



Paradigmeskifte i overvægt

REGION
SJÆLLAND



Det bedste for barnet

Jens-Christian Holm

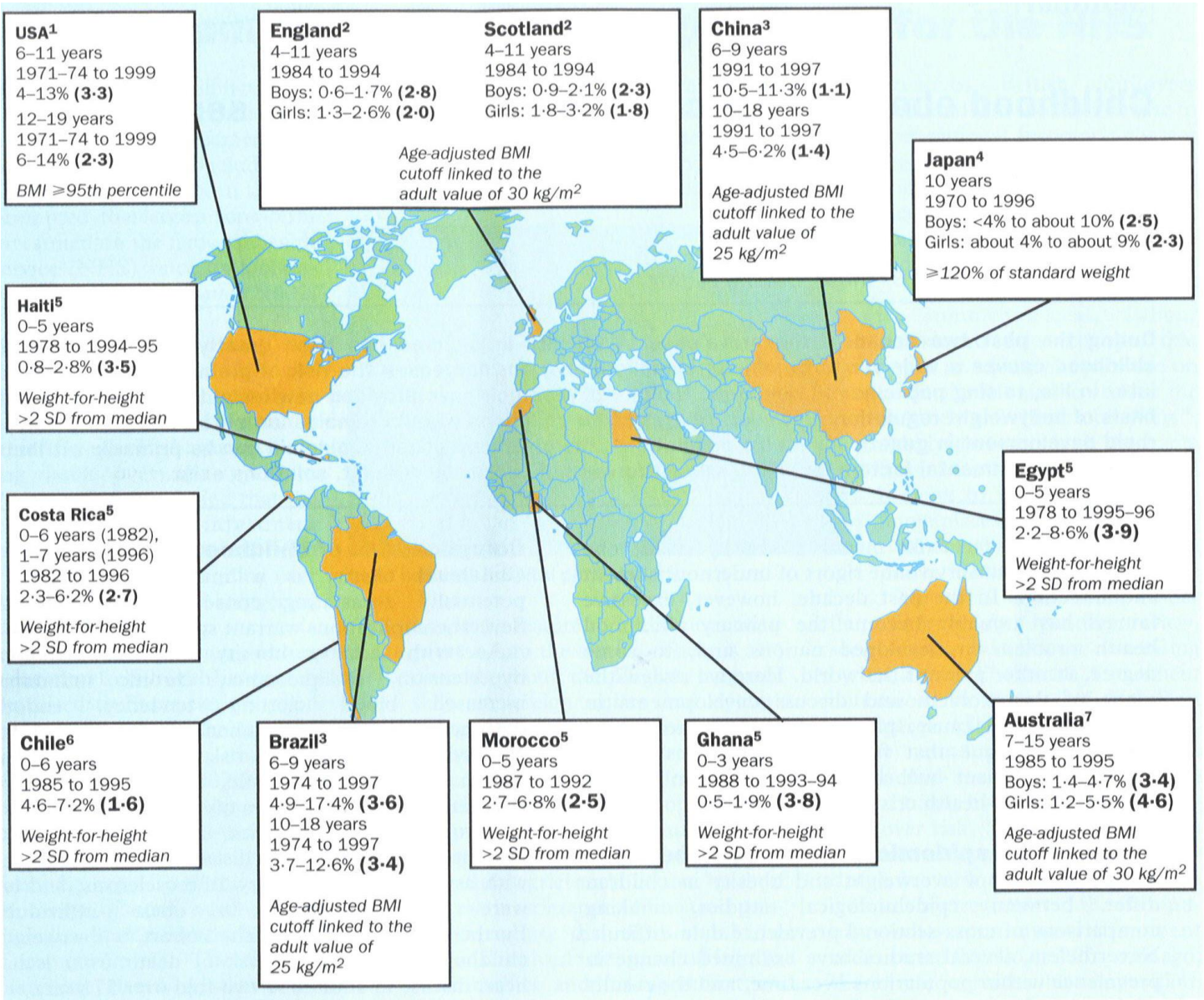
Forskningsansvarlig overlæge, forskningslektor, phd, leder af Enheden for overvægtige børn og unge & Den Danske Biobank for overvægtige børn og unge, Børneafdelingen Holbæk

Formand for The Childhood Obesity Task Force

The Novo Nordisk Foundation Center for Basic Metabolic Research,
University of Copenhagen, Denmark

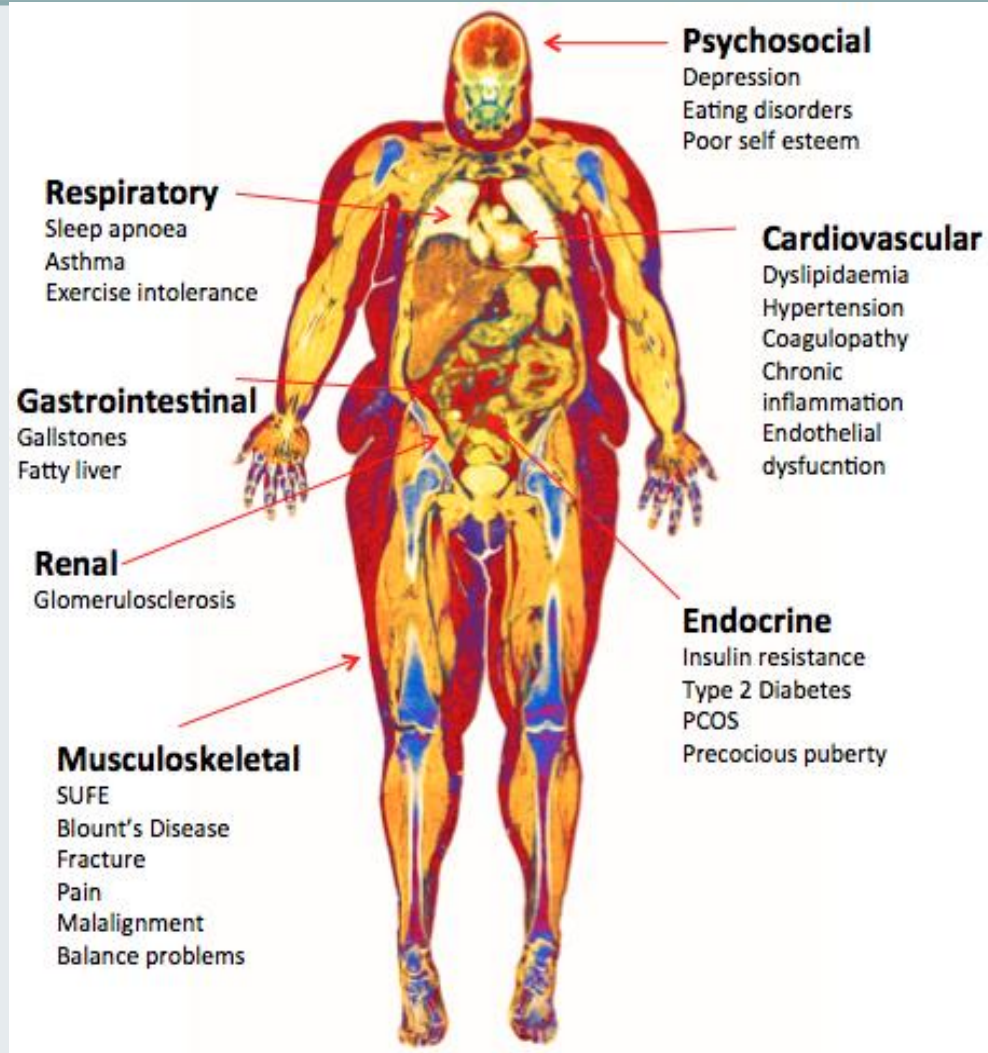
24 august 2017

Nationalt Netværksmøde Korsør





Obesity related Complications





Cancer

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282.137 patients

- ♂ increase in BMI of 5 kg/m² was associated with cancer in the esophagus, large bowel, kidney, and thyroid.
- ♀ increase in BMI of 5 kg/m² was associated with cancer in the uterus, gall bladder, esophagus, and kidney.
- ♂ association between an increase in BMI and cancer in the rectum and malignant skin cancer.
- ♀ as well as cancer in the breast (postmenopausal), large bowel, pancreas and thyroid.
- and leukemia, multiple myeloma and non-Hodgkin lymphoma in both genders



Context 2017

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Overwhelming number of patients

Overwhelming comorbidities

Very little structure

Enormous need to treat

Need to act now!



Din overvægt er en selvskabt plage – derfor skal du selv betale

Kommentar

Peter C. Gøtzsche

Ijuli blev jeg så forbløffet over gæsternes udseende på et luksushotel på Peloponnes i Grækenland, at jeg lavede en optælling under morgenmaden. Ni ud af ti voksne var klart overvægtige, og mange var virkelig fede. Det kom ikke af ingenting. De fedeste var dem, der kom mest på tallerkenen og fyldte den op flest gange. Det var utroligt, så meget nogen kunne spise på én gang, fx omkring 70 små pandekager med Nutella.

De fleste var grækere. Økonomien er fortsat dårlig i Grækenland, så det er samfundets vindere, man ser på et luksushotel. De ved godt, at overvægt øger risikoen for følgesygdomme og for at dø for tidligt. Da de må have en vis selvdisciplin, eftersom det er gået dem godt, må man antage, at de selv har valgt at blive fede, fordi det giver dem en øget livskvalitet, som opvejer den øgede helbredsrisiko.

Fede mennesker, der ikke fejler noget, kan komme i fedtefadet, hvis de går til læge, fx for at få foretaget et sundhedstjek (hvilket vi har vist i vores forskning, Cochrane review CD009009, sandsynligvis gør større skade end gavn, og derfor ikke kan anbefales). Så får de måske at vide, at deres blodtryk, kolesterol og blodsukker er let forhøjede, og at de derfor skal behandles med mindst tre lægemidler.

Vi andre betaler det meste i form af offentligt tilskud til medicinen. Men er det rimeligt? De har jo selv valgt at leve, som de gør. Skal de så ikke betale hele medicinudgiften selv? Jeg synes, vi kun bør give tilskud, hvis det er alvorligt eller uforskyldt, fx hvis

“
Vi andre betaler det meste i form af offentligt tilskud til medicinen. Men er det rimeligt? De har jo selv valgt at leve, som de gør. Skal de så ikke betale hele medicinudgiften selv?”



man lider af arvelig hyperkolesterolemie eller markant forhøjet blodtryk. Vi skal også tænke på, at grænsen for, hvad der er normalt, skubbes nedefter hele tiden af en umættelig medicinalindustri. Vi burde skubbe grænserne lidt opad igen.

Jeg kender amerikanske læger, som afholder kurser, hvor de lærer folk at spise meget anderledes, end de plejer. Når de så taber sig, kan mange af dem ophøre med at tage medicin. Jeg synes, vi skal tilbyde gratis kurser om bedre og mindre ernæring, og hvis det ikke hjælper, må det være folks egen sag at leve, som de gør. Hvorfor skulle vi andre dog bidrage til det? Medicinen forringer oven i købet manges livskvalitet, uden at de opdager det. Den kan gøre dem trætte og uoplagte og forårsage muskelsmerter, manglende sexlyst og impotens samt en masse andet, som folk ofte ikke forbinder med medicinen og derfor affinder sig med.

Jeg ved godt, at nogle er blevet overvægtige, fordi de har trøstespist. Andre spiser uhæmmet uden at tænke over det, og man kan blive overvægtig af at spise psykofarmaka. Men det er alligevel værd at overveje, om vi skal give tilskud til behandling af risikofaktorer. Vi har alle risikofaktorer for alt muligt, så det er skruen uden ende, som industrien flittigt drejer på.

Man kan spise rigtig godt uden at spise for meget, hvilket for de flestes vedkommende bare er en dårlig vane. Så kan man både undgå medicin og bevare livskvaliteten.

Peter C. Gøtzsche er professor, dr.med., Det Nordiske Cochrane Center.



Obesity as a disease

Oxford Medical Dictionary

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- ‘A disorder with a specific cause (which may or may not be known) and recognizable signs and symptoms; any bodily abnormality or failure to function properly, except that resulting directly from physical injury (the latter, however, may open the way for disease)’.
- Multiple established specific causes
- The circular logic of defining obesity by its signs of elevated anthropometric values (such as BMI, waist circumference, or percent of body fat) seems problematic to some yet is shared by multiple conditions in the medical nomenclature
- Are characterized by increased tendency towards tissue-specific resistance to the actions of insulin, increased mechanical stress on joints, and impaired cardiovascular function. These may manifest as abnormal glucose tolerance, dyslipidemia, varying degrees of hypertension, orthopedic complications, and the presence of early atherogenesis. Importantly, childhood obesity is commonly associated with a reduced quality of life and impaired social functioning of the child.



WHO

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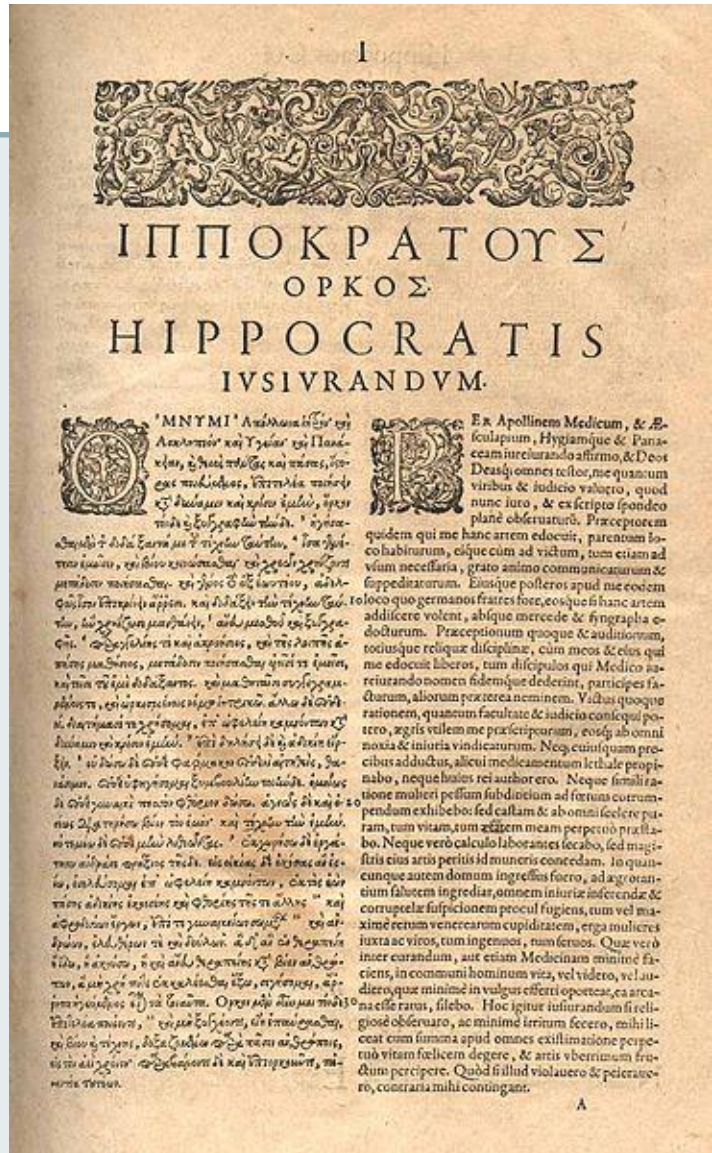
International Journal of Obesity (2008) **32**, S120–S126; doi:10.1038/ijo.2008.247

WHO recognition of the global obesity epidemic

W P T James¹

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The recognition of obesity as a disease was in theory established in 1948 by WHO's (World Health Organization) taking on the International Classification of Diseases but the early highlighting of the potential public health problem in the United States and the United Kingdom 35 years ago was considered irrelevant elsewhere. The medical profession disregarded obesity as important despite the new evidence and WHO data set out in the 1980s.



AMA Declares Obesity Disease



AMA Declares Obesity

Today can now be declared one the most monumental days in healthcare, since the war on tobacco was started. The AMA American Medical Association has declared Obesity a disease.

The group of doctors voted in their annual meeting today with an overwhelming majority of support. While the immediate benefits are not still clear what is known is that there will now be a larger focus on treating and studying obesity. Other changes down the line could include better insurance coverage for the treatment of obesity.

Treating Obesity as a Disease

 Share  12  Synes godt om  103  Tweet  26  g+1  2  Share  85 d. Jan 5, 2015

According to [new guidelines](#) released by the American Heart Association, American College of Cardiology and The Obesity Society in November 2013, doctors should consider obesity a disease and more actively treat obese patients for weight loss. The guidelines reflect the latest information that scientists have about weight loss to prevent [heart disease](#) and [stroke](#), the nation's No. 1 and No. 5 killers.



"The subsequent health problems of [obesity](#) and the [risk factors](#) in a person's [family history](#) passed down through the generations have become increasingly more of a burden. That's the siren sound we can no longer ignore," said Gordon Tomaselli, M.D., past president of the American Heart Association and co-chair of the subcommittee that guided the completion of the guidelines. Tomaselli is chief of cardiology at Johns Hopkins University School of Medicine in Baltimore.

Included in the new guideline is a first-of-its-kind roadmap to help patients lose weight and keep it off.

1. **Healthcare providers must find out who would benefit from weight loss** by calculating at least once a year each of their patient's [body mass index \(BMI\)](#), which is an indicator of obesity based on height and weight. Patients with a BMI of 30 or higher are considered obese and need treatment. In the U.S., nearly 78 million adults are obese. [BMI in children](#) is measured using a children's BMI calculator from the CDC.
2. **Patients would then participate in a medically supervised weight loss program two or three times a month for at least six months.** "Telling patients they need to lose weight is not enough. We want healthcare providers to own the problem. Just like they own the problem of glycemic control in a patient with diabetes, they need to own the problem of weight management," said Donna Ryan, M.D., co-chair of the committee that wrote the guidelines and professor emeritus at Louisiana State University's Pennington Biomedical Research Center in Baton Rouge.
3. **Physicians also should consider weight-loss surgery for severely obese patients who have one or more obesity-related health problem**, such as [diabetes](#), [sleep apnea](#) or [high blood pressure](#). In the past, doctors waited until patients were struggling with two such issues. The guidelines do not endorse any one weight loss surgery. Rather, the choice of procedure should be based on the person's age, severity of obesity, the risk of complications and other factors. In the U.S., about 200,000 adults have bariatric surgery

CMA recognizes obesity as a disease

by Pat Rich

10/9/2015

The Canadian Medical Association (CMA) has declared obesity to be a chronic medical disease requiring enhanced research, treatment and prevention efforts.

At the recent meeting of the CMA Board of directors, overwhelming support was given to a resolution to this effect that had been referred to the Board for consideration from the August General Council meeting.

“It is important for health care providers to recognize obesity as a disease so preventive measures can be put in place and patients can receive the appropriate treatment,” said CMA President Cindy Forbes.

“This move by the CMA speaks to the importance of addressing obesity and dealing with the stigma that is often associated with the condition.”

“We need to strongly alter the course of the problem,” said Board member Dr. Adam Steacie who brought the issue forward.

He said recognizing obesity as a disease may precipitate a shift in thinking of obesity as just a lifestyle choice to a medical disease with an obligation to treat it as other diseases. Steacie acknowledged that there is divided opinion as to whether obesity should be considered a disease but said it meets the definition because it decreases life expectancy and impairs normal functioning of the body; also, it can be caused by genetic factors.

Several other prominent medical and health organizations, including the American Medical Association, have declared obesity a chronic disease.

The resolution was referred from General Council in part because of concerns about the limitations of using body mass index (BMI) as the measure for diagnosing obesity.

