



Plantebaseret kost til patienter i ernæringsrisiko

Tina Beermann, klinisk diætist, cand.scient. klinisk ernæring

Greensoul

Baggrund

- Stigende opmærksomhed på fødevarer og relation til miljø, klima forandringer, dyrevelfærd, etik og sundhed.



THE LANCET



THE LANCET COMMISSIONS | ONLINE FIRST

Food in the Anthropocene: the EAT–*Lancet* Commission on healthy diets from sustainable food systems

Prof Walter Willett, MD • Prof Johan Rockström, PhD • Brent Loken, PhD • Marco Springmann, PhD

Prof Tim Lang, PhD • Sonja Vermeulen, PhD • et al. Show all authors

Published: January 16, 2019 • DOI: [https://doi.org/10.1016/S0140-6736\(18\)31788-4](https://doi.org/10.1016/S0140-6736(18)31788-4)

Check for updates

Food systems have the potential to nurture human health and support environmental sustainability; however, they are currently threatening both. Providing a growing global population with healthy diets from sustainable food systems is an immediate challenge. Although global food production of calories has kept pace



Maybe it's time to quit?

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Dansk Vegetarisk Forening - DVF

16. august kl. 16:35 · 6

KRÆFTSYGE SKAL KUNNE FÅ VEGANSK MAD ❤️

Vi modtog for nylig en henvendelse fra en pårørende til et menneske, som er syg af kræft. Han har spist grønt i mange år, men kan nu ikke selv lave mad mere på grund af sin sygdom. Derfor får han utilstrækkelig og kedelig mad fra kommunen – og har nu mistet appetitten.

Den pårørende spurgte os, om vi kunne hjælpe med at finde en kok eller anden privat leverandør af vegansk mad. Det viste sig vanskeligere, end man skulle tro. Vi fik mange... [Se mere](#)



Syge skal kunne få mættende og nærende vegetarisk/vegansk mad

Skriv under på, at alle offentlige køkkener i Danmark bør tilbyde et 100 % plantebaseret måltid, som er mættende og nærende.

VEGETARISK.DK

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Grøn mad i alle offentlige køkkener

Folketinget anmodes om at vedtage ved lov, at alle offentlige køkkener som en fast valgmulighed skal tilbyde et plantebaseret måltid, som er mættende

BORGERFORSLAG.DK

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Cardiovascular Risks and Inequalities

Patterns of plant and animal protein intake are strongly associated with cardiovascular mortality: the Adventist Health Study-2 cohort

Marion Tharrey,^{1,2} François Mariotti,² Andrew Mashchak,¹ Pierre Barbillon,³ Maud Delattre³ and Gary E Fraser^{1*}

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Editorial decision 29 January 2018; Accepted 6 February 2018



Available online at www.sciencedirect.com

ScienceDirect

journal homepage: www.elsevierhealth.com/journals/ctim



C-reactive protein response to a vegan lifestyle intervention

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Available online 3 December 2014

KEYWORDS

CRP;
Inflammation;
Vegan diet

Summary This brief lifestyle intervention, including a vegan diet rich in fresh fruits and vegetables, whole grains and various legumes, nuts and seeds, significantly improved health risk factors and reduced systemic inflammation as measured by circulating CRP. The degree of improvement was associated with baseline CRP such that higher levels predicted greater

Vegetarian Compared with Meat Dietary Protein Source and Phosphorus Homeostasis in Chronic Kidney Disease

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Summary

Background and objectives Patients with advanced chronic kidney disease (CKD) are in positive phosphorus balance, but phosphorus levels are maintained in the normal range through phosphaturia induced by increases in fibroblast growth factor-23 (FGF23) and parathyroid hormone (PTH). This provides the rationale for recommendations to restrict dietary phosphate intake to 800 mg/d. However, the protein source of the phosphate may also be important.

Design, setting, participants, and measurements We conducted a crossover trial in nine patients with a mean estimated GFR of 32 ml/min to directly compare vegetarian and meat diets with equivalent nutrients prepared by clinical research staff. During the last 24 hours of each 7-day diet period, subjects were hospitalized in a research center and urine and blood were frequently monitored.

