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Effect of 6 weeks consumption of b-glucan rich oat products on cholesterol levels in mildly hypercholesterolaemic overweight adults

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Abstract
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Several regulatory bodies have approved a health claim on the choles-
terol-lowering effect of oat β-glucan at levels of 3.0 g/day. This study
aimed to test whether 1.5 g/day β-glucan provided as ready-to-eat (RTE) oat flakes was as effective in lowering cholesterol as 3.0 g/day
from oats porridge. A 6-week randomised controlled trial was
conducted in 87 mildly hypercholesterolaemic (25 mmol/l and <7.5 mmol/l)
men and women assigned to one of three diet arms (25% E protein; 45%
E CHO; 30% E fat, at energy requirements for weight mainte-
nance): (1) Minimal β-glucan (Control – C); (2) Low dose oat β-glucan
(1.5 g β-glucan; Oats Low – OL) or (3) Higher dose oat β-glucan (3.0 g
β-glucan; Oats High – OH). Changes in total and LDL-cholesterol
(LDL-C) from baseline were assessed using a linear mixed model and
repeated measures ANOVA, adjusted for weight change. Total choles-
terol reduced significantly in all groups (−7.8 (SD = 13.8)%, −7.2
(12.4%) and −5.5 (9.3%) in OH, OL and C groups), as did LDL-C
(−8.4 (18.5)%, −8.5 (18.5%) and −5.5 (12.4%) in OH, OL and C
groups) but between-group differences were not significant. In respond-
ers only (n = 60), β-glucan groups had higher reductions in LDL-C
(−18.3 (11.1%) and −18.1 (9.2%) in OH and OL groups) compared to
controls (−11.7 (7.9%), P = 0.044). Intakes of oat β-glucan were as
effective at doses of 1.5 g/day compared to 3 g/day when provided in
different food formats that delivered similar amounts of soluble
β-glucan.

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163. EFFECT OF VIGNA SINENSIS ON INCREASED PRODUCTION OF BREAST MILK
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Deficiency of the production of breast milk can occur during lactation.
In Central Kalimantan, Indonesia, 30% lactating women complained
about insufficient milk production. This research aimed to contribute
to the availability of breast milk in sufficient amount to help mothers
successful in breastfeeding their babies exclusively by making use of
Vigna sinensis to increase the production of breast milk. This study
was quasi-experiment, conducted on 2011 with an intervention of admin-
istration of Vigna Sinensis compared to control group. Follow up was
carried out to assess the breast milk production. This study location
was in Central Kalimantan Province. The samples were as many as 134
persons meeting inclusion criteria, which were breastfeeding mothers,
at term delivery with birth weight of ≥2500 gram, mothers’ age
20–35 years, babies’ age ≤6 months and the babies having not received
any additional food in addition to breastfeeding. The exclusive criteria
were either mothers or babies who were sick, mothers who consumed
alcohol and mothers who smoked. Data analysis use univariable, bivara-
ble and multivariable. The result showed that after treatment, there
was an increased production of breast milk in the intervention group
as much as 262.96 ml while in the control group 126.46 ml. Vigna
Sinensis could increase the production of breast milk 107.93% higher
than the control group with p = 0.0000 (p < 0.05). This research con-
cludes that mothers who consumed Vigna Sinensis had higher produc-
tion of breast milk than those who did not.

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3.5 **Hot Topics****
The abstracts for this session were not decided before publication

3.6 Community Based Interventions
550. WHAT WORKS FOR COMMUNITY-BASED NUTRITION PROGRAMMING? DEVELOPMENT OF TECHNICAL SUPPORTIVE SUPERVISION IN OROMIA REGION, ETHIOPIA
MASAYO NAKAMORI1, ABERA SEIFU2, TAYE TOLERA2, SHALLO DEBA2
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2Oromia Regional Health Bureau, Ethiopia

The Community Based Nutrition Approach (COBANA) Project in the
Oromia Region, Ethiopia began activities in September 2008 for a
period of five years. The Project aims to improve the nutrition status of
children under five years old and pregnant and lactating women
by strengthening community health services in three targeted zones
and ten woredas in the region. As supportive supervision and men-
oring community workers and supervision of the mother support
grupps are crucial to the success of community nutrition programs,
The Project has conducted Technical Supportive Supervision (TSS)
training for more than 550 related persons including health providers
from the health facilities linked to the programme and implemented

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184. ‘SP’ ON YOUR PLATE: THE NEW NUTRITIONAL PARADIGM OF COMPLEMENTARY SUN-PROTECTION
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Skin cancer rates are epidemically climbing despite increasing aware-
ness and external precautions, i.e. sun-screen/avoidance, warranting
exploration of complementary strategies. The sun’s damaging effect,
including skin-penetrating ultraviolet-A radiation, involves photo-
oxidation mechanisms that consume skin and plasma antioxidants.
Dietary antioxidants – i.e. carotenoids, vitamins C and E, selenium,
flavonoids, and polyphenols – have been shown to counteract sun
damage, by reducing DNA fragmentation, inflammatory response, and
immune suppression. The Greek-Mediterranean diet contains many
sun-protective components, being high in antioxidants (fruits/vegeta-
bles, spices, red wine, olive oil and anti-inflammatory n-3 polysaturated
fatty acids (PUFA), and low in pro-inflammatory n-6 PUFA and
pro-oxidants (red meat). Greece also has among the world’s lowest
melanoma incidence/100,000 (2.14 males, 2.99 females [2000]) vs.
European average (6.32, 7.29 [2000]) and Israeli rates (17.06, 14.82
[2000]), with European-origin Israelis (33.6, 24.0 [2003–2004])
second only to Australians (39.80, 31.80 [2000]). Though skin pigmen-
tation is a major factor, the question of protective potential of diet was
raised. Women exposed to sun radiation (Baltic beach 4–6 h/day for
14 days) consuming water/cola (750 ml/day; n = 16) showed a gradual
increase in blood plasma malondialdehyde levels 55.5% (8.36 to
13.0 μmol/L, p ≤0.02), vs. antioxidant-fortified fruit juice (750 ml/
day, n = 21) a 15.8% decrease (8.52 to 7.175 μmol/L), with aggregate
between-group difference −60%. Tomato paste (~16 mg/day lycopene,
10 weeks) was associated with 40% reduced ultraviolet-induced ery-
thena. The above and extensive research suggests the Mediterranean
diet may represent a gold standard for sun-protection. Complementary
sun-protection by diet and relevant components for high-illumination
geographical regions with special regard to immigrants, skin-type, and
age-related sensitivity will be discussed.

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