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Clinical Information

Childhood Obesity Is a Chronic Disease Demanding Specific Health Care – a Position Statement from the Childhood Obesity Task Force (COTF) of the European Association for the Study of Obesity (EASO)

Nathalie J. Farpour-Lambert^a Jennifer L. Baker^{b, c} Maria Hassapidou^d
Jens Christian Holm^e Paulina Nowicka^f Grace O'Malley^g Ram Weiss^h

^aObesity Prevention and Care Program Contrepoids, Service of Therapeutic Education for Chronic Diseases, Department of Community Medicine, Primary Care and Emergency, University Hospitals of Geneva and University of Geneva, Geneva, Switzerland; ^bInstitute of Preventive Medicine, Bispebjerg and Frederiksberg Hospital, The Capital Region, Copenhagen, Denmark; ^cNovo Nordisk Foundation Center for Basic Metabolic Research, Faculty of Health and Medical Sciences, University of Copenhagen, Copenhagen, Denmark; ^dAlexander Technological Educational Institute of Thessaloniki, Department of Nutrition and Dietetics, Thessaloniki, Greece; ^eThe Children's Obesity Clinic, Department of Paediatrics, Copenhagen University Hospital Holbæk, Holbæk, Denmark; ^fDivision of Pediatrics, Karolinska Institute, Stockholm, Sweden; ^gPhysiotherapy Department; Temple Street Children's University Hospital, Dublin, Ireland; ^hDepartment of Human Metabolism and Nutrition and the Department of Pediatrics, The Hadassah Hebrew University School of Medicine Jerusalem, Israel

Danish clinical guidelines for examination and treatment of overweight and obese children and adolescents in a pediatric setting

Anders Johansen, Jens-Christian Holm, Seija Pearson, Mimi Kjærsgaard, Lone Marie Larsen, Birgitte Højgaard, Dina Cortes

This guideline by the Obesity Committee within The Danish Paediatric Society has also been approved by the Committees for Endocrinology, Gastroenterology, Cardiology, Neonatology and Nephro-urology within The Danish Paediatric Society, Danish Paediatricians Organization, The Danish Society for Diabetes in Childhood and The Danish Association for the Study of Obesity.

The Danish College of General Practitioners supports the referral criteria for pediatric evaluation. November 28, 2014.

Correspondence: Anders Johansen, Department of Growth and Reproduction, Copenhagen University Hospital Rigshospitalet, Blegdamsvej 9, 2100 Copenhagen, Denmark

E-mail: Anders.johansen.01@regionh.dk

ly among the youngest boys (11). Furthermore, recent data shows an approximately 10% prevalence of overweight and obesity among preschool children (12). In the Funen birth cohort from 2001, the prevalence of obesity in children was 1.9% of the children aged 2.5-3.5 years; 2.5% of those aged 3.5-4.5 years; and 2.5% in the group aged 4.5-5.5 years (12). In Copenhagen in 2007, the prevalence of obesity in 5-8 year old girls and boys was 3.7% and 2.6% respectively, whilst in 14-16 year old girls and boys, it was 4.7% and 4.2% respectively (13). In the 2010 "Schoolchildren Study" comprising a random sample of schools in Denmark 2-3% of the children aged 11, 13 and 15 years were obese based on a BMI calculated from the children's self-reported height and weight (14).

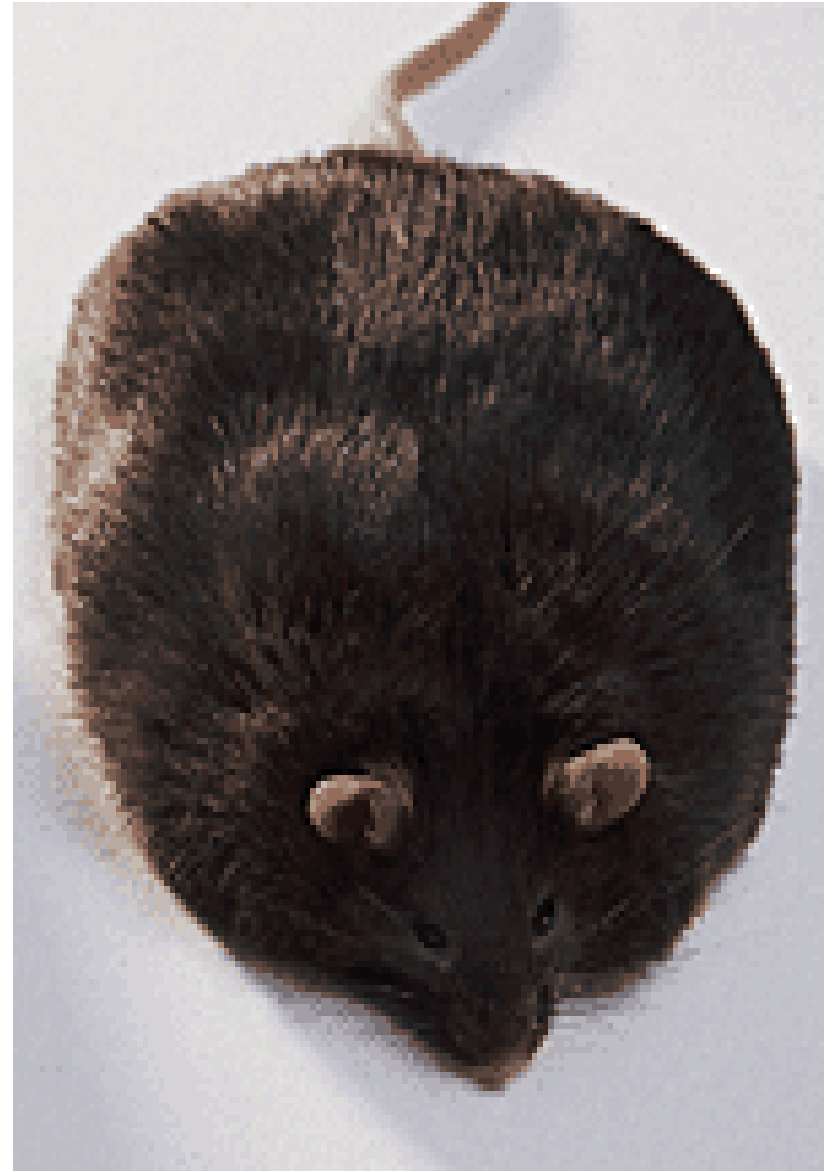
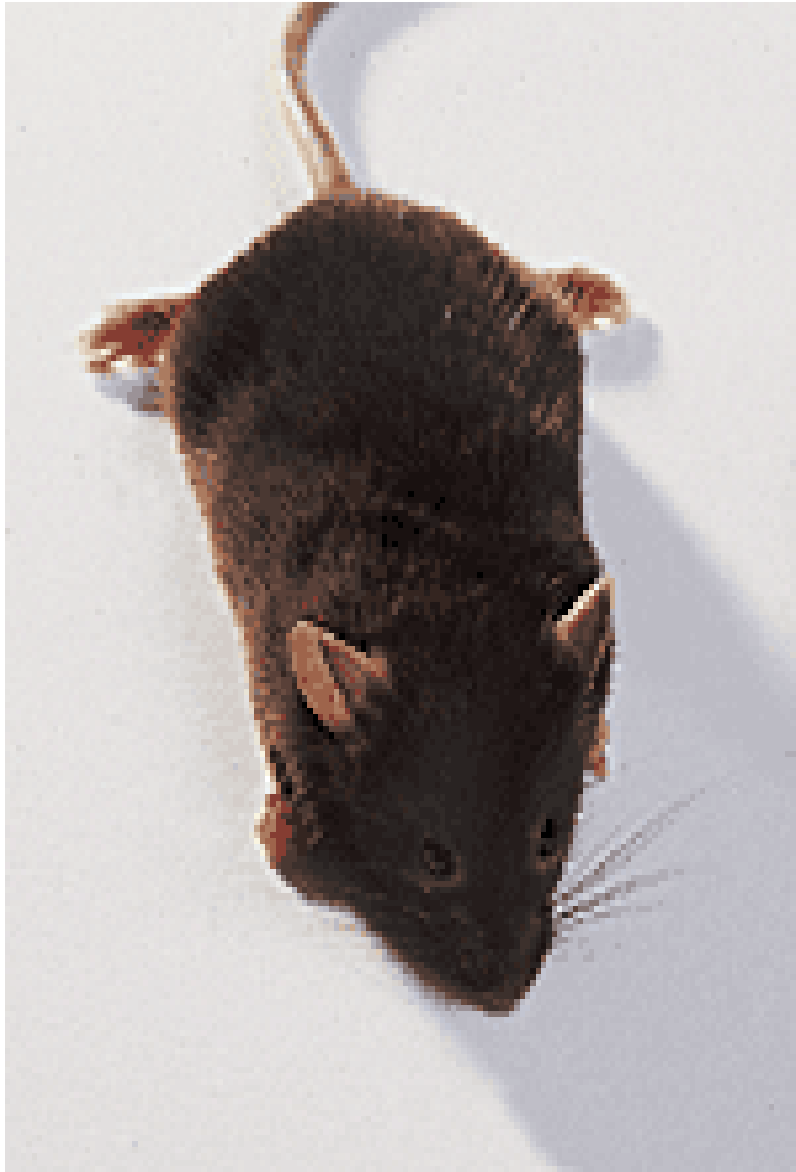
It may seem surprising that a regular Cochrane review has



Fat mass is beneficial in an evolutionary perspective

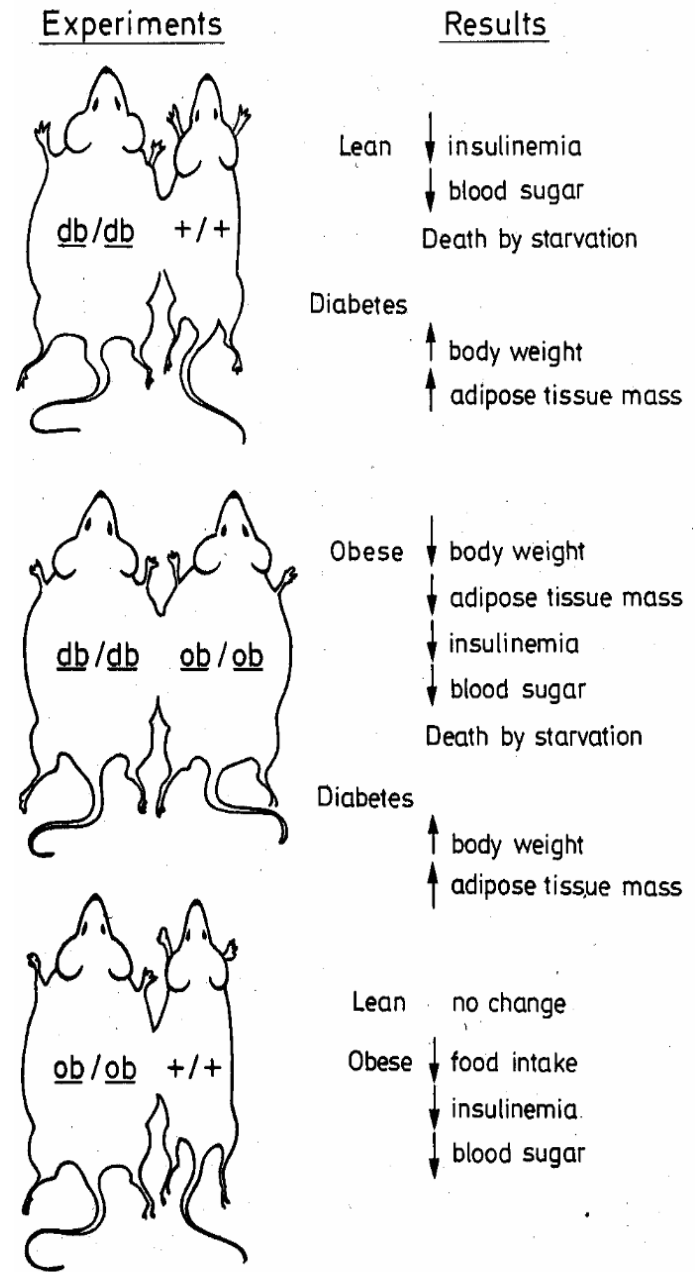
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Phenotypes of the ob/ob and db/db mice

- Hungry
- Obese
- Insulin resistant
- Impaired growth
- Hypothermic
- Hypoactive
- Infertile
- Cortisol \uparrow , T3/T4 \downarrow
- Immune-incompetent



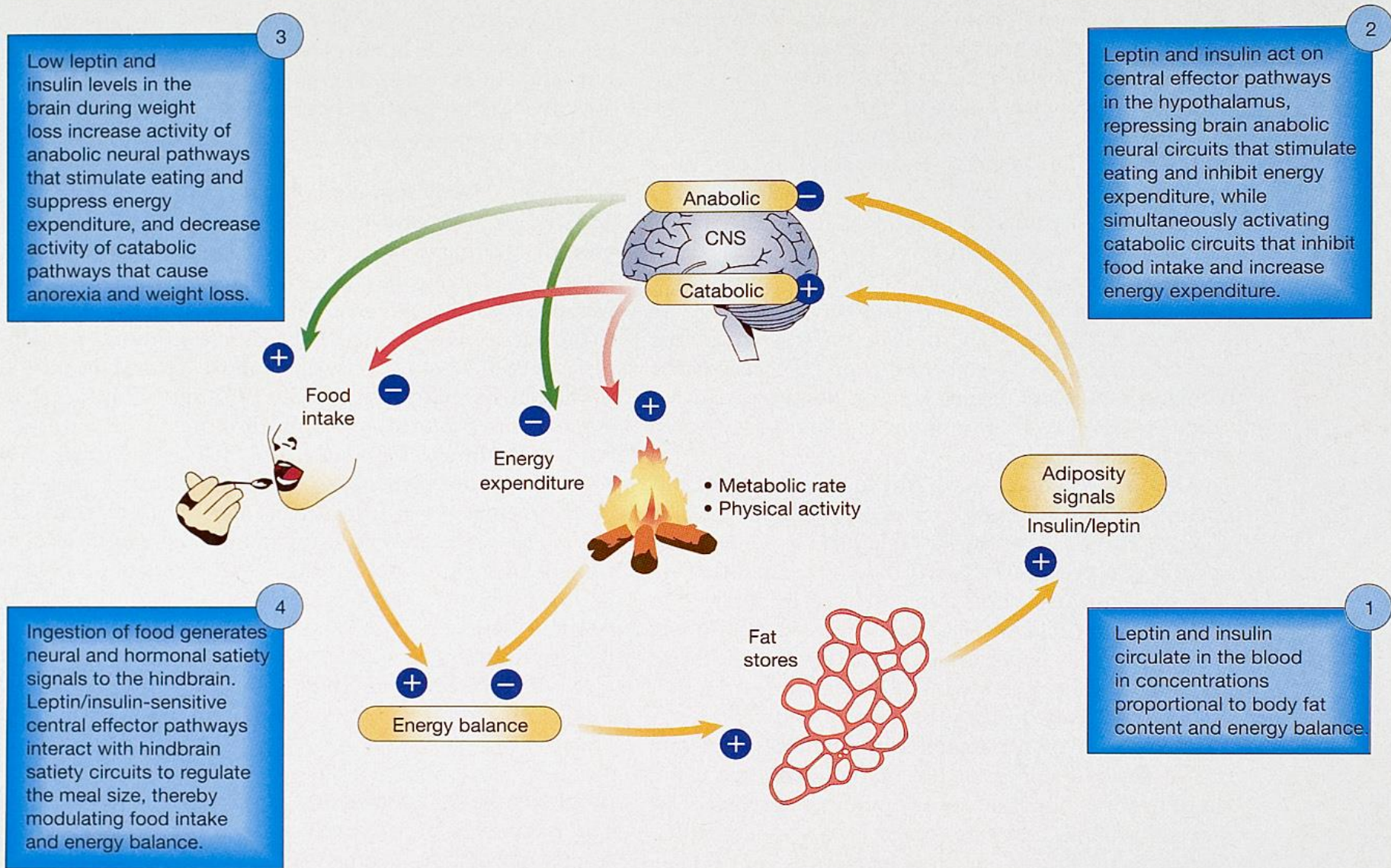
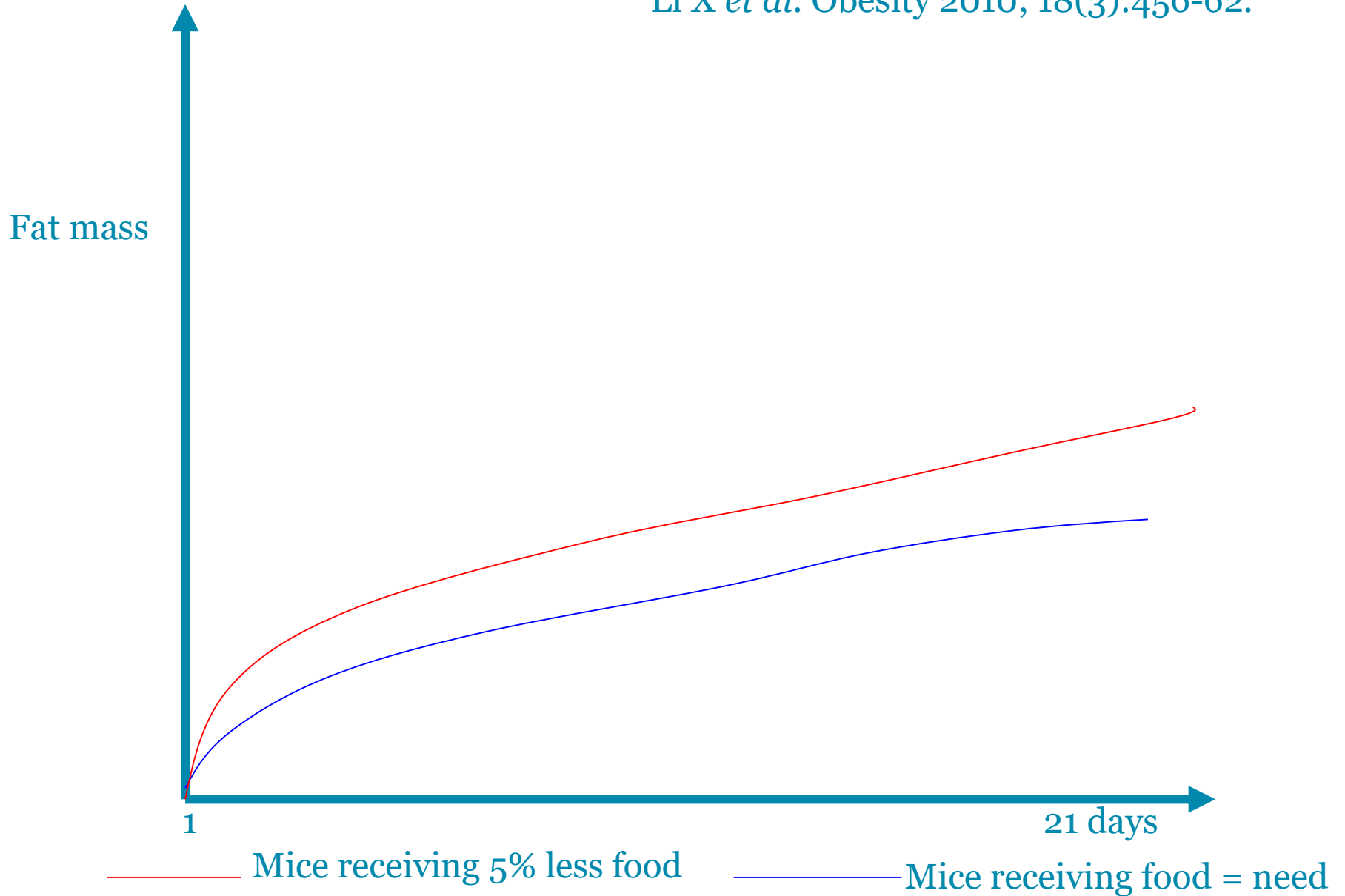


Figure 1 Model showing how a change in body adiposity is coupled to compensatory changes of food intake. Leptin and insulin are adiposity signals, secreted in proportion to body fat content, which act in the hypothalamus to stimulate catabolic, while

inhibiting anabolic, effector pathways. These pathways have opposing effects on energy balance (the difference between calories consumed and energy expended) that in turn determines the amount of body fuel stored as fat.