Results The results indicated that 1 week of a vegetarian diet led to lower serum phosphorus levels and

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Article

A Plant-Based Dietary Intervention Improves Beta-Cell Function and Insulin Resistance in Overweight Adults: A 16-Week Randomized Clinical Trial

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Received: 19 December 2017; Accepted: 5 February 2018; Published: 9 February 2018

Abstract: The aim of this study was to test the effect of a plant-based dietary intervention on beta-cell function in overweight adults with no history of diabetes. Participants ($n = 75$) were randomized to

Intensive Lifestyle Changes for Reversal of Coronary Heart Disease

Dean Ornish, MD; Larry W. Scherwitz, PhD; James H. Billings, PhD, MPH; K. Lance Gould, MD; Terri A. Merritt, MS; Stephen Sparler, MA; William T. Armstrong, MD; Thomas A. Ports, MD; Richard L. Kirkeide, PhD; Charissa Hogeboom, PhD; Richard J. Brand, PhD

Context.—The Lifestyle Heart Trial demonstrated that intensive lifestyle changes may lead to regression of coronary atherosclerosis after 1 year.

Objectives.—To determine the feasibility of patients to sustain intensive lifestyle changes for a period of 5 years and the effects of these lifestyle changes (without lipid-lowering drugs) on coronary heart disease.

Design.—Randomized controlled trial conducted from 1986 to 1992 using a randomized invitational design.

Patients.—Forty-eight patients with moderate to severe coronary heart disease were randomized to an intensive lifestyle change group or to a usual-care control group, and 35 completed the 5-year follow-up quantitative coronary arteriography.

Setting.—Two tertiary care university medical centers.

Intervention.—Intensive lifestyle changes (10% fat whole foods vegetarian diet, aerobic exercise, stress management training, smoking cessation, group psychosocial support) for 5 years.

Main Outcome Measures.—Adherence to intensive lifestyle changes, changes in coronary artery percent diameter stenosis, and cardiac events.

Results.—Experimental group patients (20 [71%] of 28 patients completed 5-year follow-up) made and maintained comprehensive lifestyle changes for 5 years, whereas control group patients (15 [75%] of 20 patients completed 5-year follow-up) made more moderate changes. In the experimental group, percent diameter stenosis at baseline decreased 1.75 absolute per

THE LIFESTYLE Heart Trial was the first randomized clinical trial to investigate whether ambulatory patients could be motivated to make and sustain comprehensive lifestyle changes and, if so, whether the progression of coronary atherosclerosis could be stopped or reversed without using lipid-lowering drugs as measured by computer-assisted quantitative coronary arteriography. This study derived from earlier studies that used noninvasive measures.^{1,2}

After 1 year, we found that experimental group participants were able to make and maintain intensive lifestyle changes and had a 37.2% reduction in low-density lipoprotein (LDL) cholesterol levels and a 91% reduction in the frequency of anginal episodes.³ Average percent diameter stenosis measured



Position of the Academy of Nutrition and Dietetics: Vegetarian Diets



ABSTRACT

It is the position of the Academy of Nutrition and Dietetics that appropriately planned vegetarian, including vegan, diets are healthful, nutritionally adequate, and may provide health benefits for the prevention and treatment of certain diseases. These diets are appropriate for all stages of the life cycle, including pregnancy, lactation, infancy, childhood, adolescence, older adulthood, and for athletes. Plant-based diets are more environmentally sustainable than diets rich in animal products because they use fewer natural resources and are associated with much less environmental damage. Vegetarians and vegans are at reduced risk of certain health conditions, including ischemic heart disease, type 2 diabetes, hypertension, certain types of cancer, and obesity. Low intake of saturated fat and high intakes of vegetables, fruits, whole grains, legumes, soy products, nuts, and seeds (all rich in fiber and phytochemicals) are characteristics of vegetarian and vegan diets that produce lower total and low-density lipoprotein cholesterol levels and better serum glucose control. These factors contribute to reduction of chronic disease. Vegans need reliable sources of vitamin B-12, such as fortified foods or supplements.

J Acad Nutr Diet. 2016;116:1970-1980.

POSITION STATEMENT

It is the position of the Academy of Nutrition and Dietetics that appropriately planned vegetarian, including vegan, diets are healthful, nutritionally adequate, and may provide health benefits in the prevention and treatment of certain diseases. These diets are appropriate for all stages of the life cycle, including pregnancy, lactation, infancy, childhood, adolescence, older adulthood, and for athletes. Plant-based diets are more environmentally sustainable than diets rich in animal products because they use fewer natural resources and are associated with much less environmental damage.

VEGETARIAN AND VEGAN dietary patterns can be quite diverse because of the variety of food choices available

VEGETARIAN DIETS IN PERSPECTIVE

Trends among Vegetarians

intake from vegetables, fruits, whole grains, and beans.³ In the 2015-2020 Dietary Guidelines for Americans, vegetarian diets are recommended as

Hvad så med de småtspisende patienter i ernæringsrisiko?





