

Obesity Facts

The European Journal of Obesity

Official Organ of

EASO
European Association
for the Study of Obesity

Editorial Representatives

Ellen Blaak, Maastricht
Hermann Toplak, Graz

EASO

DAG
Deutsche
Adipositas-Gesellschaft
Editorial Representative
Martin Wabitsch, Ulm



Affiliated with

IFSO-EC
International Federation
for the Surgery of Obesity
and Metabolic Disorders –
European Chapter

Editorial Representative

Martin Fried, Prague



Editor-in-Chief

Hans Hauner, MD *Else Kroener-Fresenius Center for Nutritional
Medicine, Klinikum rechts der Isar, Technical
University of Munich, Munich, Germany*

Assistant Editor

Nora Klötting, MD *Integrated Research and Treatment Center
(IFB) AdiposityDiseases, University of Leip-
zig, Leipzig, Germany*

Associate Editors

Jennifer Lyn Baker, MD *Institute of Preventive Medicine, Frederiksberg
Hospital, Frederiksberg, Denmark*

Ellen E. Blaak, MD *Department of Human Biology, NUTRIM
School of Nutrition and Translational Research
in Metabolism, Maastricht University Medical
Center, Maastricht, The Netherlands*

Matthias Blüher, MD *Department of Medicine, Endocrinology and
Diabetes, University of Leipzig, Leipzig, Germany*

John E. Blundell, PhD *School of Psychology, Faculty of Medicine and
Health, University of Leeds, Leeds, UK*

Karine Clément, MD *Institute of Cardiometabolism and Nutrition,
Assistance Publique-Hôpitaux de Paris,
Pitié-Salpêtrière Hospital, Paris, France*

Carl-Erik Flodmark, MD *Department of Pediatrics, Skåne University
Hospital Malmö, Malmö, Sweden*

Martin Fried, MD *OB Klinika – Centre for Treatment of Obesity
and Metabolic Disorders, 1st Faculty of Medicine,
Charles University, Prague, Czech Republic*

Vojtech Hainer, MD *Obesity Management Centre, Institute of
Endocrinology, Prague, Czech Republic*

Berit L. Heitmann, MD *Research Unit for Dietary Studies, The Parker
Institute, Frederiksberg Hospital, Copenhagen,
Denmark*

Anja Hilbert, PhD *Integrated Research and Treatment Center (IFB)
AdiposityDiseases, Behavioral Medicine, Univer-
sity of Leipzig, Leipzig, Germany*

Anke Hinney, PhD *Department of Child and Adolescent Psychiatry,
University Hospital Essen, University of
Duisburg-Essen, Essen, Germany*

Christina Holzapfel, PhD *University Hospital Klinikum rechts der Isar,
Technical University of Munich, Munich,
Germany*

John G. Kral, MD *Department of Surgery, SUNY Downstate
Medical Center, Brooklyn, NY, USA*

Lauren Lissner, MD *Department of Public Health and Community
Medicine, Institute of Medicine, Sahlgrenska
Academy, University of Gothenburg,
Gothenburg, Sweden*

Bernhard Ludvik, MD *Department of Medicine 1, Rudolfstiftung
Hospital, Vienna, Austria*

Dragan Micic, MD *School of Medicine, University of Belgrade,
Belgrade, Serbia*

Manfred J. Müller, MD *Institute of Human Nutrition and Food Science,
Faculty of Agricultural and Nutritional Sciences,
Christian-Albrechts-University, Kiel, Germany*

Yves Schutz, MD *Division of Physiology, Department of Medicine,
University of Fribourg, Fribourg, Switzerland*

Pedro J. Teixeira, PhD *Department of Sports and Health, Faculty of
Human Kinetics, University of Lisbon, Lisbon,
Portugal*

Hermann Toplak, MD *Lipid Clinic, Department of Medicine, Medical
University of Graz, Graz, Austria*

Matthias Tschöp, MD *Helmholtz Diabetes Center and Helmholtz
Pioneer Campus, Helmholtz Zentrum München,
German Center for Diabetes Research (DZD),
Technical University of Munich, Neuherberg,
Germany*

Haijun Wang, PhD *Department of Child, Adolescent and Women's
Health, School of Public Health, Peking
University, Beijing, China*

Kurt Widhalm, MD *Austrian Academic Institute for Clinical
Nutrition, Vienna, Austria*

Tommy Visscher, PhD *Windesheim University of Applied Sciences,
Zwolle, The Netherlands*