Li X *et al.* Obesity 2010; 18(3):456-62.



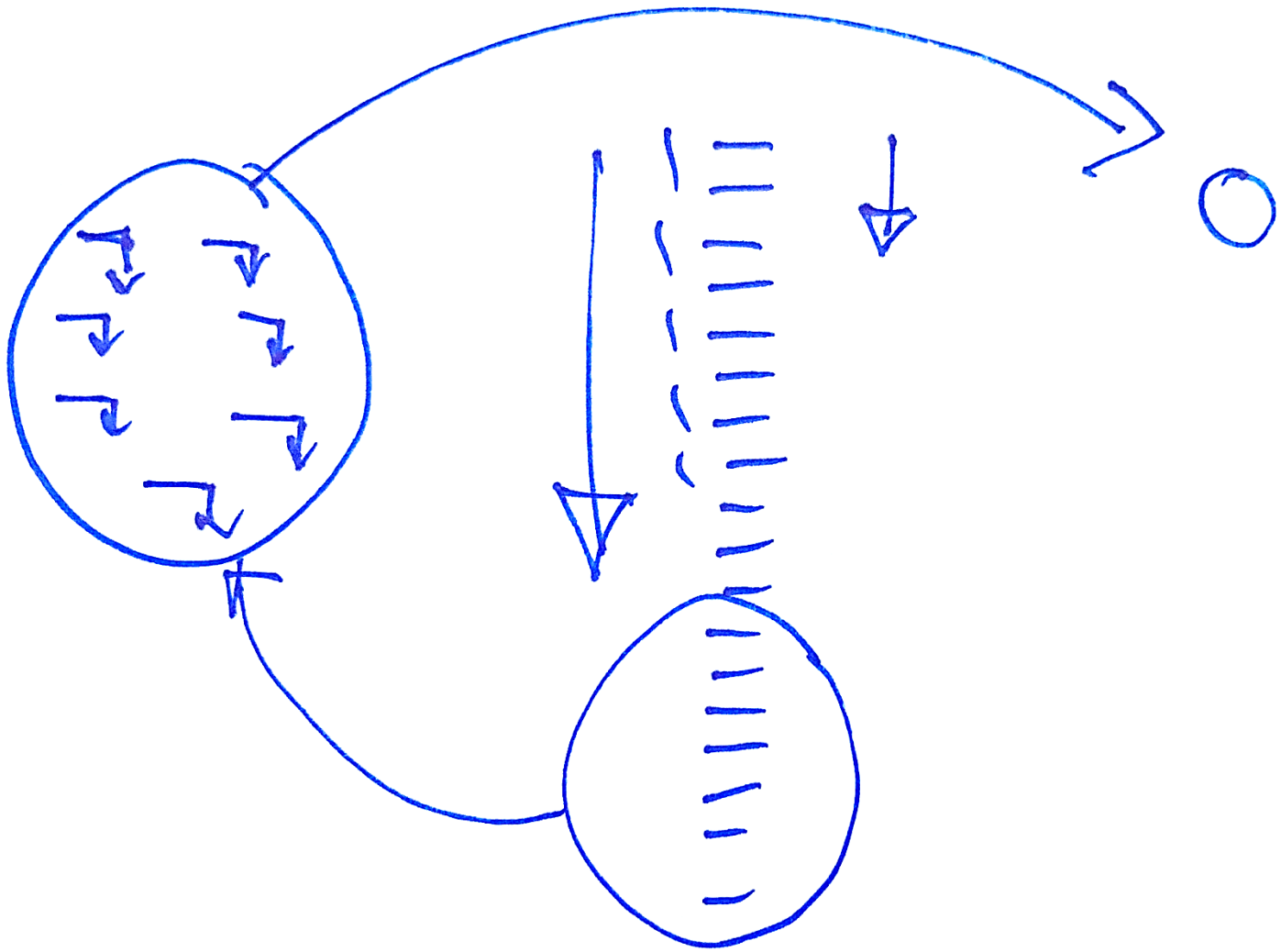


Negative energy balance?

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- Induces comprehensive neuroendocrinological adaptations
- Energy balance is not a passive balance, but instead an active biological function to ensure sufficient energy to those demands anticipated in the future
- Fat and energy regulation is able of being "energy efficient" when demanded
- Be careful about expectations/prejudice since you really dont know what is going on in the individual patient





Neuroendocrinological adaptation against weight loss provide

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Translation which explains weight regain

Self-identification in most patients

We don't know what the challenge is individually

Be humble and serious with your patient

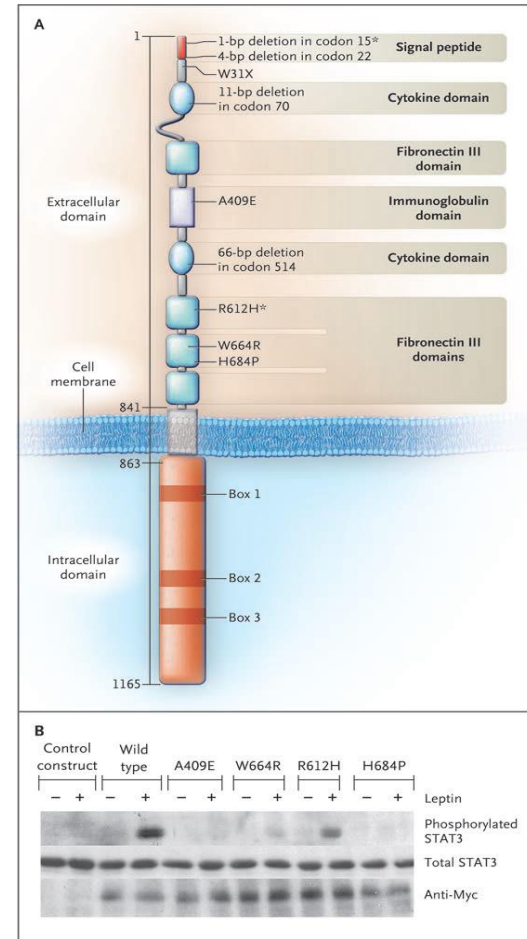
Convey an understanding of the patient's situation

Lucas



Constantly hungry to a degree where he feels he is starving to death

-Totally leptin resistant-



COLOR FIGURE	
Rev 2	12/15/06
Author	Farooqi
Fig. #	1
Title	Deficiency of the Leptin Recept
ME	
DE	Phimister
Artist	Williams

AUTHOR PLEASE NOTE:
Figure has been redrawn and type has been reset, please check carefully



Distinguish between *Causes* and *ensuing fat mass regulation*

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Multifactorial including environmental factors and psychosocial neglect

Genetic –mono/polygenetic

Syndromes

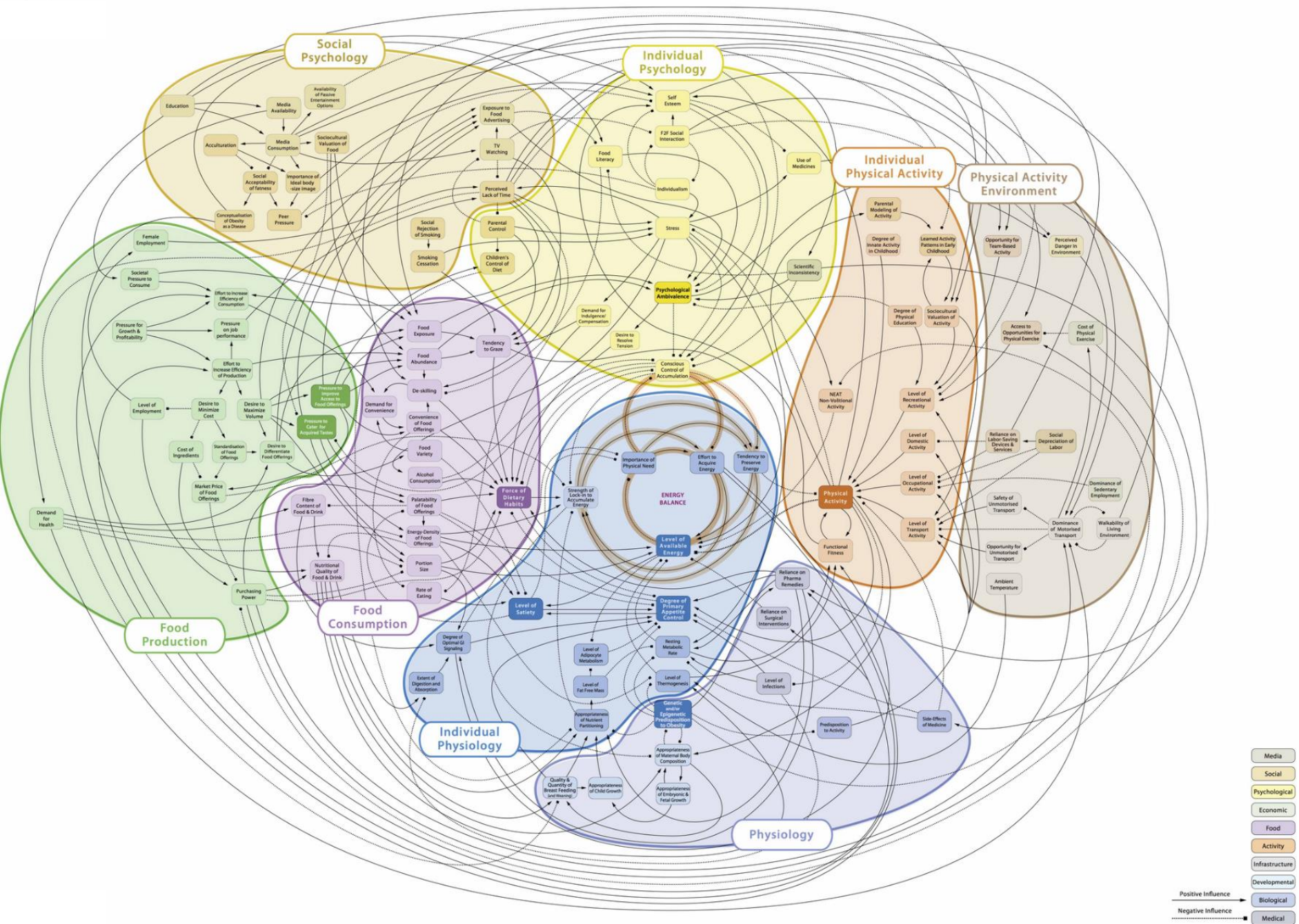
Medications (antipsychotic, steroids etc)

Endocrine

Early growth related

VERSUS the ENSUING fat mass regulation AIMED at energy
PRESERVATION

PARAMOUNT IMPORTANCE IN DAILY CLINICAL PRACTICE



- Media
- Social
- Psychological
- Economic
- Food
- Activity
- Infrastructure
- Developmental
- Biological
- Medical

Positive Influence →
 Negative Influence - - - - -

Fish trap





Expert committee recommendations regarding the prevention, assessment, and treatment of child and adolescent overweight and obesity: summary report.



Barlow SE¹; Expert Committee.

Abstract

To revise 1998 recommendations on childhood obesity, an Expert Committee, comprised of representatives from 15 professional organizations, appointed experienced scientists and clinicians to 3 writing groups to review the literature and recommend approaches to prevention, assessment, and treatment. Because effective strategies remain poorly defined, the writing groups used both available evidence and expert opinion to develop the recommendations. Primary care providers should universally assess children for obesity risk to improve early identification of elevated BMI, medical risks, and unhealthy eating and physical activity habits. Providers can provide obesity prevention messages for most children and suggest weight control interventions for those with excess weight. The writing groups also recommend changing office systems so that they support efforts to address the problem. BMI should be calculated and plotted at least annually, and the classification should be integrated with other information such as growth pattern, familial obesity, and medical risks to assess the child's obesity risk. For prevention, the recommendations include both specific eating and physical activity behaviors, which are likely to promote maintenance of healthy weight, but also the use of patient-centered counseling techniques such as motivational interviewing, which helps families identify their own motivation for making change. For assessment, the recommendations include methods to screen for current medical conditions and for future risks, and methods to assess diet and physical activity behaviors. For treatment, the recommendations propose 4 stages of obesity care; the first is brief counseling that can be delivered in a health care office, and subsequent stages require more time and resources. The appropriateness of higher stages is influenced by a patient's age and degree of excess weight. These recommendations recognize the importance of social and environmental change to reduce the obesity epidemic but also identify ways healthcare providers and health care systems can be part of broader efforts



The Children`s Obesity Clinic

BMI above 99% percentile
for age and gender

Age between 3-18 years

No selection criteria



European Association for the Study of Obesity

**EASO Collaborating Centres for Obesity Management (COMs)
Paediatric Section**

**Centre: The Children's Obesity Clinic, Copenhagen University Hospital
Contact: Jens-Christian Holm**

We would like to take this opportunity to thank you for submitting an application for your centre to become an EASO accredited Collaborating Paediatric Centre for Obesity Management.

Under the EASO COM scheme, paediatric obesity management centres (including university and public clinics) are accredited against a set of carefully developed criteria and in accordance with accepted European and academic guidelines, with applying centres assessed by the EASO Childhood Obesity Task Force (COTF). The COTF has completed its assessment of your centre and we are pleased to confirm that your application was successful – your centre has thus been granted EASO COM status for the three year period **1st May 2015 to 31st April 2018**

Your centre will therefore be recognised by EASO as a leading paediatric obesity management centre in Europe throughout that period. The EASO COM network brings together accredited centres from across Europe and as a member of this network, your centre will have the opportunity to contribute to a number of important EASO projects. One of the main goals of the COM network is to develop consensus guidelines on a number of management issues, with consensus achieved via the exchange of expertise during specially convened 'Paediatric COM Summit Meetings'.

We will send further information in due course, and look forward to working with you to develop the EASO Paediatric COM network and its important actions in the coming years.

With kind regards
Yours sincerely

Professor Gema Frühbeck
President, EASO

Professor Nathalie Farpour-
Lambert
Chair, EASO COTF

Mr Euan Woodward
Executive Director, EASO

On behalf of the EASO COTF and Executive Committee.



TCOCT protocol

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5 hours of HCP time per patient per year

Reduces the degree of obesity in 65, 75, 80 and 90% of children

Møllerup, P., Gamborg, M., Trier, C., Bojsøe, C., Nielsen, T. R. H., Baker, J. L., Holm, J.-C. The Childhood Obesity Treatment Protocol Adopted into a Community-Based Treatment Programme. *PLoS One*. 2017 Mar 6;12(3):e0173033. Most, S. W. *et al.* Adoption of the children's obesity clinic's treatment (TCOCT) protocol into another Danish pediatric obesity treatment clinic. *BMC Pediatrics* 15, 13 (2015). Holm, J.-C. *et al.* Chronic care treatment of obese children and adolescents. *International Journal of Pediatric Obesity* 6, 188–196 (2011)

Reduce degree of hypertension

Hvidt, K. N., Olsen, M. H., Ibsen, H. & Holm, J.-C. Effect of changes in BMI and waist circumference on ambulatory blood pressure in obese children and adolescents. *J. Hypertens.* 32, 1470–1477; (2014).

Reduce degree of steatosis

Fonvig, C. E. *et al.* Multidisciplinary care of obese children and adolescents for one year reduces ectopic fat content in liver and skeletal muscle. *BMC Pediatr* 15, 196 (2015).

Reduce degree of dyslipidemia

Nielsen, T. R. H. *et al.* Changes in lipidemia during chronic care treatment of childhood obesity. *Child Obes* 8, 533–541 (2012).

Reduce parental degree of obesity

Trier, C. *et al.* Effects of a Family-Based Childhood Obesity Treatment Program on Parental Weight Status. *PLOS ONE* 11, e0161921 (2016).

Reduces appetite and bullying

Fonvig et al, 2017, in review.

Increases QoL body self-esteem

Møllerup, P. M., Nielsen, T. R. H., Bojsøe, C., Kloppenborg, J. T., Baker, J. L., Holm, J.-C. Quality of Life Improves in Children and Adolescents during a Community-Based Overweight and Obesity Treatment. *Qual. Life Res. Int. J. Qual. Life Asp. Treat. Care Rehabil.* 2017 DOI: 10.1007

Primary and secondary sectors

Møllerup, P., Gamborg, M., Trier, C., Bojsøe, C., Nielsen, T. R. H., Baker, J. L., Holm, J.-C. PLoS One. 2017 Mar 6;12(3):e0173033. Holm, J.-C. *et al.* Chronic care treatment of obese children and adolescents. *International Journal of Pediatric Obesity* 6, 188–196 (2011)

Preliminary studies in adults (weight reduction in 80%)

Independent upon baseline degree of obesity and SES

Holm, J.-C. *et al.* Chronic care treatment of obese children and adolescents. *International Journal of Pediatric Obesity* 6, 188–196 (2011)

Independent on familial predisposition

Nielsen, L. A. *et al.* The influence of familial predisposition to cardiovascular complications upon childhood obesity treatment. *PLoS ONE* 10, e0120177 (2015).

Independent on impaired glucose metabolism

Kloppenborg et al, 2017, in review.

Independent on disordered eating

Fogh et al, 2017, in review.

Independent on sugary intakes

Trier, C. *et al.* No influence of sugar, snacks and fast food intake on the degree of obesity or treatment effect in childhood obesity. *Pediatric Obesity* n/a-n/a (2016).

ORIGINAL ARTICLE

Chronic care treatment of obese children and adolescents

JENS-CHRISTIAN HOLM¹, MICHAEL GAMBORG², DORTHE S. BILLE¹,
HELLE N. GRØNBÆK¹, LEIGH C. WARD³ & JAN FAERK¹

¹The Children's Obesity Clinic, Department of Pediatrics, Holbæk University Hospital, Holbæk, Denmark,

²Institute of Preventive Medicine, Copenhagen University Hospital, Copenhagen, Denmark, ³School of Chemistry and Molecular Biosciences, The University of Queensland, Brisbane, Queensland, Australia

Abstract

Objectives. Clinically-relevant protocols for the treatment of childhood obesity are lacking. This study report results for a clinic-based structured treatment program for chronic childhood obesity. **Methods.** Patients were measured at baseline and for up to 24 months; there were no prior eligibility criteria. At baseline, height, weight, Tanner stages, testicular size, time of menarche, and social class of the parents were registered. A structured, tailored treatment plan including best-practice-based interventions was initiated. Height, weight, and pubertal development were measured at subsequent visits. **Results.** A total of 617 children or youths were included; 325 were girls and 292 were boys. At entry, the mean age was 11.6 years and the mean body mass index (BMI) standard deviation score (SDS) was 3.0. Seventy stopped treatment, 547 were in treatment, 125 had 1 examination, and 492 had two or more examinations, with a mean visit interval of six weeks. After 12 months, the mean BMI SDS decreased by 0.23 ($P < 0.0001$) in girls and by 0.32 ($P < 0.0001$) in boys. After one year, the retention rate was 90.2%, and 68.7% had reduced BMI SDS. After two years, the retention rate was 75.0%, of which 62.5% had reduced BMI SDS. The reductions in BMI SDS were independent of baseline adiposity, age (in boys), puberty stage, and social class, but were dependent on sex, age (girls), and place of referral. **Conclusions.** This clinical obesity treatment was safe and effective in reducing BMI SDS independent of baseline adiposity, age (boys), or social class in these young people.

Key words: Adolescent, BMI SDS, child, longitudinal study, obesity, puberty, treatment, weight gain, weight loss

Effect of changes in BMI and waist circumference on ambulatory blood pressure in obese children and adolescents

Kristian Nebelin Hvidt^{a,b}, Michael Hecht Olsen^c, Hans Ibsen^a, and Jens-Christian Holm^b

See editorial comment on page 1397

Background: Weight reduction has been accompanied with a reduction in clinic blood pressure (BP) in children and adolescents; however, the effect on ambulatory BP (ABP) is uncertain. The objective was to investigate the impact of weight changes on ABP in obese children and adolescents.