Comparison of the nutritional status and outcome in thermal burn patients receiving vegetarian and non-vegetarian diets

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- Chandigarh, Indien: Kotype at vegetarianer tvinges til at spise kød og æg v. sygdom/ernæringsrisiko, da det anses at være bedre for helbredelsesprocessen. Mange tør ikke at lade være selvom det går imod deres politiske, religiøse eller etiske overbevisning.
- 42 brandsårpatienter, opdelt i 2 grupper efter lacto-vegetar (n=23) vs. ikke-vegetar (n=19), dvs. ikke-randomiseret studie.
- Standardiserede diæter med samme fordeling af makronæringsstoffer, 20 PE%.
- Individuelt beregnet energibehov, mellem 1,5 og 3 g p/kg/døgn
- Outcome: ernæringsstatus (vægt, albumin, N-status, s-ferritin), infektion, LOS
- Resultat: ingen significant forskel på outcome parametre hos de to grupper.
- Lacto-vegetarisk diæt beskrevet som mere sensorisk acceptable v. kvalme og dårlig appetite. Desuden mere cost-effektiv.

Pilottest sommer 2017

- Test af bedømmelsesskala
- Test af metoden: rekruttering, skema, forståelse af spørgsmål
- Smagstest af is, plantebaserede frikadeller, og kage



- Ændret navngivning af smagsprøver – det var svært at forholde sig til at en frikadelle ikke var lavet af grisekød
- Simplificering af spørgsmål og måleparametre ift. konsistens

Udvælgelse af opskrifter



- Erfaringer fra morgenmads- og mellemmåltidsprojekt på Aalborg UH
- Gennemkig af eksisterende menuplaner
- Gennemkig af veganske kogebøger og blogs
- Egen erfaring
- Kostberegning

Clinical Nutrition ESPEN 13 (2016) e23–e27



ELSEVIER

Contents lists available at [ScienceDirect](http://www.sciencedirect.com)

Clinical Nutrition ESPEN

journal homepage: <http://www.clinicalnutritionespen.com>



Original article

Protein and energy intake improved by breakfast intervention in hospital

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ARTICLE INFO

Article history:
Received 5 October 2015
Accepted 28 February 2016

ABSTRACT

Background/aim: Undernutrition affects about 40% of patients in hospitals. Ordinary food is recommended as the first choice to prevent and correct undernutrition. Meanwhile, sufficient intake, especially regarding protein, is difficult to reach, in patients at nutritional risk. The aim of this study was to improve protein intake at breakfast to at least 20% of total daily requirement or at least 20 g.

CrossMark

Smagsprøver

I alt 48 forskellige smagsprøver, fordelt på 16 grupper a 3 variationer:

- Kakaodrikke
- "Mælke-drikke"
- Smoothies
- Æble-desserter
- Chokolademousse
- Is
- Kager
- Småkager
- Boller
- Pålæg
- Postej
- Lun morgenmadsret (Omelet)
- Tomatsuppe
- Lune hapsere
- Bolognese
- Farsbrød



Metode

- Test af retter som traditionelt tilberedes af hovedsageligt animalske ingredienser. Fx farsretter, pålæg, ost, mælkebaserede drikke, is mv.
- Test på en medicinsk og en kirurgisk afdeling
- Voksne pt. i ernæringsmæssig risiko, uden fødevareallergi/-intolerance, uden dysfagi, indhentet informeret samtykke
- Formiddag: serveringer der relaterede til morgenmad, formiddagssnack, frokost eller kage/snack.
- Eftermiddag: serveringer der relaterede til frokost, eftermiddag, aftensmad og aftensnack.



Smagstesten

- 6 smagsprøver ad gangen, fordelt på 2 kategorier med hver 3 varianter. Fx 3 chokolademousse og 3 supper
- Hver prøve indeholdt ca. 25 g/ml. Pt. blev instrueret i blot at smage 1-2 tsk for at danne et indtryk. Havde de lyst til at spise mere, kunne de gøre det efter at have smagt alle prøver.

