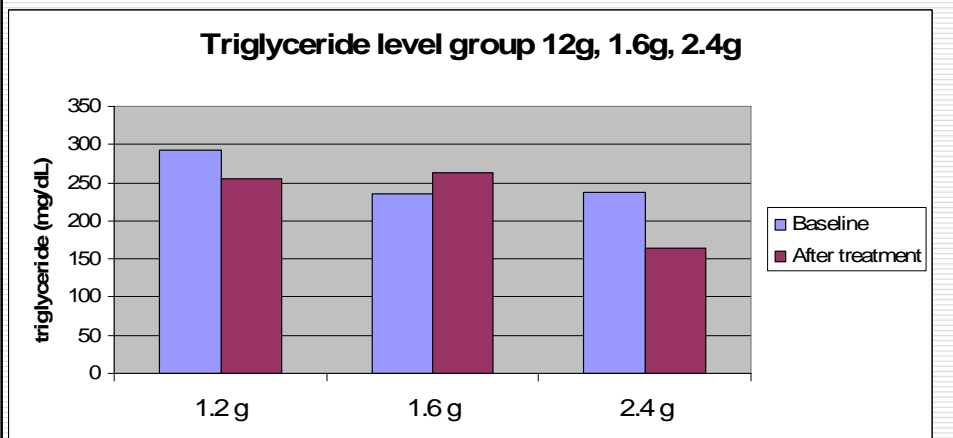
HDL cholesterol level (mg/dL)



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Triglyceride level (mg/dL)



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Improvements of clinical outcomes based on patient assesments

- Appetite
- Physical activity
- Quality of sleep
- Blood pressure
- Osteoporosis

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Safety

- No adverse event was observed during this study
- SGOT, SGPT, ureum, creatinine, and haematology profile in 3 months within normal limit.

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Conclusion

Combination of garlic and turmeric extract:

- ❑ Improve the lipid profile of type-2 diabetic-dyslipidemic patients
- ❑ Showed improvement of Clinical outcomes.
- ❑ This combination is safe and well tolerated

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thank you

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