Methods: Sixty-one severely obese patients aged 10–18 years underwent lifestyle intervention at the Children's Obesity Clinic. Patients were examined with ABP monitoring at baseline and after 1 year of treatment (follow-up). To account for growth, BP and BMI were standardized into z scores, whereas waist circumference was indexed by height (waist/height ratio (WHR)).

Results: Patients experienced a reduction at follow-up in the degree of obesity (Δ BMI z score: -0.21 , 95% confidence interval (CI) -0.32 to -0.10 , $P=0.0003$; and Δ WHR: -0.02 , 95% CI -0.03 to -0.004 , $P=0.009$). Δ 24-h, Δ daytime and Δ night-time SBP and DBP in mmHg and changes in equivalent z scores were related to Δ BMI z scores and Δ WHR. These relationships were reproduced in multiple regression analyses adjusted for relevant confounders, for example, a reduction in one BMI z score corresponds to a reduction in 24-h SBP by 6.5 mmHg ($P<0.05$). No relationship was found between changes in these anthropometric obesity measures and changes in clinic BP.

Conclusion: Changes in obesity measures were closely related to changes in ABP, but not to changes in clinic BP, in severe obese children and adolescents after 1 year of lifestyle intervention. The findings

INTRODUCTION

Obesity is associated with elevated blood pressure (BP) in children and adolescents [1,2], and weight reduction has been accompanied with a reduction in clinic BP [3–5]. Ambulatory BP (ABP) is the most precise measure to evaluate the BP burden [6–8], and weight-associated reduction in ABP has been related to a reduction in risk factors of cardiovascular disease in adults [9]. Knowledge is lacking on the effect of weight reduction on ABP in children and adolescents, and it is unknown whether changes in ABP are more closely related to changes in the degree of obesity when compared to changes in clinic BP.

Anthropometric and BP measurements over time during childhood are complicated by the influence of growth. However, actual measured values of BMI and BP can be standardized into z scores in respect to normative reference populations [10,11]. An ABP z score value of zero is the expected mean in respect to sex and height of the reference population [8,12]. Waist circumference – a surrogate for abdominal fat – can be indexed by height representing growth when comparing measurements over time [13–15].

The objective of the present study is to investigate whether weight changes are more closely related to changes in ABP than changes in clinic BP in severe obese children and adolescents after 1 year of lifestyle intervention.

METHODS

Design and patients

Recruitment period was from January 2011 to January 2012, and continued until 100 obese Caucasian patients were



CHILDHOOD OBESITY
December 2012 | Volume 8, Number 6
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ORIGINAL ARTICLE

Changes in Lipidemia during Chronic Care Treatment of Childhood Obesity

Tenna Ruest Haarmark Nielsen, M.D.,¹ Michael Gamborg, Ph.D.,²
Cilius Esmann Fonvig, M.D.,¹ Julie Kloppenborg, M.D.,¹ Kristian Nebelin Hvidt, M.D.,^{1,3}
Hans Ibsen, M.D., DrMedSci,³ and Jens-Christian Holm, M.D., Ph.D.¹

Conclusion: High lipid concentrations were associated with childhood obesity. The lipid profile improved during weight loss independently of the baseline BMI SDS and baseline lipid concentration.

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Reductions in hepatic steatosis in chronic care childhood obesity treatment



- 88 (31 %) of 287 overweight/obese children and adolescents
- 12 months of treatment: significant reductions in hepatic fat (especially in those exhibiting hepatic steatosis),
- independent of age, sex, pubertal stage, duration of treatment, changes in BMI SDS, baseline degree of obesity.

RESEARCH ARTICLE

¹H-MRS Measured Ectopic Fat in Liver and Muscle in Danish Lean and Obese Children and Adolescents

Cilius Esmann Fonvig^{1,2*}, Elizaveta Chabanova³, Ehm Astrid Andersson², Johanne Dam Oht¹, Oluf Pedersen², Torben Hansen^{2,4}, Henrik S. Thomsen^{3,5}, Jens-Christian Holm^{1,5}

Fonvig et al. *BMC Pediatrics* (2015) 15:196
DOI 10.1186/s12887-015-0513-6

BMC Pediatrics

RESEARCH ARTICLE

Open Access

Multidisciplinary care of obese children and adolescents for one year reduces ectopic fat content in liver and skeletal muscle



Cilius Esmann Fonvig^{1,2*}, Elizaveta Chabanova³, Johanne Dam Oht¹, Louise Aas Nielsen¹, Oluf Pedersen², Torben Hansen², Henrik S. Thomsen^{3,4} and Jens-Christian Holm^{1,4}

RESEARCH ARTICLE

Effects of a Family-Based Childhood Obesity Treatment Program on Parental Weight Status

Cæcilie Trier^{1,2*}, Maria Dahl¹, Theresa Stjernholm¹, Tenna R. H. Nielsen^{1,2}, Christine Bøjsøe^{1,2}, Cilius E. Fonvig^{1,2}, Oluf Pedersen², Torben Hansen^{2,3}, Jens-Christian Holm^{1,2,4}

Table 2. Changes in parental body mass index of the parents of 664 children included in obesity treatment.

	Mothers				Fathers			
	N	% of total	Delta-BMI, kg/m ²	<i>p</i> ^a	N	% of total	Delta-BMI, kg/m ²	<i>p</i> ^a
All	606	100	-0.5 (-0.8;-0.2)	0.0006	479	100	-0.4 (-0.6;-0.2)	0.0007
Normal weight	183	30	0.8 (0.5;1.1)	<0.0001	96	20	0.6 (0.3;0.8)	0.0001
Overweight	195	32	-0.4 (-0.7;-0.0)	0.04	191	40	-0.4 (-0.6;-0.1)	0.01
Obese	228	38	-1.7 (-2.3;-1.0)	<0.0001	192	40	-0.9 (-1.4;-0.5)	0.0001

Data are given as means with 95% confidence intervals unless stated otherwise.

Normal weight: BMI below 25 kg/m². Overweight: BMI equal to or above 25 kg/m² but below 30 kg/m². Obese: BMI equal to or above 30 kg/m²

^a Paired t-test was used to calculate the *p*-values.

No influence of sugar, snacks and fast food intake on the degree of obesity or treatment effect in childhood obesity

C. Trier,^{1,2} C. E. Fonvig,^{1,2} C. Bøjsøe,¹ P. M. Møllerup,¹ M. Gamborg,³ O. Pedersen,² T. Hansen^{2,4} and J.-C. Holm^{1,2,5}

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Summary

Background: Increased consumption of sweetened beverages has previously been linked to the degree of childhood obesity.

Objective: The aim of the present study was to assess whether the intake of sweetened beverages, candy, snacks or fast food at baseline in a multidisciplinary childhood obesity treatment program was associated with the baseline degree of obesity or the treatment effect.

Methods: This prospective study included 1349 overweight and obese children (body mass index standard deviation scores (BMI SDS) ≥ 1.64) enrolled in treatment at The Children's Obesity Clinic, Copenhagen University Hospital Holbæk. The children were evaluated at baseline and after up to 5.9 years of treatment (median 1.3 years).

Results: Both boys and girls decreased their BMI SDS during treatment with a mean decrease in boys of 0.35 ($p < 0.0001$) and in girls of 0.22 ($p < 0.0001$) after 1 year of treatment. There were no associations between the baseline intake of sweetened beverages, candy, snacks, and/or fast food and BMI SDS at baseline or the change in BMI SDS during treatment.

Conclusions: The intake of sweetened beverages, candy, snacks or fast food when entering a childhood obesity treatment program was not associated with the degree of obesity at baseline or the degree of weight loss during treatment.

Keywords: paediatric, obesity, treatment, sugar, beverages.

Abbreviations: BMI, Body mass index; SDS, Standard deviation score; SSB, Sugar-sweetened beverages; LI, Low intake; HI, High intake; MI, Medium intake; ALL-HI, All-high intake

Introduction

The prevalence of childhood overweight and obesity has increased rapidly during the past decades (1,2). Although some studies show evidence of a stabilization of the prevalence rates, childhood obesity remains a major health challenge worldwide (3,4). Simultaneously, the intake of sugar-sweetened beverages (SSB), snacks and some variants of fast food among

children has likewise increased (5), which may contribute to the high prevalence of childhood obesity.

A large number of cross-sectional and prospective studies have reported an association between a high intake (HI) of SSB and the development of obesity in both adults and children (6–10), although other studies have not confirmed this association (11–14). The association between a HI of snacks or fast food and the development of obesity in childhood remains unclear (10,15).

RESEARCH ARTICLE

The Influence of Familial Predisposition to Cardiovascular Complications upon Childhood Obesity Treatment

Louise A. Nielsen^{1*}, Christine Bøjsøe¹, Julie T. Kloppenborg^{1,2}, Cæcilie Trier^{1,3}, Michael Gamborg⁴, Jens-Christian Holm^{1,5}

Abstract

Introduction

The aim was to investigate whether a familial predisposition to obesity related cardiovascular complications was associated with the degree of obesity at baseline and/or changes in the degree of obesity during a multidisciplinary childhood obesity treatment program.

Methods

The study included 1421 obese children (634 boys) with a median age of 11.5 years (range 3.1–17.9 years), enrolled in treatment for 0.04 to 5.90 years (median 1.3 years) at the Children's Obesity Clinic, Denmark. At baseline, weight and height were measured, body mass index (BMI) standard deviation score (SDS) calculated, and self-reported information on familial predisposition to obesity, hypertension, type 2 diabetes mellitus (T2DM), thromboembolic events, and dyslipidaemia were obtained. A familial predisposition included events in biological parents, siblings, grandparents, uncles, and aunts. The treatment outcomes were categorically analysed according to the prevalence of familial predispositions.

Results

The median BMI SDS at enrolment was 3.2 in boys and 2.8 in girls. One-thousand-and-forty-one children had obesity in their family, 773 had hypertension, 551 had T2DM, 568 had thromboembolic events, and 583 had dyslipidaemia. Altogether, 733 had three or more predispositions. At baseline, familial T2DM was associated with a higher mean BMI SDS ($p = 0.03$), but no associations were found between the other predispositions and the children's degree of obesity. During treatment, girls with familial obesity lost more weight, compared to girls without familial obesity ($p = 0.04$). No other familial predispositions were associated with changes in BMI SDS during treatment.

Conclusion

Obese children with a familial predisposition to T2DM showed a significantly higher degree of obesity at baseline and girls with familial obesity responded better to treatment. Besides these findings, no other associations were found between the occurrence of familial predispositions and the degree of obesity or changes herein during multidisciplinary childhood obesity treatment.

Subjective evaluation of psychosocial well-being in children and youths with overweight or obesity: the impact of multidisciplinary obesity treatment

Cilius Esmann Fonvig^{1,2} · Sophie Amalie Hamann¹ · Tenna Ruest Haarmark Nielsen^{1,2} · Mia Østergaard Johansen¹ · Helle Nergaard Grønbaek¹ · Pernille Maria Mollerup¹ · Jens-Christian Holm^{1,2,3}

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Abstract

Purpose To investigate the effects of a multidisciplinary childhood obesity treatment programme on subjective evaluations of psychosocial well-being and quality of life.

Methods This longitudinal observational study included 1291 children, adolescents and young adults, 6–22 years of age, with overweight or obesity. At entry and after 2–82 months of obesity treatment, the patients evaluated the following domains of psychosocial well-being on a visual analogue scale: quality of life, mood, appetite, bullying, motivation for weight loss and body image satisfaction. The degree of overweight was calculated using a body mass index (BMI) standard deviation score (SDS) at each visit.

Results At entry, the mean BMI SDS was 2.81 (range: 1.35–6.65, 95% confidence interval (95% CI): 2.44–3.18). After a median of 14 months of treatment, the median reduction in BMI SDS was 0.29 (95% CI: 0.26–0.31, $p < 0.0001$). Improvements were observed in the domains

of quality of life, mood, appetite, bullying and body image satisfaction ($p < 0.0001$). Larger reductions in BMI SDS were associated with greater improvements in the domains of quality of life ($p = 0.001$), mood ($p = 0.04$) and body image satisfaction ($p < 0.0001$), independent of BMI SDS at entry. However, improvements in psychosocial well-being were also observed in those increasing their BMI SDS ($n = 315$).

Conclusions In a large group of children and youths, psychosocial well-being improved during a multidisciplinary childhood obesity treatment programme, irrespective of the degree of obesity at treatment entry. Greater reductions in BMI SDS were associated with greater improvements in psychosocial well-being, but even in the group increasing their BMI SDS improvements were observed.

Keywords Appetite · Body image · Bullying · Motivation · Paediatric obesity · Quality of life

Electronic supplementary material The online version of this article (doi:10.1007/s11136-017-1667-5) contains supplementary material, which is available to authorized users.

Cilius Esmann Fonvig and Sophie Amalie Hamann have contributed equally to this work.

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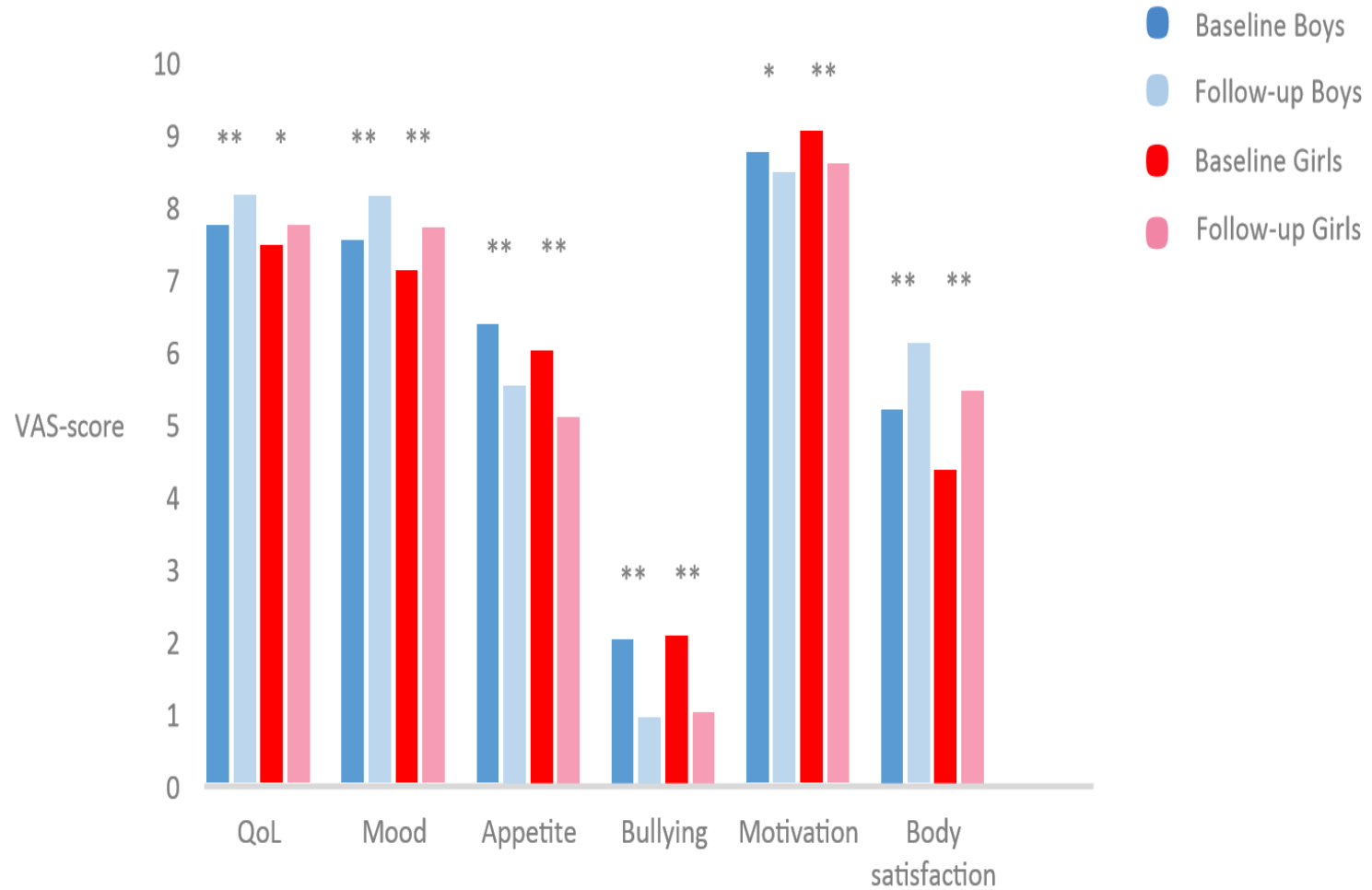
³ Faculty of Health and Medical Sciences, University of Copenhagen, 2200 Copenhagen, Denmark

Abbreviations

BMI	Body mass index
HRQoL	Health-related quality of life
QoL	Quality of life
SDS	Standard deviation score
TCOCT	The children's obesity clinic treatment
VAS	Visual analogue scale

Introduction

The development of paediatric obesity is influenced by a wide range of factors including genetic predisposition [1], sedentary behaviour [2], unfavourable diet [3], socioeconomic status [4, 5] and health-related quality of life

Figure 1. Changes in psychosocial well-being during childhood obesity treatment

RESEARCH ARTICLE

Open Access

Adoption of the children's obesity clinic's treatment (TCOCT) protocol into another Danish pediatric obesity treatment clinic

Sebastian W Most^{1*}, Birgitte Højgaard¹, Grete Teilmann^{1,4}, Jesper Andersen^{1,4}, Mette Valentiner¹, Michael Gamborg² and Jens-Christian Holm^{3,4}

Abstract

Background: Treating severe childhood obesity has proven difficult with inconsistent treatment results. This study reports the results of the implementation of a childhood obesity chronic care treatment protocol.

Methods: Patients aged 5 to 18 years with a body mass index (BMI) above the 99th percentile for sex and age were eligible for inclusion. At baseline patients' height, weight, and tanner stages were measured, as well as parents' socioeconomic status (SES) and family structure. Parental weight and height were self-reported. An individualised treatment plan including numerous advices was developed in collaboration with the patient and the family. Patients' height and weight were measured at subsequent visits. There were no exclusion criteria.

Results: Three-hundred-thirteen (141 boys) were seen in the clinic in the period of February 2010 to March 2013. At inclusion, the median age of patients was 11.1 years and the median BMI standard deviation score (SDS) was 3.24 in boys and 2.85 in girls. After 1 year of treatment, the mean BMI SDS difference was -0.30 (95% CI: -0.39 ; -0.21 , $p < 0.0001$) in boys and -0.19 (95% CI: -0.25 ; -0.13 , $p < 0.0001$) in girls. After 2 years of treatment, the mean BMI SDS difference was -0.40 (95% CI: -0.56 ; -0.25 , $p < 0.0001$) in boys and -0.24 (95% CI: -0.33 ; -0.15 , $p < 0.0001$) in girls. During intervention 120 patients stopped treatment. Retention rates were 0.76 (95% CI: 0.71; 0.81) after one year and 0.57 (95% CI: 0.51; 0.63) after two years of treatment. Risk of dropout was independent of baseline characteristics. Median time spent by health care professionals was 4.5 hours per year per patient and the mean visit interval time was 2.7 months. The reductions in BMI SDS were dependent on gender, parental BMI, and family structure in girls, but independent of baseline BMI SDS, age, co-morbidity, SES, pubertal stage, place of referral, hours of treatment per year, and mean visit interval time.

Conclusions: The systematic use of the TCOCT protocol reduced the degree of childhood obesity with acceptable retention rates with a modest time-investment by health professionals.