Måleparametre

- Smag
- Lyst til at spise igen som en del af et måltid
- Konsistens – umiddelbart indtryk
- Lyst til en menu der i højere grad var plantebaseret fremfor den traditionelle menuplan
- Desuden registreret:
 - Vægt og BMI
 - Indlæggelsestid v. smagstesten
 - Oplevelse af smagsforandringer
 - Følelse af sult/mæthed på smagstidspunktet

9 punkts hedonisk skala til sensorisk bedømmelse

9	Kan ekstremt godt lide
8	Kan lide meget godt
7	Kan lide
6	Kan lide lidt
5	Kan hverken lide eller ikke lide
4	Bryder mig ikke så meget om
3	Kan ikke lide
2	Kan slet ikke lide
1	Kan overhovedet ikke lide

Forsøgsdeltagere

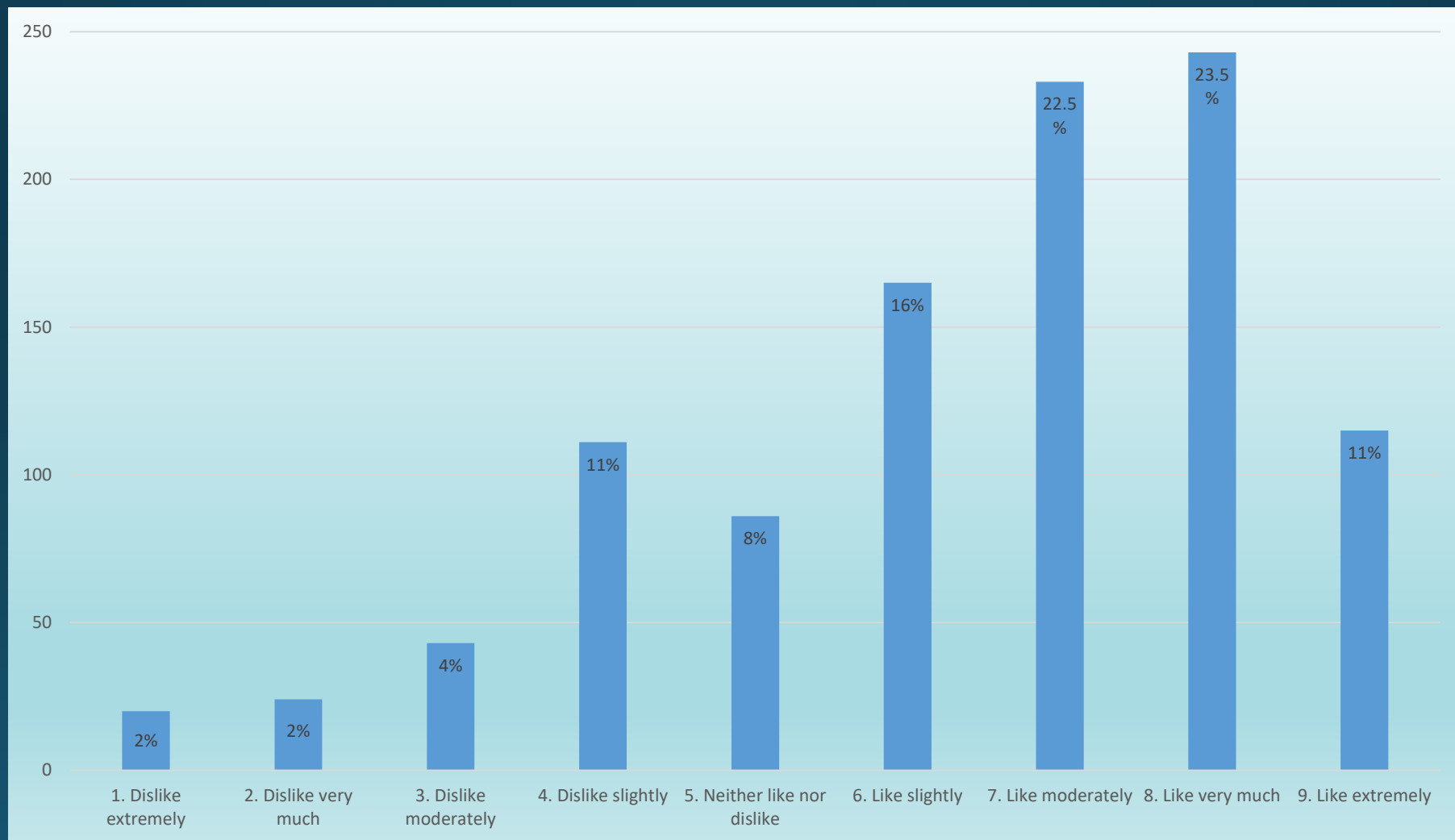
	Number of patients (male/female)	Age, years mean (SD)	BMI, kg/m ² mean (SD)	Length of Stay, days ^a mean (SD)	Taste alterations, number of patients (%)	Satiety at taste sessions, scale 1-5 ^b mean (SD)
Dep. Heart-Lung Surgery	64 (40/24)	63.9 (15)	27.2 (6.1)	6.5 (5.1)	7 (11%)	3.5 (0.9)
Dep. Infectious Medicine	48 (21/27)	56.6 (16.2)	29.1 (8)	6.9 (4.4)	7 (14%)	3.3 (0.7)
Total	112	60.8 (15.9)	28 (7.1)	6.7 (4.8)	14 (12.5%)	3.4 (0.8)

Abbreviations: BMI=body mass index. SD=standard deviation.