Keywords: Adolescence, BMI, Child, Obesity, Puberty, Treatment

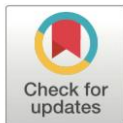
RESEARCH ARTICLE


A hospital-based child and adolescent overweight and obesity treatment protocol transferred into a community healthcare setting

Pernille Maria Møllerup^{1*}, Michael Gamborg², Cæcilie Trier^{1,3}, Christine Bøjsøe^{1,3}, Tenna Ruest Haarmark Nielsen^{1,3}, Jennifer Lyn Baker^{2,3}, Jens-Christian Holm^{1,3,4}

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 OPEN ACCESS

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Data Availability Statement: All relevant data will be within the papers Supporting Information files after acceptance.

Funding: The study was funded by the Region of Zealand, the Region Zealand Health Scientific

Abstract

Background

Due to the pandemic of child and adolescent overweight and obesity, improvements in overweight and obesity treatment availability and accessibility are needed.

Methods

In this prospective study, we investigated if reductions in body mass index (BMI) standard deviation scores (SDS) and waist circumference (WC) would occur during 1.5 years of community-based overweight and obesity treatment based upon an effective hospital-based overweight and obesity treatment protocol, The Children's Obesity Clinics' Treatment protocol. Height, weight, and WC were measured at all consultations. Changes in BMI SDS and WC were analyzed using linear mixed models based upon the repeated measures in each child.

Results

From June 2012 to January 2015, 1,001 children (455 boys) were consecutively enrolled in the community-based treatment program. Upon entry, the median age was 11 years (range: 3–18), and the median BMI SDS was 2.85 (range: 1.26–8.96) in boys and 2.48 (range: 1.08–4.41) in girls. After 1.5 years of treatment BMI SDS was reduced in 74% of the children. BMI SDS was reduced by a mean of 0.38 (95% confidence interval (CI): 0.30–0.45,

Quality of life improves in children and adolescents during a community-based overweight and obesity treatment

Pernille M. Møllerup¹ · Tenna R. H. Nielsen^{1,2} · Christine Bøjsøe^{1,2} · Julie T. Kloppenborg^{1,3} · Jennifer L. Baker^{2,4} · Jens-Christian Holm^{1,2,5}

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Abstract

Purpose The quality of life is compromised in children and adolescents with overweight or obesity. The aim of this study was to evaluate whether the quality of life improves during a community-based overweight and obesity treatment, and whether improvements depend on reductions in the degree of obesity.

Methods Quality of life was assessed using the Pediatric Quality of Life Inventory (PedsQL) 4.0 in children and adolescents aged 3–18 years with overweight or obesity [body mass index (BMI) \geq 85th percentile] upon entry into a community-based chronic care overweight and obesity treatment based upon The Children's Obesity Clinic's Treatment protocol, and upon follow-up after 10–30 months of treatment. Height and weight were measured at each consultation and converted into a BMI standard deviation score (SDS).

Results Upon entry, 477 children (212 boys) completed a PedsQL, and 317 (143 boys) completed another PedsQL after a median of 13 months of treatment. Quality of life improved ($p < 0.001$), regardless of sex, age, and pubertal development stage upon entry ($p \geq 0.108$). Greater reductions in BMI SDS and high socioeconomic status were associated with greater improvements in the quality of life ($p \leq 0.047$). However, improvements also occurred in children and adolescents with low socioeconomic status or who increased their BMI SDS ($p < 0.001$).

Conclusions Improvements in quality of life occurred in children and adolescents during a community-based overweight and obesity treatment, even in children and adolescents who increased their BMI SDS. Thus, improvements may be due to the treatment itself and not exclusively to reductions in BMI SDS.

Trial registration Clinicaltrials.gov, ID-no.: NCT02013843.

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Keywords Adolescent · Child · Community health services · Obesity · Overweight · Quality of life

Abbreviations

BMI	Body mass index
PedsQL	Pediatric Quality of Life Inventory
QoL	Quality of life
SDS	Standard deviation score
TCOCT	The Children's Obesity Clinic's Treatment

ORIGINAL ARTICLE

Reductions in blood pressure during a community-based overweight and obesity treatment in children and adolescents with prehypertension and hypertension

PM Mollerup¹, U Lausten-Thomsen¹, CE Fonvig^{1,2}, JL Baker^{2,3} and J-C Holm^{1,2,4}

Due to the pandemic of childhood obesity and thus obesity-related hypertension, improvements in treatment availability are needed. Hence, we investigated whether reductions in blood pressure (BP) would occur in children with overweight and obesity exhibiting prehypertension/hypertension during a community-based overweight and obesity treatment program, and if changes in body mass index (BMI) are associated with changes in BP. The study included 663 children aged 3–18 years with a BMI \geq 85th percentile for sex and age that entered treatment from June 2012 to January 2015. Height, weight and BP were measured upon entry and every 3–6 months. BMI and BP s.d. scores (SDSs) were calculated according to sex and age, or sex, age and height. Prehypertension was defined as a BP SDS \geq 1.28 and $<$ 1.65. Hypertension was defined as a BP SDS \geq 1.65. Upon entry, 52% exhibited prehypertension (11.9%) or exhibited hypertension (40.1%). After 12 months (range: 3–29) of treatment, 29.3% of the children with prehypertension/hypertension were normotensive. Children with systolic prehypertension/hypertension upon entry reduced their systolic BP SDSs by 0.31 (95% confidence interval (CI): 0.70–0.83, $P < 0.0001$). Children with diastolic prehypertension/hypertension upon entry reduced their diastolic BP SDSs by 0.78 (95% CI: 0.78–0.86, $P < 0.0001$). BMI SDS changes were positively associated with BP SDS changes ($P < 0.0001$). Nonetheless, some children reduced BP SDSs while increasing their BMI SDSs, and prehypertension/hypertension developed in 23.3% of the normotensive children despite reductions in BMI SDSs ($P < 0.0001$). These results suggest that community-based overweight and obesity treatment can reduce BP, and thus may help improve treatment availability.



Clinic

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- Preventive nurse and dietician
- 7 pages questionnaire as history
- Anthropometry and PEDsQL and VAS
- Impedance to measure body composition
- Same pedagogy
- Same strategies
- Same criteria of success
- Same treatment plans

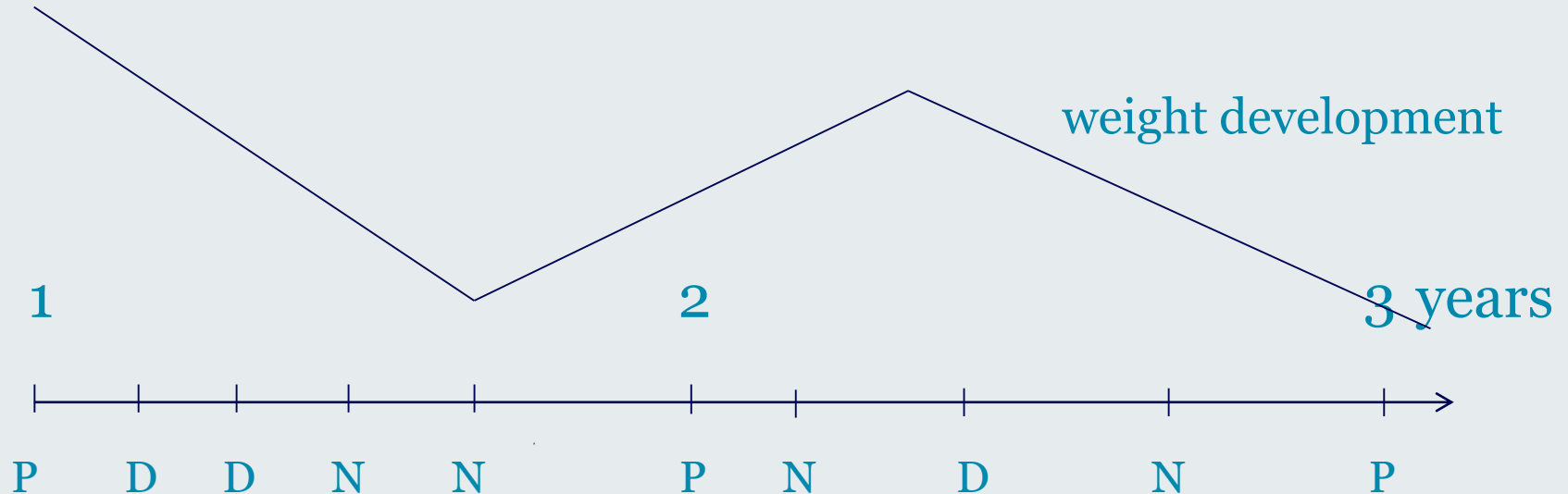


Treatment course

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weight development



- 5.5 hours of hcp time per patient/year in secondary sector and 4.5 in the primary sector



Strategies

Eating practices; arranged in the kitchen, plate model, 2 serving after 20 minutes in order to target the eating disturbance; over-, rapid-, comfort eating, and avoidance of meals

Satiated at meals – conservatively speaking (ad libitum intake!)

Sugar dependency?

Picky eating

Allowance

In bed times

Hygiene



Criteria of succes

- Avoid drop-out
- To reach the children, establish trust
- Getting better with a reduced appetite
- Maintain weight during growth
- Adult height; weight loss
- Severely obese; lower weight though still obese



Plan items

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1. *Eat breakfast*
2. *Avoid high fat and sugar refined products*
3. *Eat cereals, dark bread with low fat meats rich in vitamins and minerals*
4. *Lunch; avoid high fat and sugar products*
5. *Eat dark bread with low fat meats / vegetables*
6. *Afternoon; avoid various high fat and sugar intakes*
7. *Controlled eating similar to breakfast*
8. *Dinner; avoid high fat diets*
9. *Instead low fat meats, complex carbohydrates, vegetables*



Plan items

10. *Fast food reduced to once monthly*
11. *Sweets once weekly*
12. *Snacking once weekly*
13. *Soda, juice, ice-tea etc one weekly; 1/2 l in total*
14. *Fruit; max 2 per day*
15. *Transportation to school; walking or bicycling*
16. *TV/PC reduced to 2 hours daily*
17. *TV/PC not before 5 o`clock pm*
18. *Organized sport*



Fokuseret pædagogik

REGION
SJÆLLAND



- Baseret på sand empati, ikke behandlerens spekulationer eller forestillinger
- Et udvidet behandleransvar
- Behandlingsplan med 10-25 planpunkter
- Uden kompromis igennem vækst og udvikling



Modstand & Magt

Modstand

- *Sarkasme*
- *Ironi*
- *Undskyldninger*
- *Forklaringer*
- *Intellektualiseringer*

- *Distraction*
- *Forvirring*
- *Kaos*

Authoritet

- Sætte grænser
- Korrigere
- Træde i karakter

- Behandleransvar
- Behandlerresignation
- Behandlerekcellence



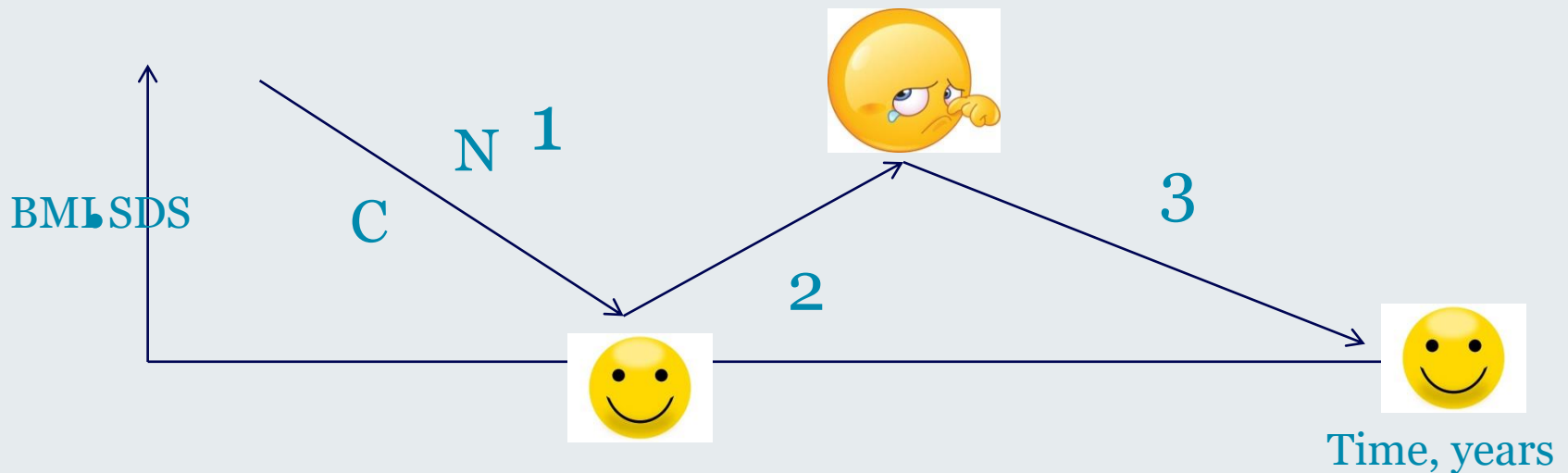
Double trouble

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- *Udfordringer*; lav social klasse, anden etnicitet, udviklingshæmning, pubertet,
- *Forestillinger (behandler/patienter)*; begge forældre skal ledsage barnet, patienten skal lære og inspireres af deres egne succeser, undlade at måle og veje børnene, stor psykosocial belastning, den nye pædagogik fratager den sundhedsprofessionelle sin faglighed
- *Double trouble*

- Procesudvikling, behandlingsudvikling

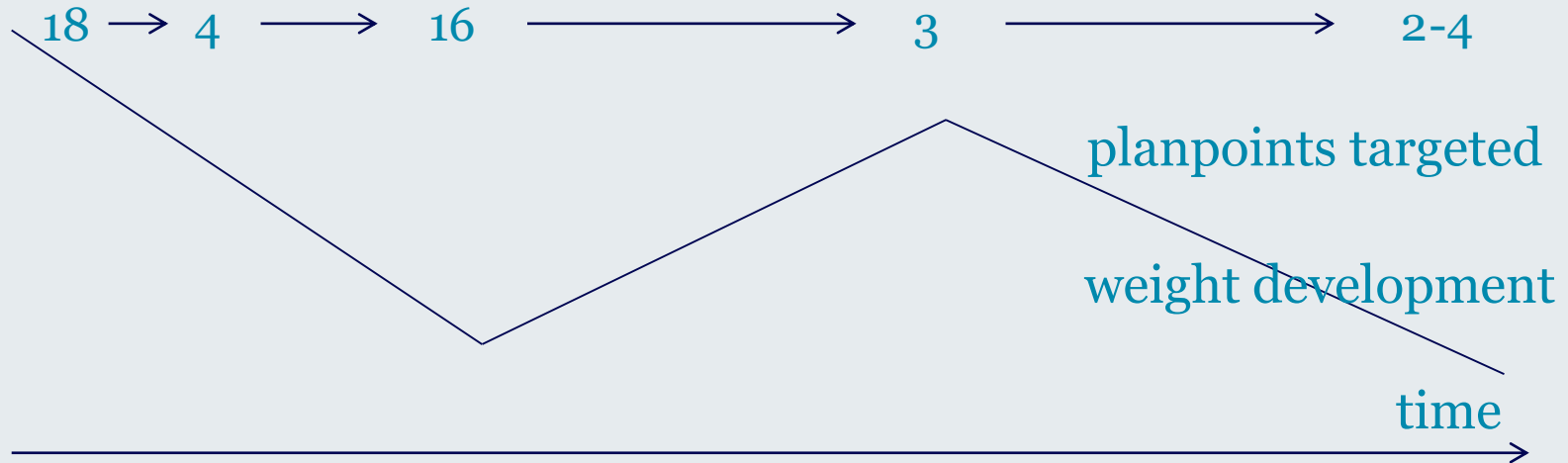


- Phase 1; weight loss by treatment plan
- Phase 2; compliance/ adaptation against weight loss
- Phase 3; realizing your reality and treatment need
- Induce process development within the family



Treatment dynamics

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Identify those issues that troubles the patient and family quickly and focus target on those difficult issues in the forthcoming consultations

Holm JC *et al* IJPO. 2011 Aug;6(3-4):188-96

Mollerup, P. *et al*. PLoS One. 2017 Mar 6;12(3):e0173033.



Authenticity and self-identification

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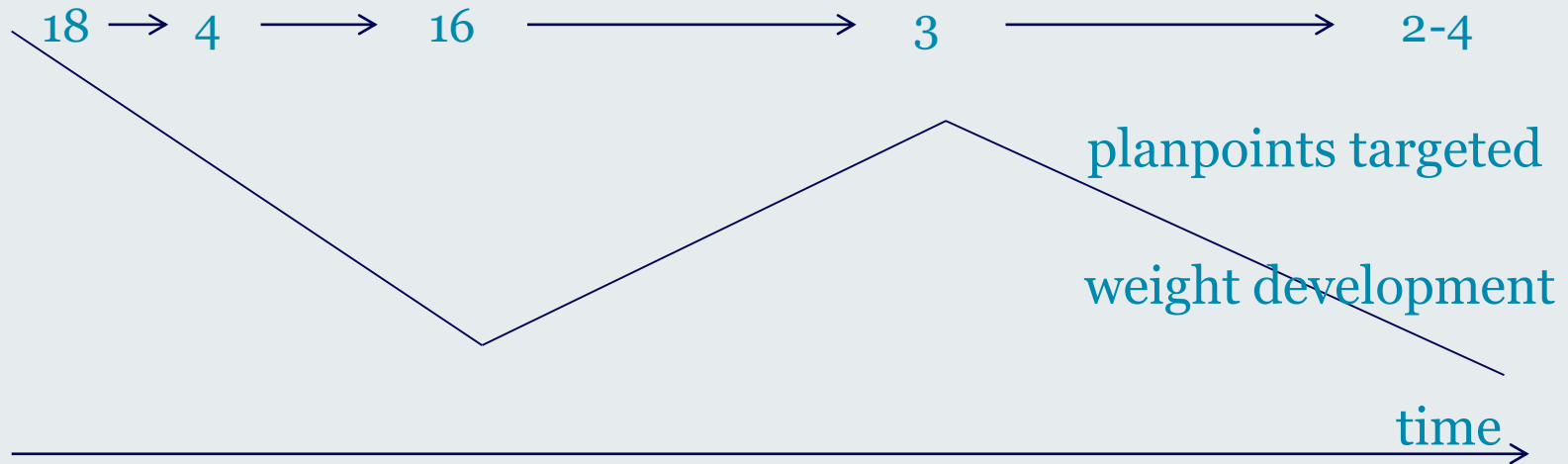


- Neutral communication introduce adaptation against weight loss as an external cause of obesity, reduce guilt and shame
- Treatment obstacles are easily understood and causes no blame, focus on external factors
- All treatment points are essential in weight loss
- Introduce empowerment and self-awareness
- Compromises will burden the patient/child`s weight development
- Process development over time to integrate and establish a lifestyle as *a new normal*
- Control the environment



Motiverende samtale

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Medfører skyld, skam og selvbebrejdelse

Holm JC. Behandlerbladet Diabetes. Behandleren kan gøre sig skyldig i mislykket vægttab.



Direct and indirect effects

- Direct effects securing daily family based habits providing efficient sleep, nutrition, activity, development, education, and safety according to the **UNICEF criteria** of a healthy life during childhood
- Indirect effects secure well-being and thriving which induce family involving process development to guard the child, raising and parenting
- Parents aren't to blame
- Parents are the solution
- All parents want to guard their child
- Health care professionals act and take responsibility like in other chronic diseases in childhood
- All patients are highly motivated



Stereotypier

REGION
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- *Empati*
- *Anerkendelse, overforståelse, alliancer*
- *Tid*
- *Se godt ud*
- *Motivation*



Opdragelse

REGION
SJÆLLAND



- konkret behandlingsplan medfører at behandlingspunkterne bliver sat i værk i dagligdagen så at forældrenes opdragelse af børnene blive styrket med en forbedret grænsesætning og en mere tydelig kommunikation forældre og børn imellem
- *Forkælelse, curling, rænseløs opdragelse, den bedste vilje/misforstået hensyn vs at stille krav, udfordre og sætte grænser et barn/et ungt menneske igennem vækst og udvikling*



Indbyggede dynamikker

REGION
SJÆLLAND



- *Familiær disposition adresserer alvor*
- *Følsomme spg efterfølges af ofte mindre relevante spg medfører sjov og befriende*
- *Mange spg adresserer seriøsitet og omhu*
- *Behandlingsplan identificerer hurtigt de største udfordringer*
- *Direkte og indirekte effekter*



Perspektiv

REGION
SJÆLLAND



- behandleren bibringer patienten det nødvendige perspektiv som hurtigt eliminerer dybe og komplekse psykosociale problemstillinger inklusive at adressere splitting og andre komplekse familiære psykosociale problemer skånsomt uden bebrejdelser, uden tabuisering, skam, skyld og bebrejdelse



Perspektiv

REGION
SJÆLLAND



- patienten opnår et livsvigtigt perspektiv der medfører at behandlerens styring af behandlingen udvikler sig til at patienten selv overtager styringen, hvilket vil sige styring til selvstyring, således at man hjælper patienten til at hjælpe sig selv, at man giver patienten omsorg så at patienten udvikler egenomsorg. Det er i denne perspektivudvikling at patienten lærer at mestre sit liv, lære at mestre sine udfordringer og dermed tager ansvar for sit eget liv, 24/7 resten af livet.



Ny pædagogik

- den nye pædagogik understøtter UNICEFs konvention for et godt barneliv som betyder at børn og unge skal 1. spise sundt 2. bevæge sig 3. sove godt og 4. ikke lide overlast og 5. lærer svarende til deres potentiale i skolen. Disse 5 kriterier er fundamentale for at sikre det normale barns sundhed, trivsel og udvikling.

- According to the Convention on the Rights of the Child (CRC) by the UNICEF;
- this reality is unacceptable because all children should be able to receive medical care when it is needed: ‘States Parties recognize the right of the child to the enjoyment of the highest attainable standard of health and to facilities for the treatment of illness and rehabilitation of health. States Parties shall strive to ensure that no child is deprived of his or her right of access to such health care services’





Pædagogik

REGION
SJÆLLAND



Authencitet
Selv-identifikation
Forandring
Nyt perspektiv
Empowerment
Gennembrud



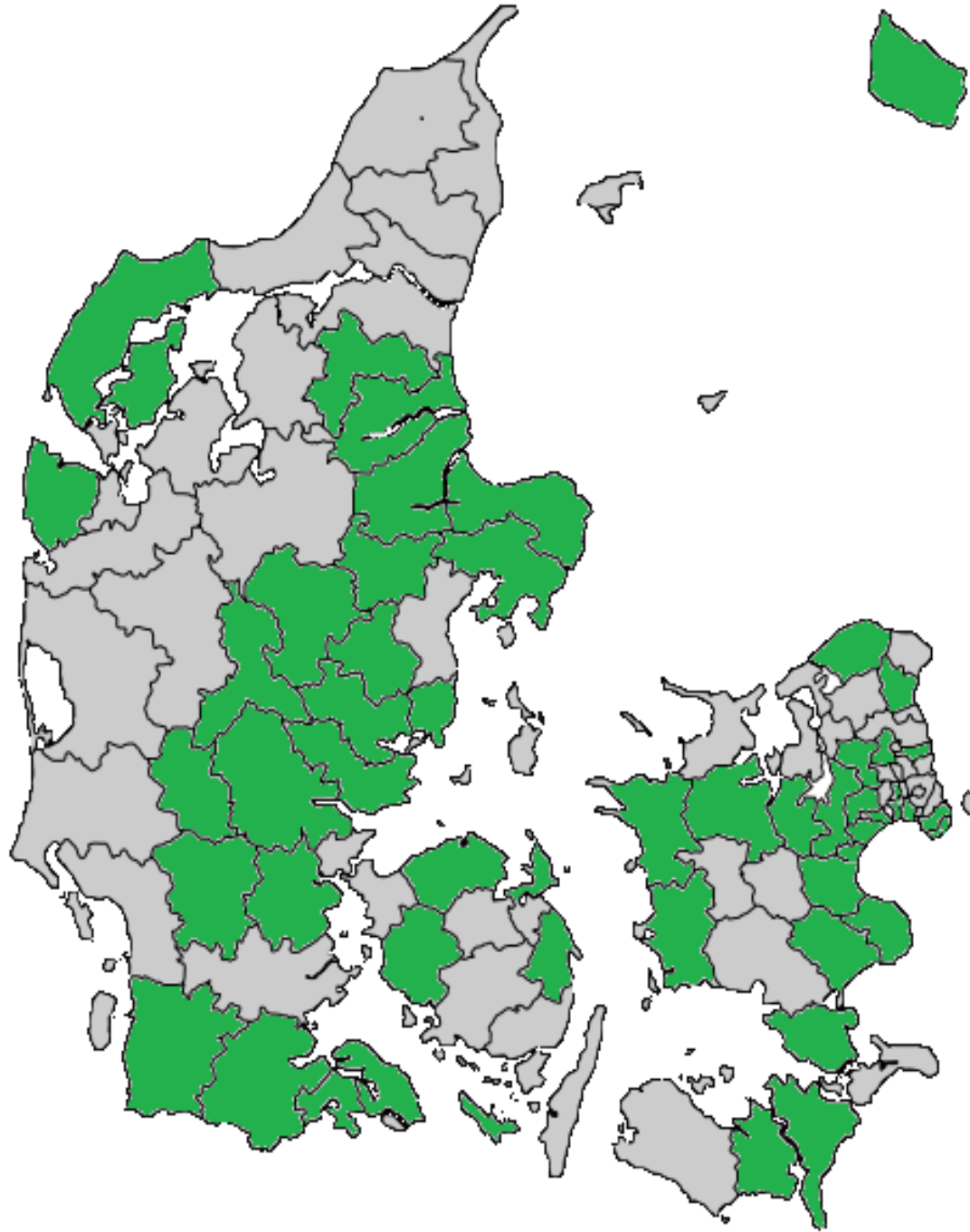
The Best for the Child

HCP training across Denmark

REGION
SJÆLLAND



- 500 HCPs over the past 4 years
- Course 1-3, all materials developed with high ratings
- Supervision
- 60 municipalities across Denmark (98)
- Uniform results
- International development





HCP feed back

- Prior to TCOCT, no efficient tool was available in regards to children with obesity. TCOCT is efficient and applicable in daily clinical practice
- Simplify a complex context
- Ready to use for the HCP, makes daily clinical practice clear and feasible
- TCOCT can be used both as multidisciplinary or with a few HCPs, important due to local budgets and possibilities
- TCOCT respond to the need of the patients, which make the patients coming for themselves.



Paradigm shift

- Chronic disease
- Prioritising obesity in the clinic like other traditional paediatric chronic diseases
- Understanding obesity as an endocrinological regulated disease which seeks energy preservation
- A new pedagogy implementing all relevant life style advices into daily clinical practice based on respect for the reality of the patient with obesity



Inspiration

REGION
SJÆLLAND



- Obesity is a disease and a major threat to normal growth, development and thriving in children and youths
- Need to act now!
- Understand fat mass regulation and its impact for daily clinical practice
- Evidence based results establishing trust
- Competent knowledge and clear delivery of messages
- Understand reality and challenges in daily clinical practice
- TCOCT demands training into a new pedagogy

Gennembrud i behandlingen af overvægtige børn

Overvægtige børn fra blandt andet **Vejle** har haft gavn af en særlig behandlingsmetode udviklet på Holbæk Sygehus

Kommunale sundhedsplejersker og kostvejledere har stor succes med at behandle overvægtige børn og unge efter et særligt Holbæk-koncept.

Indtil nu er 743 svært overvægtige børn startet i

- Præcis hvor mange kilo, børnene har tabt sig, tæller vi ikke sammen. Det er ikke relevant, da børn jo samtidig med, at de taber sig, også skal vokse og have omdannet fedt til muskler, understreger overlæge Jens-Christian Holm.

- Det er en behandlingsrespons, som aldrig er set tidligere, siger han og understreger, at det banebrydende samarbejde mellem otte kommuner og Børneafdelingen på Holbæk Sygehus er en meget stor landvinding, hvor det er lyk-

des at behandle en meget sammensat gruppe af børn.

Og forbedringerne er sket hos alle typer af børn uanset børnenes alder, deres grad af overvægt eller sociale tilhørsforhold.

Avanceret form for BMI

Personalet i kommunerne er blevet grundigt oplært i metoden af overlæge Jens-Christian Holm og sygeplejerske Rikke Melskens, og de bliver løbende vejledt af Rikke Melskens fra Holbæk Sygehus.

Resultaterne bygger på gennemsnitligt seks måneders behandling. Måleme-

HOLBÆK METODEN

Enheden for overvægtige børn og unge på Holbæk Sygehus blev etableret i 2007.

Enheden ledes af overlæge Jens-Christian Holm, som blandt andet er kendt fra tv-udsendelsen Generation XL.

Holbæk metoden har i princippet tre primære delelementer, som er grundlaget for det arbejde, der udføres med succes i kommunerne:

- Man skal forstå, at overvægt er en omsiggribende sygdom, som kan behandles.
- Man skal have indsigt i, at svært overvægt er hormonelt reguleret.
- Man skal have en pædagogisk tilgang, så barnet og familien forstår, hvad der er på spil i kroppen, og hvad de selv kan arbejde med i behandlingen.

toden, der bruges til at vurdere overvægtige børns udvikling, tager hensyn til børnenes kropsbygning, alder, vækst og udvikling. Det er en avanceret form for BMI, som er international standard for at vurdere graden af overvægt hos børn og unge. Målt på denne skala har 80 procent af børnene, der har været i behandling i de otte kommuner, reduceret deres grad af overvægt.

- Det er et gigantisk gennembrud, understreger Jens-Christian Holm.

- Vores metode virker. Også når metoden spredes ud, og andre arbejder med den. Det kan vi nu dokumentere, siger Jens-Christian Holm på baggrund af en opgørelse, som læge og ph.d.-studerende Pernille Møllerup har udført.

Skræddersyet plan

Den endelige opgørelse vil ligge klar i løbet af et års tid, og den vil også fastslå behandlingens effekt på følgesygdomme og livskvalitet.

- Når vi går ud med foreløbige resultater allerede nu, er det fordi, det er stærke resultater, som det er vigtigt for samfundet at få kendskab til, siger Jens-Christian Holm, som mener, at der nu er mulighed for at etablere effektiv behandling af overvægtige børn og unge i hele landet i kommunalt regi.

Og det er endda lykkedes med et lavt timeforbrug at få succes. I de otte kommuner er familierne blevet fulgt af en sundhedsplejerske og en kostvejleder efter deres individuelle behov. Der er lagt en individuel skræddersyet plan for familien med 10-20 arbejdsplaner, som skal hjælpe familien og barnet til vægttab.

Arbejdsplanerne rum-



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mer blandt andet alle måltider, sukker og fedtholdige spise og drikke, spiseøvelser, motion og tidsforbrug ved tv og computer. Gensidig tillid, empati og omsorg

er nøgleord og er helt afgørende i tilgangen og behandlingen af børnene og deres familier.

OVERVÆGTIGE BØRN

Det er anslået, at der er 60.000 svært overvægtige børn og unge i Danmark. Konsekvenserne for børn og unge, der lider af svært overvægt, er meget alvorlige.

- 74 procent har mere end fem procent fedt i musklerne (normalt er nogle få procent).
- 57 procent har et for højt blodtryk.
- 44 procent har fedtlever.
- 28 procent har et for højt kolesteroltal.
- 18 procent har forstadier til diabetes.
- Beregningerne er blevet til på baggrund af data fra 1.800 børn, der er blevet behandlet efter Holbæk-metoden.

REDAKTIONEN

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SALG OG ABONNEMENT

Telefon: 48 24 41 00

hilleroad.salg@sn.dk

Dagligt kl. 8.30-16, lørdag

lukket.

TID OG STED

FREDAG

14.00-15.00: Udgravningerne overfor Egedal Rådhus på Dronning Dagmars Vej: Kig arkæologerne fra Kroppedal Museum over skulderen.

14.30: Udlejre Kirke: Fredagsang.

18.30: Ganløse Kro: Wine-makers Dinner.

LØRDAG

11.00-15.00: Smørum Kulturhus: Ella Moltke og Steen Drabæk udstiller. Fernisering klokken 11-13. Arr.: Ledøje-Smørum Kunstforening.

UDSTILLINGER

Udlejre Kirke, Ørnebjergvej 7: Dimo Poulsen udstiller til den 7. januar. Udstillingen kan ses i kirkens åbningstid tirsdag-fredag klokken 10-13 og søndag klokken 10-13. Stenløse Sognegård, Engholmvej 6: Bettina Malling udstiller billeder til den 20. november.

Slagslunde Forsamlingshus: Thilde Norlin udstiller malerier til den 14. november. Ølstykke Bibliotek og Sma-

Egedal-børn taber sig med Holbæk-metoden

SUNDHED: Siden januar har kommunens sundhedsplejersker brugt metoden fra Holbæk Hospital, og den virker.

EGEDAL: Siden januar i år har Egedal Kommunes Sundhedstjeneste haft succes med at få børn til at tabe sig efter den såkaldte Holbæk-metode, der er udviklet på Holbæk Hospital under ledelse af børnelæge og klinikchef Jens-Christian Holm.

- Alle sundhedsplejersker er nu uddannet i hans metode, oplyser Nina Rasch, der er leder af Egedal Kommunes Sundhedstjeneste, og det har 40 børn indtil nu haft glæde af. Det kan ses på forholdet mellem deres højde og vægt i et Body Mass Index, BMI.

- 82 procent af alle børnene er faldet i deres BMI, fortæller hun, og gennemsnittet er et fald i BMI på 1,02.

For at komme i betragtning til et forløb skal børnene være overvægtige og motiverede for at ændre livsstil, og mindst en af deres forældre skal være klar til at gå med dem til samtale hos sundhedsplejersken cirka hver 6.-8. uge. Til gengæld foregår det på deres egen skole, for Sundhedstjenestens erfaring er, at det ikke er til at få børn og forældre fra Ølstykke til at køre til



Jens-Christian Holms metode fra Holbæk Hospital virker også på børn i Egedal.

Foto: Jens Wollesen

Smørum eller omvendt.

Målet er i første omgang at få børnene til at holde op med at tage på, så de får et lavere BMI i takt med, at de vokser i højden, og det har god effekt af.

- Han er vokset tre centimeter og har tabt sig fem kilo, så hans BMI er faldet med to, fortæller Nina Rasch.

Udgangspunktet for planen er et meget detaljeret spørgeskema fra Holbæk Hospital, hvor sundhedsplejersken spørger ind til nøjagtigt, hvad, hvor meget

og hvor tit barnet spiser, og hvor længe det eksempelvis sidder foran computeren, ipaden eller fjernsynet. Derefter bliver der lavet en skræddersyet plan med 10-20 punkter, som familien og barnet skal følge for at hjælpe barnet med at tabe sig.

- Hvis barnet for eksempel plejer at spise en krydderbolle til morgenmad, kan der stå: »Du må ikke spise krydderbolle. Du skal spise havregryn eller havrefrø«, forklarer hun, og der kan også være krav om, at barnet højst må sidde ved en computer to timer om dagen,

og så skal de dyrke motion to gange om ugen. En plan, som Sundhedstjenesten forventer, at barnet og familien overholder fra dag et, og effekten af det har vist sig at være større end ved den tidligere metode »Små skridt«.

- Vi stiller større krav og er meget mere strukturerede og faste, mener Nina Rasch, og det kan også ses på fraværsprocenten, der var større med »Små skridt«.

- Der er kun to, der er hoppet fra, ud af de 40, siger hun. De 40 fordeler sig fra børnehaveklasserne til og med 10. klasse, gennemsnitsalderen er 12 år, og der er cirka lige mange drenge og piger, og ifølge Nina Rasch er børnene også glade for det.

- Generelt fortæller de, at de er blevet mere glade for deres krop, og de er blevet mere glade. En del beskriver også, at de er blevet mere fysisk aktive og ikke længere føler sig klodsede, fortæller hun.

Udover børnene og forældrene er skoler og institutioner også vigtige i kampen mod de overflødige kilo, så onsdag aften havde Sundhedstjenesten inviteret selveste Jens-Christian Holm til at holde foredrag for cirka 60 repræsentanter for daginstitutioner, skoler og deres bestyrelser på Egedal Rådhus. Og han bekræftede Nina Rasch i, at Egedal-resultaterne er flotte.

- Han sagde, at han sjældent havde set så stor effekt, fortæller hun. ross

Indbrudstyv tog colaer i grillbar

VEKSØ: En tyv har begået indbrud i grillbaren Route 66 på Kirkebakken i Veksø, oplyser Nordsjællands Polit.

Gerningsmanden kom ind i grillbaren ved at bryde et vindue op, og vedkommende rev også tyverialarmen ned fra væggen, inden der blev stjålet dåsecolaer og halv liters colaer, fortæller politiassistent Nini Petersen.

Indbruddet skete mellem tirsdag klokken 21.30 og onsdag klokken 10.30, og politiet vil nu kigge grillbarens videoovervågning igennem i et forsøg på at finde frem til gerningsmanden.

17-årig piges taske stjålet

STENLØSE: En 17-årig pige fra Stenløse fik onsdag mellem klokken 8.10 og 8.30 stjålet en Birger Mikkelsen-taske fra omklædningsrummet i idrætshallen på Egedal Gymnasium & HF, oplyser Nordsjællands Polit.

Sammen med tasken forsvandt pigens pung med diverse kort, parfume og nogle Tommy Hilfinger sko, fortæller politiassistent Nino Petersen.

Sølvtoj blev stjålet i to villaeer

GANLØSE-VEKSØ: Der har været villaindrud i Ganløse og Veksø, og i begge tilfælde fik gerningsmanden fingre i sølvtoj, oplyser Nordsjællands Polit.

På Urtetoften i Ganløse kom tyven ind ved at afliste en rude til stuen mellem fredag den 16. oktober klokken 15 og onsdag i denne uge klokken 13, og ud over sølvtojet blev der hugget en iPad og smykker, fortæller

TREKANTOMRÅDET



17. JUN. 2014 KL. 09:19

Gennembrud i behandling af overvægtige børn og unge

84 procent af de børn og unge, der har deltaget i projekt Vægtstoppere i Kolding har tabt sig. Det er et gennembrud i behandlingen, siger lægen bag projektet.



Det er et gennembrud for behandlingen af overvægtige børn og unge at 84 pct. af de overvægtige børn i projekt vægtstoppere i Kolding har tabt sig. (Foto: Colourbox © Colourbox)

TOPHISTORIER



Kommuner kæmper om kendte kædebutikker



33-årig mand anholdt og sigtet for kæde af brande i Nordjylland



Tosproget skole stiller krav og løfter karaktererne

SENESTE INDLAND

Udlandet tæsker danske skoleelever i matematik og naturfag

KL. 11:05

Ghoufran får kontanthjælp: Det er i orden, hvis kommunen tildker min ansøgning



Den såkaldte "Holbæk-metode", som Holbæk Sygehus Enhed for overvægtige børn og unge har udviklet, virker

Holbæk: Også når metoden spredes ud i landet. Kommunale sundhedsplejersker og kostvejledere har stor succes med at behandle overvægtige børn og unge efter et særligt Holbæk-koncept. Indtil nu er 743 svært overvægtige børn startet i behandling i Vejle, Kolding, Horsens, Kalundborg, Stevns, Slagelse, Hedensted og Holbæk kommuner.

De foreløbige resultater viser, at 80 procent af børnene har mindsket deres grad af overvægt under behandlingen.

- Præcis, hvor mange kilo børnene har tabt sig tæller vi ikke sammen. Det er ikke relevant, da børn jo samtidig

Gennembrud i behandling af børn med overvægt

med at de taber sig også skal vokse og have omdannet fedt til muskler, understreger overlæge Jens-Christian Holm.