^aLength of stay at the time of sensory acceptance test

^bSatiety scale 1-5: 1) Hungry, 2) A little hungry, 3) Neutral/no particular feeling 4) Comfortably satisfied, 5) Full.

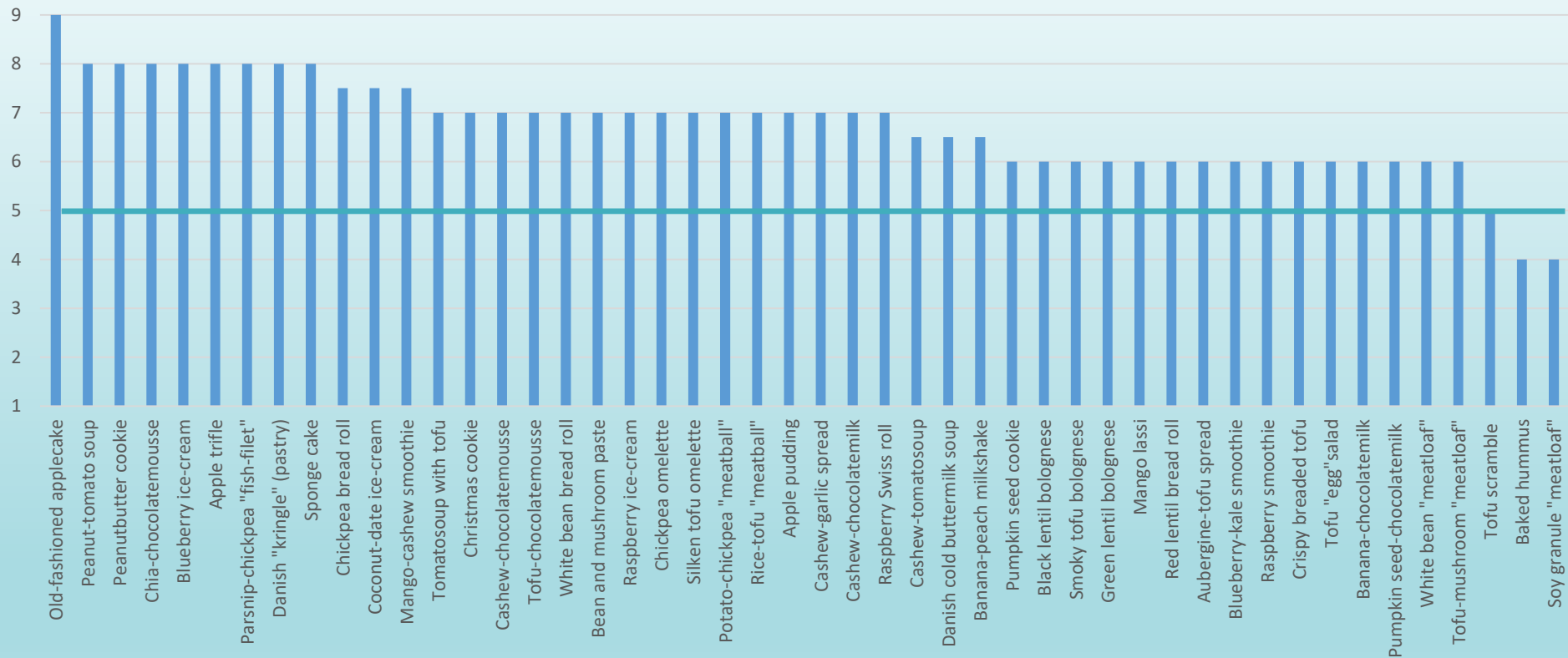
Samlet smagsvurdering af alle prøver



Smagsaccept

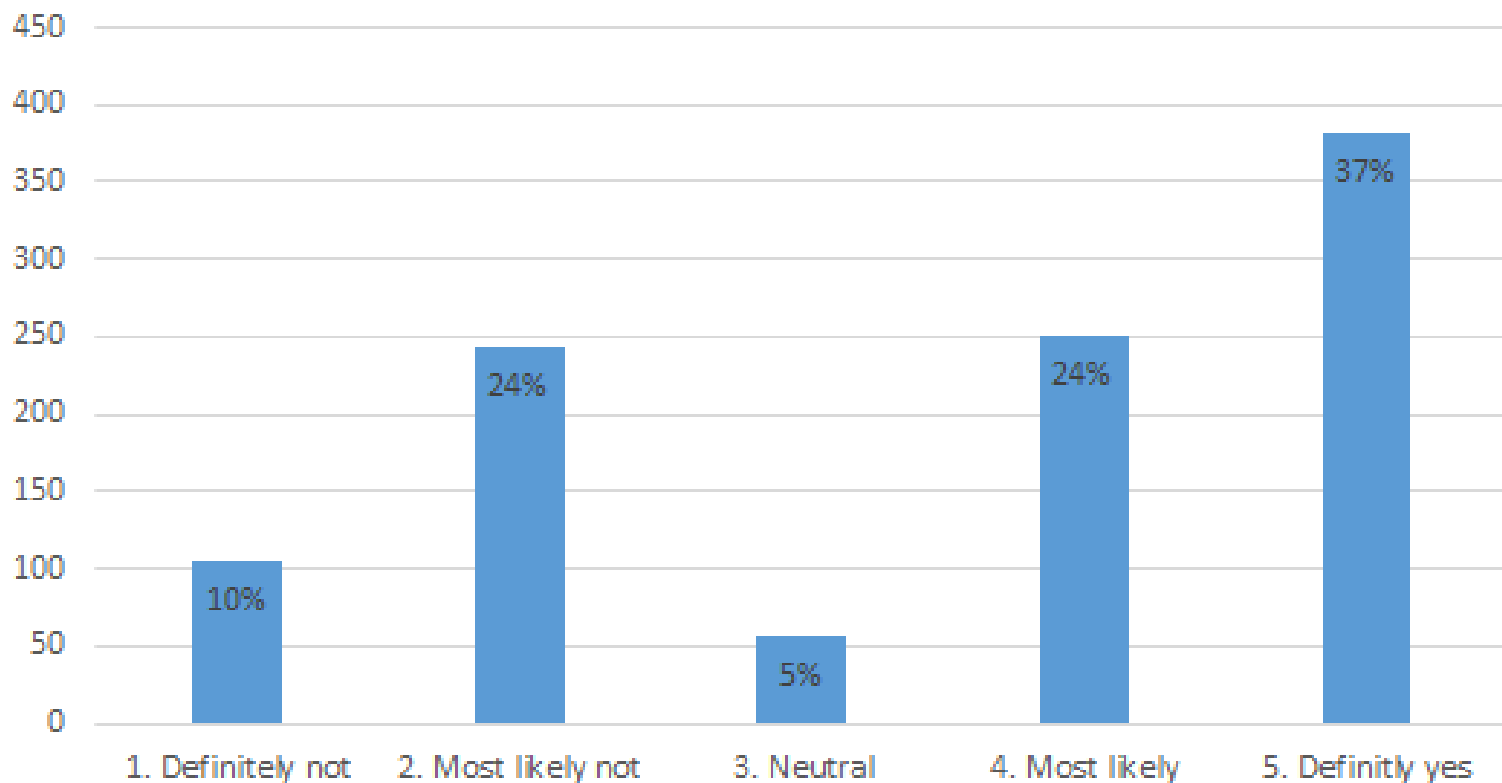
Median *taste* acceptance for all food samples