- Det er et behandlingsrespons, som aldrig er blevet set tidligere, siger han og understreger, at det banebrydende samarbejde mellem otte kommuner og Børneafdelingen på Holbæk Sygehus er en meget stor landvinning, hvor det er lykkedes at behandle en meget sammensat gruppe af børn. Og forbedringerne er sket hos alle typer af børn – uanset børnenes alder, deres grad af overvægt eller sociale tilhørsforhold.

Personalet i kommunerne er blevet grundigt oplært i metoden af overlæge Jens-Christian Holm og sygeplejerske Rikke Melskens. Og de bliver løbende vejledt af Rikke Melskens fra Holbæk Sygehus.

Dokumenteret indsats

Resultaterne bygger på gen-

nemsnitligt seks måneders behandling. Målemetoden, der bruges til at vurdere overvægtige børns udvikling, tager hensyn til børnenes kropsbygning, alder, vækst og udvikling. Det er en avanceret form for BMI: En BMI z score, som er international standard for at vurdere graden af overvægt hos børn og unge. Målt på denne skala har 80 procent af børnene, der har været i behandling i de otte kommuner, reduceret deres grad af overvægt.

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- Vores metode virker! Også når metoden spredes ud og andre arbejder med den. Det kan vi nu dokumentere, siger Jens-Christian Holm på baggrund af en opgørelse, som læge og ph.d.-studerende Pernille Møllerup har udført.

Effektiv behandling

Den endelige opgørelse vil

blive foretaget efter et års behandling af Pernille Møllerup, som en del af hendes ph.d.-projekt på Børneafdelingen på Holbæk Sygehus. Og den vil også fastslå behandlingens effekt på følelses sygdomme og livskvalitet.

- Når vi går ud med foreløbige resultater allerede nu, er det fordi det er stærke resultater, som det er vigtigt for samfundet at få kendskab til, siger Jens-Christian Holm, som mener, at der nu er mulighed for at etablere effektiv behandling af overvægtige børn og unge i hele landet i kommunalt regi. Og det er endda lykkedes med et lavt timeforbrug at få succes. I de otte kommuner er familierne blevet fulgt af en sundhedsplejerske og en kostvejleder efter deres individuelle behov. Der er lagt en individuel skræddersyet plan for familien med 10-20 arbejdsplaner, som skal hjælpe familien og barnet til vægttab.

Arbejdsplanerne rummer

blandt andet alle måltider, sukker og fedtholdige spise og drikke, spiseøvelser, motion og tidsforbrug ved tv og computer. Gensidig tillid, empati og omsorg er nøgleord og er helt afgørende i tilgangen og behandlingen af børnene og deres familier.

Fakta:

Det er anslået, at der er 60.000 svært overvægtige børn og unge i Danmark. Konsekvenserne for børn og unge, der lider af svær overvægt er meget alvorlige:

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vet behandlet efter Holbæk-metoden.

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- Og man skal have en pædagogisk tilgang, så barnet og familien forstår, hvad der er på spil i kroppen og hvad de selv kan arbejde med i behandlingen. ■

NYHEDER

KOL-rygestop i Give, Egtved og Vejle

VEJLE Er du en af de omkring 215.000 danskere, der har diagnosen KOL og er ryger? Så skal du også vide, at Vejle Kommune har et rygestopforløb specielt for borgere med KOL. Der begynder nye rygestopforløb for borgere med KOL torsdag 6. februar kl. 9.30 – 11.30 i Vejle og mandag 24. februar kl. 9.30 – 11.30 i Give. Dato i Egtved er endnu ikke planlagt. www.vejle.dk/rygestop.

**To mænd fængslet for stoffer**

NARKO Vejle Lokalpoliti har ransaget flere adresser i Vejle by og omegn for stoffer. Flere steder blev der fundet nogle enkelte gram stoffer, mens der på en adresse i Egtved blev fundet en større mængde stoffer, som har ført til, at to personer er blevet varetægtsfængslet i fire uger. Det oplyser vicepolitiinspektør Frede Nissen, Vejle Lokalpoliti.

Overvægtige børn taber sig

Kiloene rasler af overvægtige børn - og deres forældre - der er i behandling i Vejle Kommunes nye overvægtsklinik

Af Jeppe Rafn

OVERVÆGT "Det er en utrolig succes."

Vejle Kommunes ledende sundhedsplejerske Ulla Dupont er særdeles tilfreds med resultaterne i kommunens nye overvægtsklinik, der åbnede i maj 2013.

De første deltagere gik i gang i maj måned, og allerede efter sommerferien var der godt nyt.

"Der er nogle børn, der havde tabt seks kilo til den første kontrol," fortæller sundhedsplejerske Hanne Brøndbjerg.

Cirka 140 børn er indtil videre startet på overvægtsklinikken, der arbejder efter "Hol-



Sundhedsplejerske Hanne Brøndbjerg er meget tilfreds med de foreløbige erfaringer og resultater i kommunens overvægtsklinik.

bæk-modellen" og har overlæge Jens-Christian Holm og hans forskningsteam tilknyttet.

Forældrene taber sig også

Hele familien skal være indstillet på at ændre sin kost og følge den kostplan, som kostvejlederne laver med udgangspunkt i det overvægtige barn. "Holbæk-modellen" tager

udgangspunkt i familien og kræver, at forældre og søskende er solidariske.

"Forældrene siger, at de også har brug for at tabe sig, og vi har rigtig mange gode historier om, at både børn og forældre taber sig. Der er en familie, der har tabt sig over 20 kilo," fortæller sundhedsplejerske Hanne Brøndbjerg.

Overvægtsklinikken er for børn og unge fra 3-18 år, men der er kun enkelte førskolebørn blandt deltagerne, samt meget få der er gået ud af folkeskolen. Hovedparten af deltagerne går i 4. - 8. klasse, oplyser sundhedsplejerske Hanne Brøndbjerg.

Det er ofte sundhedsplejerskerne ude på skolerne, der spotter de overvægtige børn og tager kontakt til forældrene. Når børnene nærmer sig konfirmationsalderen, er de særligt opsatte på at tabe sig.

"De bliver meget motiverede i 6. klasse. Der begynder de at tænke meget over tøj og konfirmation," siger sundhedsplejersken.

Det overvægtige barn og dets familie er tilknyttet overvægtsklinikken i et år, så der er endnu ikke nogle, som er færdige med hele forløbet. De skal i løbet af året til 6-7 samtaler med sundhedsplejersker og kostvejledere/diætister.

Lang ventetid

Af Jeppe Rafn

VENTELISTE Vejle Kommunes overvægtsklinik var en succes fra starten. Målet var at finde 100 børn og unge, men på åbningsdagen havde 130 tilmeldt sig. Det skabte ventetid på at komme i behandling, og der har været er stadig op til et halvt års ventetid. På nuværende tidspunkt er cirka 140 børn kommet i behandling, mens yderligere godt 100 børn venter på at komme i gang.

"Børnene og familierne har været meget igennem, før de kommer til os, så de er meget motiverede for at komme i gang, når de siger ja. Et halvt år er lang tid at vente," fortæller sundhedsplejerske Hanne Brøndbjerg og ledende sundhedsplejerske Ulla Dupont.

Den gode nyhed er, at byrådet har bevilget en eks-

tra halv million kroner til klinikken i 2014 til at nedbringe ventetiden. I denne uge er sundhedsplejersker og kostvejledere i Holbæk for at få undervisning i "Holbæk-modellen" af overlæge Jens-Christian Holm og hans stab.

"Vi får næsten dobbelt kapacitet, så vi forventer at kunne nedbringe ventetiden," siger ledende sundhedsplejerske Ulla Dupont.

Overvægtsklinikken kører som et forsøgsprojekt i 2013 og 2014, og i sundhedsplejerser ser man gerne, at den fortsætter i fremtiden.

"Den er en stor succes, og hvis det fortsætter, er det noget, vi må prioritere som et fast tilbud i Vejle Kommune," mener Ulla Dupont.

Hun vurderer, at der vil være behov for at behandle cirka 100 børn om året, når den indledende storm på klinikken har lagt sig.

Stor succes med behandling af overvægtige børn

Siden 1. marts 2013 har sundhedsplejersker og kostvejledere i Stevns kommune behandlet overvægtige børn og unge efter den såkaldte "Holbæk-metode". I løbet af det første år viser foreløbige resultater at 70,6 procent af børnene i behandling har oplevet et vægttab

STEVNS: Det er Enhed for overvægtige børn og unge på Holbæk Sygehus, som har udviklet behandlingsmetoden, og en opgørelse over det første år med den ny behandling viser særdeles positive resultater. De endelige resultater kommer i slutningen af 2015. Af de 73 børn, der det første år har været i behandling i Stevns kommune – hvoraf 39 er drenge og 34 er piger – har 70,6 procent oplevet et vægttab.

Det præcise antal kilo, som børnene har tabt sig, bliver ikke talt sammen, da det ikke er relevant. For samtidig med at børnene taber sig, skal de også vokse og have omdannet fedt til muskler.

Siden behandlingens start er der i alt startet 96 børn op i kommunen.

Derfor virker det

"Vi tager det meget alvorligt og betragter overvægt som en sygdom på linje med for eksempel diabetes, når et barn er overvægtigt", fortæller Malene Seier, der er teamleder og sundhedsplejerske i Stevns kommune, og hun vurderer, at det er en af de vigtigste årsager til, at behandlingen virker så godt.

"Desuden er vi meget konkrete i vores vejledning. Vi udarbejder en punktplan med op til 20 forskellige punkter, der for eksempel omfatter både mad- og motionsplan, tv- og computertid samt faste sengetider. Så er det ikke lagt ud til forældrene og børnene selv, og forældrene slipper for de diskussioner, der ellers ofte kan opstå", forklarer Malene Seier.

Udover forældrene er det også vigtigt at andre personer, som er en del af barnets hverdag, inddrages i behandlingen. For eksempel bedste-forældrene, der også skal bakke op om og følge planen. For det nytter ikke noget, at der bliver serveret slik og sodavand hjemme hos bedste, når målet er at tabe sig.

Endelig er gensidig tillid, empati og omsorg nøgleord, og de er helt afgørende i tilgangen og behandlingen af børnene og deres familier.

Tidlig start

"Vi håber at kunne fange børnene så tidligt, som muligt. For det er meget nemmere at ændre en tre-årigs madvaner end et barn på 10 år", siger Malene Seier.

Børn helt ned til tre år kan komme i behandling, og behandlingen kan fortsætte frem til man fylder 18 år - eller til man har tabt sig så meget, at det ikke længere er aktuelt.

Typisk er det barnets sundhedsplejerske, der vurderer, om et barn har behov for at komme i behandling. Men også barnets læge og - for de lidt ældre børn - lærere kan henvise til behandling. I sjældne tilfælde kan det være en sagsbehandler, der henvender sig med en forespørgsel.

Behandlingen foregår i et kontor beliggende på Birkehøj i Store Heddinge, hvor barnet skal møde op i dagtimerne sammen med sine forældre. Her bliver barnet vejlet og får målt blodtryk, og der ligger en individuel skræddersyet plan for familien med 10-20 arbejds punkter. I løbet af behandlingen bliver familierne fulgt af en sundhedsplejerske og en kostvejleder efter deres individuelle behov.

rmlh



14-årige Julie Kolbe fra Hårlev og hendes mor Helle er her til samtale med skolesygeplejerske Annelise Olsen (tv). Julie har været i behandling siden 4. marts sidste år. Udover at have tabt sig, er hun også blevet en gladere og mere positiv pige. Behandlingen har fået Julie til at tænke mere over, hvad hun spiser og at hun skal motionere regelmæssigt. Annelise Olsen er en af dem fra Stevns kommune, som er uddannet i Holbæk til at varetage samtalerne med familierne. (Foto: Stevns kommune)

● FAKTA

Enheden for overvægtige børn og unge på Holbæk Sygehus blev etableret i 2007. Enheden ledes af overlæge Jens-Christian Holm - blandt andet kendt fra tv-udsendelsen Generation XL. Holbæk metoden har i princippet tre primære delelementer, som er grundlaget for det arbejde, der udføres med succes i kommunerne:

- Man skal forstå, at overvægt er en omsiggribende sygdom, som kan behandles
- Man skal have indsigt i, at svær overvægt er hormonelt reguleret
- Man skal have en pædagogisk tilgang, så barnet og familien forstår, hvad der er på spil i kroppen, og hvad de selv kan arbejde med i behandlingen.

Kommunale sundhedsplejersker og kostvejledere i otte kommuner har stor succes med Holbæk-konceptet. Indtil nu er 743 svært overvægtige børn startet i behandling i Vejle, Kolding, Horsens, Kalundborg, Stevns, Slagelse, Hedensted og Holbæk kommuner.

De foreløbige resultater viser, at mere end 80 procent af børnene har mindsket deres grad af overvægt under behandlingen

Have the Danes cracked childhood obesity?

By Malcolm Brabant
BBC Health Check

🕒 8 November 2014 | [Health](#)





Has this town found the cure for childhood obesity? List of 20 rules - including sweets once a week and walking to school - are highly effective, doctors claim

- Rules have been drawn up by Danish paediatrician Dr Jens Christian Holm
- Known officially as The Children's Obesity Clinic's Treatment protocol
- Was first trialled in the town of Holbaek, 40 miles from Copenhagen, in 2008
- Dr Holm claims he's helped 1,300 overweight and obese children since then
- Has been so successful across Denmark 'it should be used in Britain'

By SOPHIE BORLAND HEALTH CORRESPONDENT FOR THE DAILY MAIL

PUBLISHED: 16:49 GMT, 10 November 2014 | UPDATED: 21:29 GMT, 10 November 2014







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Danish doctors claim to have cured childhood obesity by following a set of basic rules which include no second helpings of food within 20 minutes of eating.

Snacks and sweets are rationed to once a week, fruit juice or fizzy drinks once a month and children must walk or cycle to school.

The rules also state that pots are kept in the kitchen at mealtimes - rather than on the table to avoid the temptation of second helpings.

The rules have been drawn up by Danish paediatrician Dr Jens Christian Holm, who claims to have helped 1,300 overweight and obese children.

R News ▸ Real Life ▸ Obesity

How doctor's 20 simple rules could hold the key to lifelong fitness for overweight children

IT is hoped the 20 lifestyle and eating rules - created by Danish paediatrician Dr Jens Christian Holm - could help curb the rise of overweight kids in Scotland.

17
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BY MARIA CROCE

10:08, 12 NOV 2014 | UPDATED 11:50, 12 NOV 2014

NEWS



Free exercise such as using a trampoline gets results

HEALTH November 24, 2014 12:35 pm

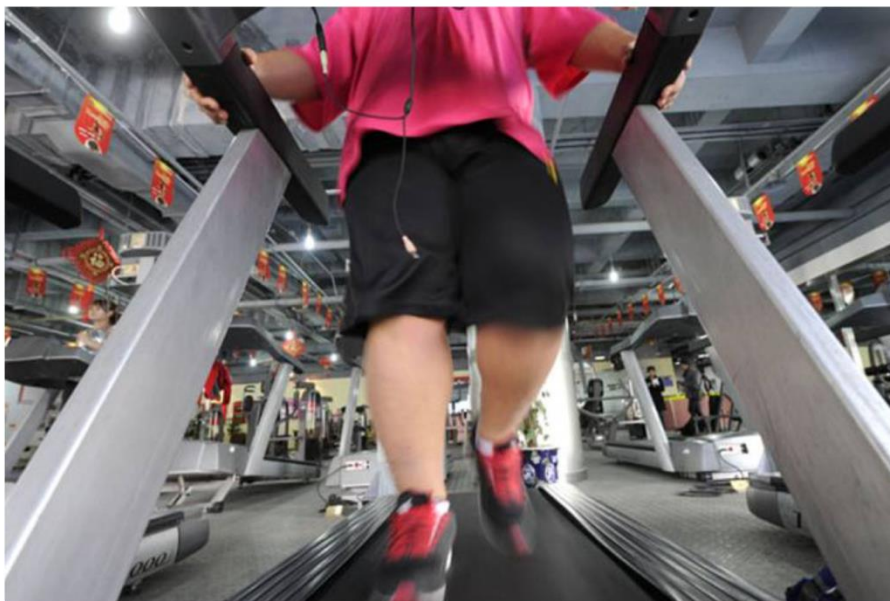
How this Danish doctor is battling childhood obesity around the world



By Carmen Chai

National Online Journalist, Health Global News

Comments Facebook 224 Twitter Email Print ...



Holm is certain that his program would translate well in Canada.
(Photo credit should read LIU JIN/AFP/Getty Images)

PARIS - Dr. Jens Christian Holm says parents, doctors and health officials need to think of obesity as more than a physical ailment.

The Danish pediatrician has seen it all in his clinic: childhood obesity with kids as young as 11 years old already dealing with cardiovascular problems, early signs of diabetes, high blood pressure and neurological complications.

They're overweight, but that's only part of the problem. Their quality of life is

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Receita dinamarquesa é sucesso contra obesidade infantil [COMENTE](#)

BBC BRASIL

12/11/2014 | 12h55



Malcolm Brabant

Do BBC Health Check

Um projeto que incentiva mudanças no estilo de vida de crianças e suas famílias está sendo adotado na Dinamarca com o objetivo de combater a obesidade infantil - hoje uma epidemia global.

Na cidade dinamarquesa de Holbaek, 1,9 mil crianças foram atendidas e 70% delas conseguiram manter um peso adequado por quatro anos após ajustar até 20 aspectos de seu estilo de vida.

A forma como o projeto lida com a criança e seus familiares difere dos "pequenos passos" das dietas tradicionais.



Estado vive crise sem precedentes
Força Nacional vai ao Rio para votação de pacote



Publicidade

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OU UM CURSO DIFERENTE
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ACADEMIA
DA
CARNE
- Publi

10. nóv. 2014 - 09:00

Svona takast Danir á við offituvandamál barna með mjög góðum árangri

Í Holbæk í Danmörku hafa læknar þróað nýjar aðferðir til að takast á við offituvandamál barna og er árangurinn mjög góður. Um 70 prósent af þeim börnum sem hefja meðferð sem fylgir línunum læknanna í Holbæk ná aukakílóunum af sér. Þetta hefur vakið mikla athygli víða um heim og meðal annars sýnir BBC heimildarmynd um þetta nú í vikunni.

Við heyrum sí og æ að offita sé eitt stærsta heilsufarsvandamál heimsins og offitufaraldurinn er ekki eingöngu bundinn við fullorðna því sífellt fleiri börn þjást af ofþyngd og offitu. Í Danmörku eru um 60.000 börn talin vera í mjög mikilli ofþyngd.

En þrátt fyrir þetta háa hlutfall þá beina erlendir sérfræðingar nú sjónunum að Danmörku og þeim aðferðum sem er beitt þar til að hjálpa börnum sem eru í ofþyngd.



Aðferðin, sem var þróuð í Holbæk, hefur reynst svo árangursrík að nú hefur hún verið tekin upp í sjö sveitarfélögum til viðbótar og sex til viðbótar eiga nú í samningaviðræðum við Jens-Christian Holm, höfund aðferðarinnar, um að taka hana upp.

”

Í þeim átta sveitarfélögum sem hafa tekið aðferðina upp hafa rúmlega 800 börn tekið þátt í henni og 80 prósent þeirra hafa lést og 70 prósent losnað algjörlega við aukakílóin.

Það sem einkennir aðferðina er að börnin gangast undir ákveðnar rannsóknir og síðan er búin til

Acasa > Feminin > Alimentație sănătoasă - Dietă > CEA MAI EFICIENTĂ METODĂ DE SLĂBIT, DOVEDITĂ cu REZULTATE

CEA MAI EFICIENTĂ METODĂ DE SLĂBIT, DOVEDITĂ cu REZULTATE



f Îmi place Distribuie

Un orășel danez pare să fi găsit soluția pentru a combate fenomenul obezității la copii. Omul-cheie din spatele reușitei este un medic pediatru pe nume Jens Christian Holm.

Metoda daneză de slăbit, care presupune schimbarea radicală a aproximativ 20 de elemente ce țin de stilul de viață, a fost aplicată pe 1.900 de pacienți. 70% dintre aceștia, un procent absolut enorm, au reușit să își țină greutatea sub control.

Într-un interviu acordat BBC și citat de [GreatNews](#), doctorul Holm explică foarte clar că, pentru aceste rezultate, este nevoie de o abordare dură, cumva militărească. Rezultatele îl încurajează să propună ca metoda sa să fie aplicată la nivel internațional. În Statele Unite și în multe state vest-europene, unul din trei copii este supraponderal, iar incidența obezității printre adolescenți s-a împătrit în ultimii 30 de ani.

"În general, copiii obezi sunt desconsiderați. Sunt firi singuratic și cei mai mulți dintre ei nu participă la activități împreună cu alți copii. Le lipsește enorm încrederea în sine. Cu această metodă, există o speranță reală că vor pierde din greutate și își vor îmbunătăți semnificativ calitatea vieții", spune doctorul Holm.

Potrivit acestuia, copilului îi este extrem de greu să învingă de unul singur o boală precum obezitatea. "Însă, noi creăm mediul și oferim "uneltele" cu care copilul și familia sa pot depăși această boală".

"Nu facem nimic amuzant. Este ceva foarte dur"

La începutul programului, copiii sunt chemați la spital pentru 24 de ore de analize și teste amănunțite, care includ scanarea corporală pentru a identifica nivelul de grăsime.

De asemenea, copiii trebuie să răspundă unui chestionar, cu ajutorul căruia

Horoscop Zilnic



LOTO



Cea mai DURĂ dietă din lume. Un oraș întreg a învins obezitatea

Publicat: Luni, 10 Noiembrie 2014 09:47 // Actualizat: Luni, 10 Noiembrie 2014 09:47 // Sursa:

romaniatv.net

Autor: Alina Costache

Un orașel danez pare să fi găsit soluția pentru a combate fenomenul obezității la copii. Omul-cheie din spatele reușitei este un medic pediatru pe nume Jens Christian Holm.

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Sunderland takes lessons from Danes in tackling obesity



obesity challenge: Dr Jens-Christian Holm. Above, Peter Small, Scott Wilkes, Jens-Christian Holm, Tony Alabaster and Yitka Graham.

By
SUE KIRBY
Email

Published: 06:00 Saturday 28 February 2015



A DANISH expert shared his work on childhood obesity with Sunderland health workers.

Paediatrician Dr Jens-Christian Holm talked about tackling obesity in children when he met members of Sunderland CARE Academy, (Collaboration, Achieving high quality care, Research and Engagement) and health professionals from around the world at the University of Sunderland.

2
comments



HAVE
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“If we can reverse obesity trends in children through simple lifestyle changes this could have a positive, lifelong impact on the health and wellbeing of adults.”

Professor Tony Alabaster

The meeting in the Tom Cowie Lecture Theatre saw the eminent academic present findings from his research, conducted with 1,900 obese children in Denmark.

As well as the university, CARE Academy members include City Hospitals Sunderland, Sunderland City Council, the Foundation of Light and Sunderland Clinical Commissioning Group.



The Danish Childhood Obesity Biobank

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5986 children (3700 obese and 2586 population based)

Quality control

Data analyses

More than 40,000 clinic based visits

Invaluable data resource in terms of childhood obesity and obesity related complications



120 MILLION DKK FOR RESEARCH ON THE ROLE OF THE GUT MICROBIOME IN METABOLIC DISEASES

18.01.16

Torben Hansen, Head of the Danish Diabetes Academy's Education Committee and Professor at University of Copenhagen was among the two excellent scientists, who received research funding from the Novo Nordisk Foundation Challenge Programme 2015, the aim of which is to enable research of the highest quality with focus on finding answers to key global technological or health-related challenges.

The other recipient was Fredrik Bäckhed, Professor, University of Gothenburg and University of Copenhagen. Both researchers applied for research funding on the theme of the human microbiome. Their projects focus on how gut bacteria are related to disease. Each project grant is for DKK 60 million over 6 years.

MICROBLIVER

Professor Torben Hansen applied for the funding on the basis of the project entitled "MicrobLiver".









ASSOCIATION STUDIES ARTICLE

Genome-wide association analysis identifies three new susceptibility loci for childhood body mass index

Abstract

A large number of genetic loci are associated with adult body mass index. However, the genetics of childhood body mass index are largely unknown. We performed a meta-analysis of genome-wide association studies of childhood body mass index, using sex- and age-adjusted standard deviation scores. We included 35 668 children from 20 studies in the discovery phase and 11 873 children from 13 studies in the replication phase. In total, 15 loci reached genome-wide significance (P -value $< 5 \times 10^{-8}$) in the joint discovery and replication analysis, of which 12 are previously identified loci in or close to *ADCY3*, *GNPDA2*, *TMEM18*, *SEC16B*, *FAIM2*, *FTO*, *TFAP2B*, *TNNI3K*, *MC4R*, *GPR61*, *LMX1B* and *OLFM4* associated with adult body mass index or childhood obesity. We identified three novel loci: rs13253111 near *ELP3*, rs8092503 near *RAB27B* and rs13387838 near *ADAM23*. Per additional risk allele, body mass index increased 0.04 Standard Deviation Score (SDS) [Standard Error (SE) 0.007], 0.05 SDS (SE 0.008) and 0.14 SDS (SE 0.025), for rs13253111, rs8092503 and rs13387838, respectively. A genetic risk score combining all 15 SNPs showed that each additional average risk allele was associated with a 0.073 SDS (SE 0.011, P -value = 3.12×10^{-10}) increase in childhood body mass index in a population of 1955 children. This risk score explained 2% of the variance in childhood body mass index. This study highlights the shared genetic background between childhood and adult body mass index and adds three novel loci. These loci likely represent age-related differences in strength of the associations with body mass index.

ARTICLE

Received 6 Jan 2015 | Accepted 20 May 2015 | Published 24 Jun 2015

DOI: 10.1038/ncomms8553

OPEN

Inherited coding variants at the *CDKN2A* locus influence susceptibility to acute lymphoblastic leukaemia in children

Heng Xu^{1,2,*}, Hui Zhang^{1,3,*}, Wenjian Yang¹, Rachita Yadav⁴, Alanna C. Morrison⁵, Maoxiang Qian¹, Meenakshi Devidas⁶, Yu Liu⁷, Virginia Perez-Andreu¹, Xujie Zhao¹, Julie M. Gastier-Foster⁸, Philip J. Lupo⁹, Geoff Neale¹⁰, Elizabeth Raetz¹¹, Eric Larsen¹², W. Paul Bowman¹³, William L. Carroll¹⁴, Naomi Winick¹⁵, Richard Williams¹⁶, Torben Hansen¹⁷, Jens-Christian Holm¹⁸, Elaine Mardis¹⁹, Robert Fulton¹⁹, Ching-Hon Pui^{20,21}, Jinghui Zhang⁷, Charles G. Mullighan^{20,22}, William E. Evans^{1,20}, Stephen P. Hunger²³, Ramneek Gupta⁴, Kjeld Schmiegelow²⁴, Mignon L. Loh²⁵, Mary V. Relling^{1,20} & Jun J. Yang^{1,20}

There is increasing evidence from genome-wide association studies for a strong inherited genetic basis of susceptibility to acute lymphoblastic leukaemia (ALL) in children, yet the effects of protein-coding variants on ALL risk have not been systematically evaluated. Here we show a missense variant in *CDKN2A* associated with the development of ALL at genome-wide sig-

Genome-wide associations for birth weight and correlations with adult disease

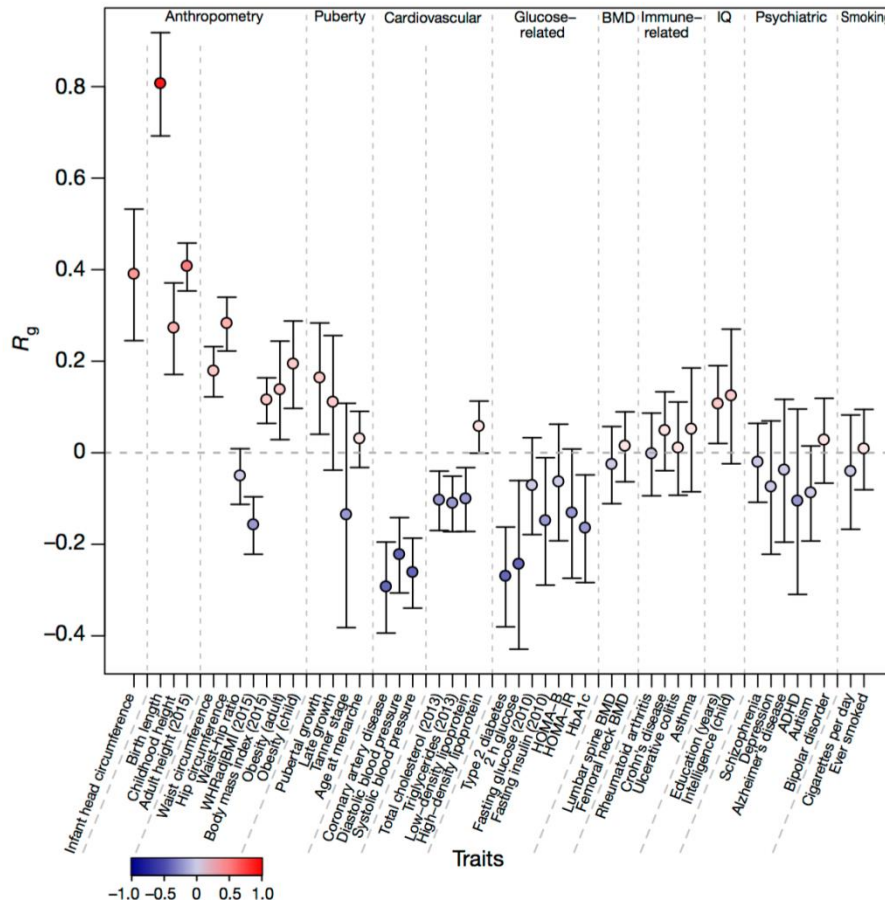


Figure 1 | Genome-wide genetic correlation between BW and a range of traits and diseases in later life. Genetic correlation (R_g) and corresponding s.e. (error bars) between BW and the traits displayed on the x axis were estimated using linkage-disequilibrium score regression (ref. 8). The genetic correlation estimates (R_g) are colour coded according to their intensity and direction (red for positive and blue for inverse correlation). WHRadjBMI, waist-hip ratio adjusted for body mass index; HOMA-B/IR, homeostasis model assessment of beta-cell function/insulin resistance; HbA1c, haemoglobin A1c; BMD, bone mineral density; ADHD, attention deficit hyperactivity disorder. See Supplementary Table 12 for references for each of the traits and diseases displayed.



ORIGINAL ARTICLE

Environmental spread of microbes impacts the development of metabolic phenotypes in mice transplanted with microbial communities from humans

Li Zhang¹, Martin Iain Bahl¹, Henrik Munch Roager¹, Cilius Esmann Fonvig^{2,3}, Lars I Hellgren⁴, Henrik Lauritz Frandsen¹, Oluf Pedersen³, Jens-Christian Holm^{2,3}, Torben Hansen³ and Tine Rask Licht¹

¹National Food Institute, Technical University of Denmark, Søborg, Denmark; ²The Children's Obesity Clinic, Department of Pediatrics, Copenhagen University Hospital Holbæk, Holbæk, Denmark; ³Novo Nordisk Foundation Center for Basic Metabolic Research, Section of Metabolic Genetics, Faculty of Health Sciences, University of Copenhagen, Copenhagen, Denmark and ⁴Department of Systems Biology, Technical University of Denmark, Lyngby, Denmark

Microbiota transplantation to germ-free animals is a powerful method to study involvement of gut microbes in the aetiology of metabolic syndrome. Owing to large interpersonal variability in gut microbiota, studies with broad coverage of donors are needed to elucidate the establishment of human-derived microbiotas in mice, factors affecting this process and resulting impact on metabolic health. We thus transplanted faecal microbiotas from humans (16 obese and 16 controls) separately into 64 germ-free Swiss Webster mice caged in pairs within four isolators, with two isolators assigned to each phenotype, thereby allowing us to explore the extent of microbial spread between cages in a well-controlled environment. Despite high group-wise similarity between obese and control human microbiotas, transplanted mice in the four isolators developed distinct gut bacterial composition and activity, body mass gain, and insulin resistance. Spread of microbes between cages within isolators interacted with establishment of the transplanted microbiotas in mice, and contributed to the transmission of metabolic phenotypes. Our findings highlight the impact of donor variability and reveal that inter-individual spread of microbes contributes to the development of metabolic traits. This is of major importance for design of animal studies, and indicates that environmental transfer of microbes between individuals may affect host metabolic traits.

The ISME Journal advance online publication, 18 November 2016; doi:10.1038/ismej.2016.151



Context in the medieval period





Context 2017





The Vision

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A fully individualised treatment program
of obesity and its complications
including screening of
genes and the microbiome
providing all patients weight loss over time
with a low drop out rate



TCOCT protocol

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5 hours of HCP time per patient per year

Reduces the degree of obesity in 65, 75, 80 and 90% of children

Mollerup, P., Gamborg, M., Trier, C., Bojsøe, C., Nielsen, T. R. H., Baker, J. L., Holm, J.-C. The Childhood Obesity Treatment Protocol Adopted into a Community-Based Treatment Programme. *PLoS One*. 2017 Mar 6;12(3):e0173033. Most, S. W. *et al.* Adoption of the children's obesity clinic's treatment (TCOCT) protocol into another Danish pediatric obesity treatment clinic. *BMC Pediatrics* 15, 13 (2015). Holm, J.-C. *et al.* Chronic care treatment of obese children and adolescents. *International Journal of Pediatric Obesity* 6, 188–196 (2011)

Reduce degree of hypertension

Hvidt, K. N., Olsen, M. H., Ibsen, H. & Holm, J.-C. Effect of changes in BMI and waist circumference on ambulatory blood pressure in obese children and adolescents. *J. Hypertens.* 32, 1470–1477; (2014).

Reduce degree of steatosis

Fonvig, C. E. *et al.* Multidisciplinary care of obese children and adolescents for one year reduces ectopic fat content in liver and skeletal muscle. *BMC Pediatr* 15, 196 (2015).

Reduce degree of dyslipidemia

Nielsen, T. R. H. *et al.* Changes in lipidemia during chronic care treatment of childhood obesity. *Child Obes* 8, 533–541 (2012).

Reduce parental degree of obesity

Trier, C. *et al.* Effects of a Family-Based Childhood Obesity Treatment Program on Parental Weight Status. *PLoS ONE* 11, e0161921 (2016).

Reduces appetite and bullying

Fonvig et al, 2017, in review.

Increases QoL body selfesteem

Mollerup, P. M., Nielsen, T. R. H., Bojsøe, C., Kloppenborg, J. T., Baker, J. L., Holm, J.-C. Quality of Life Improves in Children and Adolescents during a Community-Based Overweight and Obesity Treatment. *Qual. Life Res. Int. J. Qual. Life Asp. Treat. Care Rehabil.* 2017 DOI: 10.1007

Primary and secondary sectors

Mollerup, P., Gamborg, M., Trier, C., Bojsøe, C., Nielsen, T. R. H., Baker, J. L., Holm, J.-C. *PLoS One*. 2017 Mar 6;12(3):e0173033. Holm, J.-C. *et al.* Chronic care treatment of obese children and adolescents. *International Journal of Pediatric Obesity* 6, 188–196 (2011)

Preliminary studies in adults (weight reduction in 80%)

Independent upon baseline degree of obesity and SES

Holm, J.-C. *et al.* Chronic care treatment of obese children and adolescents. *International Journal of Pediatric Obesity* 6, 188–196 (2011)

Independent on familial predisposition

Nielsen, L. A. *et al.* The influence of familial predisposition to cardiovascular complications upon childhood obesity treatment. *PLoS ONE* 10, e0120177 (2015).

Independent on impaired glucose metabolism

Kloppenborg et al, 2017, in review.

Independent on disordered eating

Fogh et al, 2017, in review.

Independent on sugary intakes

Trier, C. *et al.* No influence of sugar, snacks and fast food intake on the degree of obesity or treatment effect in childhood obesity. *Pediatric Obesity* n/a-n/a (2016).

PRESSE

FORSIDE

ALLE NYHEDER

FOTO

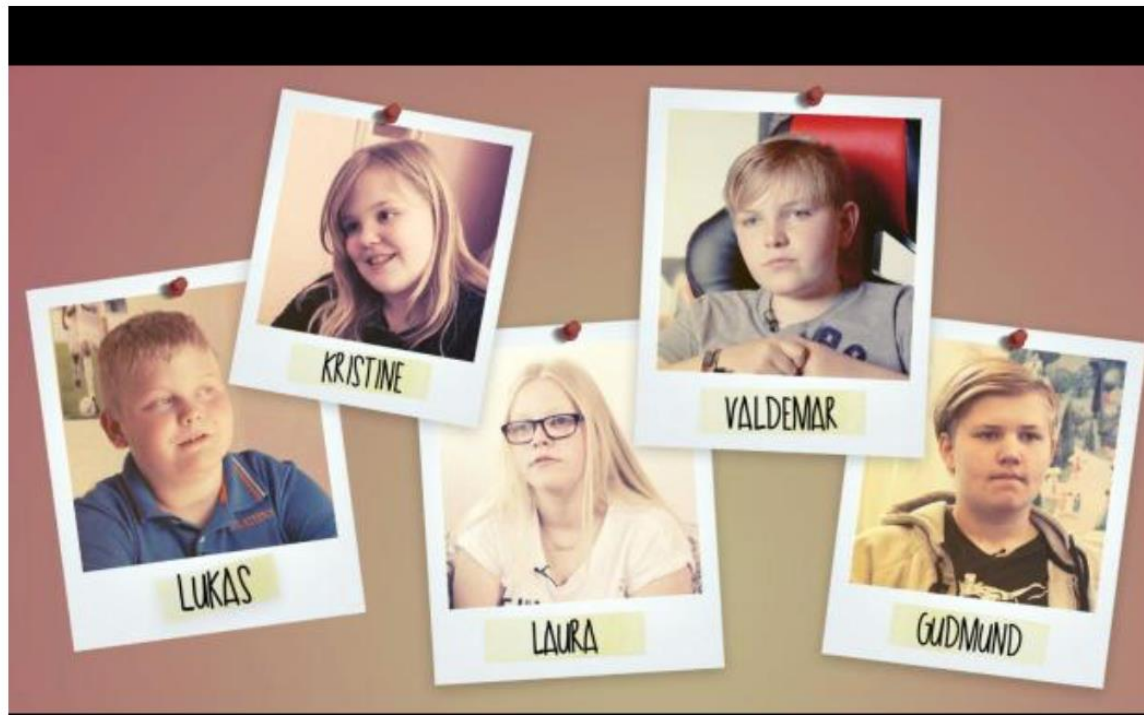
KONTAKT


IN ENGLISH

01. AUG. 2017 KL. 11.03 | OPDATERET 01. AUG. 2017 KL. 11.26

Ny reportageserie på DR1: Generation XL

En ny reportageserie på DR1 har igennem et år fulgt fem overvægtige børn og deres familier i kampen mod kiloene og mod et sundere liv. 'Generation XL' får premiere på DR1 tirsdag d. 15. august klokken 20.45.





**DET
BEDSTE
FOR
BARNET**

LÆGEN
BAG HOLBÆK-
MODELLEN

**Kampen
mod
overvægt**

**Jens-Christian
Holm**

POLITIKENS FORLAG





Thanks for your attention

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