9-point hedonic scale



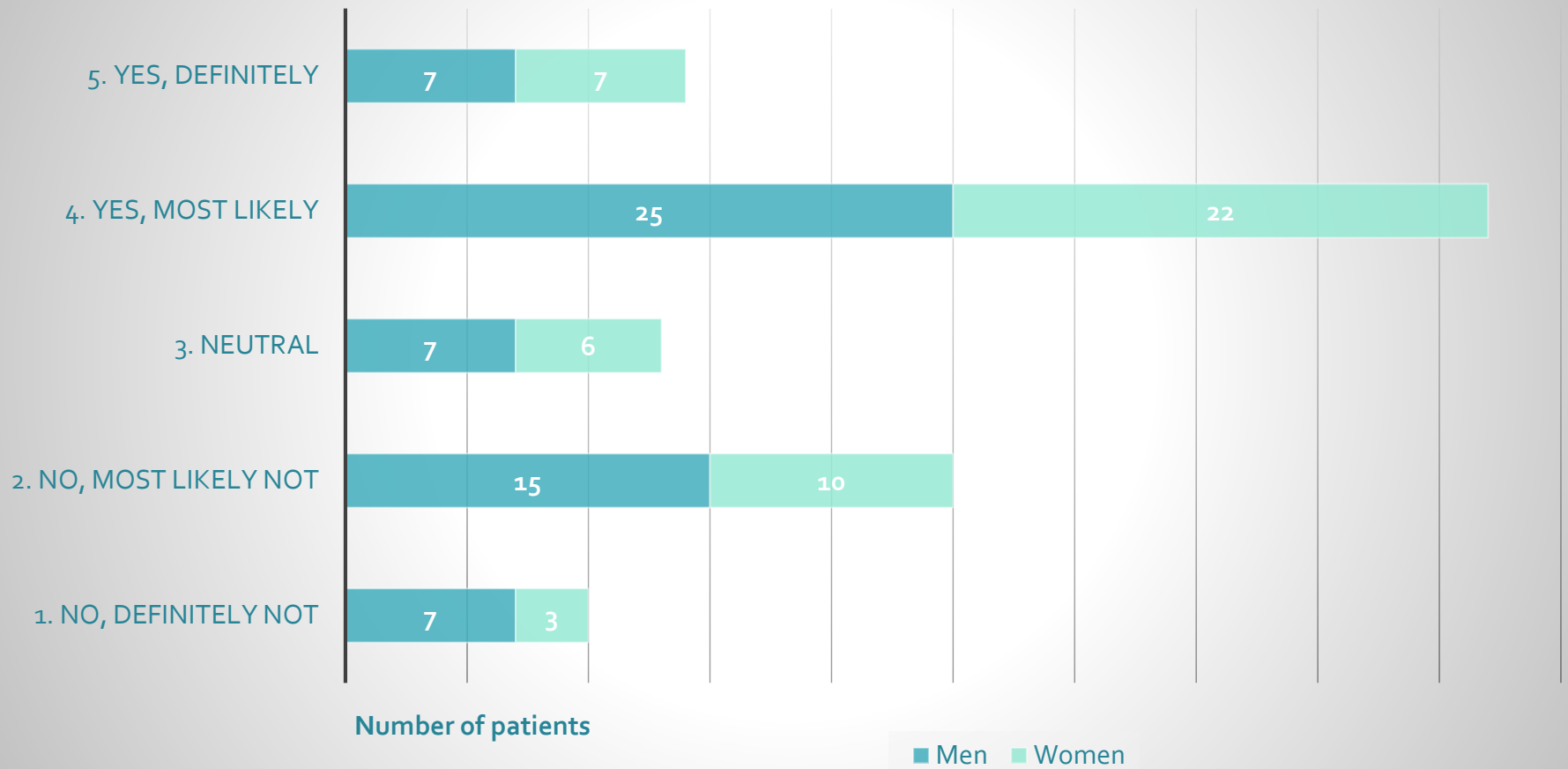
Lyst til at spise igen

Desire to eat again -
Total number of selections per value point for all taste
samples on 5-point Likert scale



Lyst til mere plantebaseret

Preference for plant-based food in hospital



Konsistens og øvrige kommentarer

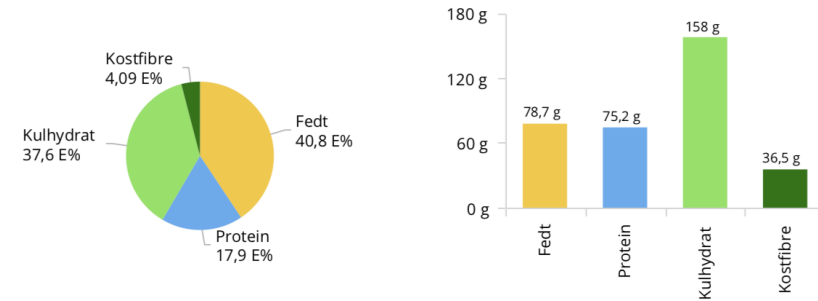
- Småkager: skal være sprøde hele vejen igennem – amerikanernes version med lidt sejhed i midten duer ikke i Nordjylland
- Generelt overensstemmelse hvis de syntes noget var for grynet, for melet, for tykt osv.
- Læring: smag og behag er virkelig forskellig og afhængig af forventning og hvad man er vant til. Fx med brownie, nogle synes den samme kage var for tør, andre synes den var blød, smagte for meget af chokolade, for lidt af chokolade...
- *"Bare maden smager godt, så kan det laves af alt"*

Næringsindhold i chokolademousse

Indhold/100 g	m. cashewnød	m. chiafrø	m. silketofu	Traditionel
Energi, kJ	1069	887	651	1582
Protein, g (energi%)	6,8 (10,8)	5,3 (10,2)	5,9 (15,4)	5,3 (5,7)
Fedt, g	14,8	10,2	6,7	31,2
Fibre, g	2,1	4,4	1,1	0,2
Calcium, mg	33,1	83,2	38,6	68,4
Jern, mg	2,1	1,7	1,4	1,7
Zink, mg	1,8	1,7	1,2	1,3

Vegansk til småtspisende 7 MJ

		Gram	Energi	Fedt	Protein	Kulhydrat	E%	Kostfibre
Morgenmad		350 g	1653 kJ	20,5 g	20,8 g	29,3 g		8,31 g
☞ Havregrød med knuste sesamfrø, kogt på sojamælk	150 gram	150 g	1219 kJ	16,1 g	13,4 g	21,3 g		6,71 g
Naturli' sojadrik m. calcium og vanille		200 g	434 kJ	4,4 g	7,4 g	8 g		1,6 g
Formiddag		200 g	1038 kJ	11,7 g	10,5 g	23,6 g		5,02 g
☞ Kakaodrik m. cahewnødder, græskarkerner, chia og dadler	175 gram	175 g	953 kJ	11,6 g	10,2 g	19,2 g		4,62 g
Banan		25 g	85,5 kJ	0,075 g	0,33 g	4,35 g		0,4 g
Frokost		217 g	1293 kJ	12,3 g	14,4 g	32,2 g		8,8 g
Rugbrød, mørkt	2 tynde skiver	50 g	437 kJ	0,65 g	2,85 g	19,4 g		4,3 g
Tahin		10 g	249 kJ	5,38 g	1,7 g	1,19 g		0,93 g
☞ Vegansk frokost: levepostej	40 gram	40 g	213 kJ	2,34 g	2,81 g	3,87 g		1,54 g
Rødbeder, konserver	1 skive	12 g	30,6 kJ	0,036 g	0,12 g	1,49 g		0,24 g
☞ Omelet m silketofu og friske krydderurter	75 gram	75 g	332 kJ	3,76 g	6,72 g	4,96 g		1,36 g
Tomat	2 cherrytomater	30 g	32,1 kJ	0,09 g	0,21 g	1,29 g		0,42 g
Eftermiddag		60 g	532 kJ	5,36 g	5,23 g	13,2 g		2,31 g
☞ Boller med hvide bønner	30 gram	30 g	269 kJ	1,08 g	2,52 g	10,2 g		1,13 g
☞ mandelsmørøst	20 gram	20 g	251 kJ	4,24 g	2,58 g	2,56 g		1,01 g
Peberfrugt, rød	1 skive	10 g	12,7 kJ	0,04 g	0,13 g	0,45 g		0,17 g
Aftensmad		295 g	1787 kJ	19,7 g	16,7 g	39,7 g		10,3 g
☞ Soul-soothing african peanut stew, inspiration fra Oh she Glows Cookbook	150 gram	150 g	730 kJ	11,4 g	7,23 g	9,37 g		3,61 g
Kikærter, kogte		30 g	206 kJ	0,78 g	2,66 g	5,95 g		2,28 g
☞ Boller med kikærter, version 2	25 gram	25 g	258 kJ	0,58 g	2,22 g	11,1 g		1,05 g
☞ Bønnepostej med svampe - Maanebarnet. med tofu, kikærter og tahin	20 gram	20 g	124 kJ	1,75 g	1,68 g	1,44 g		0,83 g
Peberfrugt, rød	2 skiver	20 g	25,4 kJ	0,08 g	0,26 g	0,9 g		0,34 g
☞ Chokolademousse: Cream of chocolate fra Vegan the cookbook	50 gram	50 g	444 kJ	5,12 g	2,66 g	11 g		2,2 g
Aften		170 g	824 kJ	9,25 g	7,49 g	19,9 g		1,72 g
☞ Crispy peanutbutter chocolate chip cookies - Oh she glows cookbook, version til testsmagning	20 gram	20 g	434 kJ	6,36 g	2,56 g	8,61 g		1,16 g
☞ Vegansk kærnemælkskoldskål fra plantepusherne	150 gram	150 g	389 kJ	2,9 g	4,94 g	11,3 g		0,56 g
Diverse		0 g						
Total		1292 g	7128 kJ	78,7 g	75,2 g	158 g		36,5 g



Ved profilen kvinde, 61-74 år:
Sufficient dækket på alle mineraler, fx jern med 236 % og zink med 187 %. Alle vitaminer på nær A-vitamin, samt B12 og D vitamin.

Sufficient omega-3

3258 mg lysin – Institute of Medicine (IOM) RDA: 38 mg/kg/dag (WHO 30 mg/kg/dag), dvs. nok til en person på 86 kg...