S. Karger GmbH P.O. Box, 79095 Freiburg, Germany

Editorial Office Sven Riestenpatt, PhD;
s.riestenpatt@karger.com

Founding Editor Johannes Hebebrand, Essen

KARGER

Basel · Freiburg · Paris · London · New York · Chennai · New Delhi ·
Bangkok · Beijing · Shanghai · Tokyo · Kuala Lumpur · Singapore · Sydney

Editorial Board Members

- Hans-Rudolf Berthoud, MD *Pennington Biomedical Research Center, Louisiana State University System, Baton Rouge, LA, USA*
- Stefan Engeli, MD *Institute for Clinical Pharmacology, Hanover Medical School, Hanover, Germany*
- Gema Frühbeck, MD, PhD *Department of Endocrinology and Nutrition, Clínica Universidad de Navarra, University of Navarra, CIBEROBN, IdiSNA, Pamplona, Spain*
- Susanna Hofmann, MD *Helmholtz Center Munich, Institute of Diabetes and Regeneration Research, Neuherberg, Germany*
- Martin Klingenspor, MD *Chair of Molecular Nutritional Medicine, Else Kröner-Fresenius Center, Technical University of Munich, Freising-Weihenstephan, Germany*
- Julian G. Mercer, MD *The Rowett Institute, University of Aberdeen, Foresterhill, UK*
- Vidya Mohamed-Ali, MD *Adipokines and Metabolism Research Group, Centre for Clinical Pharmacology, BHF Labs University College London, London, UK*
- Dénes Molnár, MD *Department of Pediatrics, University of Pécs Medical School, Pécs, Hungary*
- Rubén Nogueiras, MD *Department of Physiology, School of Medicine, University of Santiago de Compostela, Santiago de Compostela, Spain*
- Jean-Michel Oppert, MD *Department of Nutrition, Pitié-Salpêtrière Hospital (AP-HP), Paris, France*
- Andreas F.H. Pfeiffer, MD *Department of Clinical Nutrition, German Institute of Human Nutrition Potsdam-Rehbruecke, Nuthetal, Germany*
- Paul T. Pfluger, MD *Helmholtz Diabetes Center and Helmholtz Pioneer Campus, Helmholtz Zentrum München, German Center for Diabetes Research (DZD), Technical University of Munich, Neuherberg, Germany*
- Gabriela Roman, MD, PhD *Clinical Center of Diabetes, Nutrition, Metabolic Diseases, 'Iuliu Hatieganu' University of Medicine & Pharmacy, Cluj-Napoca, Romania*
- Stephan Rössner, MD *Professor emeritus, Karolinska Institutet, Apple Bay Obesity Research Centre, Bromma, Sweden*
- Jacob C. Seidell, PhD *Department of Health Sciences, Faculty of Earth and Life Sciences, VU University Amsterdam, Amsterdam, The Netherlands*
- Antonio J. Torres, MD *Department of Surgery, Hospital Clinico San Carlos, Complutense University of Madrid, Madrid, Spain*
- Christian Vaisse, MD, PhD *Diabetes Center and Department of Medicine, University of California San Francisco, San Francisco, CA, USA*
- Philippe Valet, PhD *Institut des Maladies Métaboliques et Cardiovasculaires, I2MC, Inserm – University Paul Sabatier UMR 1048, Toulouse, France*
- Volkan Demirhan Yumuk, MD *Division of Endocrinology, Metabolism and Diabetes, Istanbul University Cerrahpaşa Medical Faculty, Istanbul, Turkey*

Imprint

ISSN Print Edition: 1662-4025

ISSN Online Edition: 1662-4033

Journal Homepage: <http://www.karger.com/ofa>

Publication Data: Volume 10, 2017 of 'OBESITY FACTS' appears with 6 issues.

Copyright: © 2017 by S. Karger Verlag für Medizin und Naturwissenschaften GmbH, Freiburg (Germany). All rights reserved. No part of this publication may be translated into other languages, reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, recording, microcopying, or by any information storage and retrieval system, without permission in writing from the publisher or, in the case of photocopying, direct payment of a specified fee to the Copyright Clearance Center.

Disclaimer: The statements, opinions and data contained in this publication are solely those of the individual authors and contributors and not of the publisher and the editor(s). The appearance of advertisements in the journal is not a warranty, endorsement, or approval of the products or services advertised or of their effectiveness, quality or safety. The publisher and the editor(s) disclaim responsibility for any injury to persons or property resulting from any ideas, methods, instructions or products referred to in the content or advertisements.

Back Volumes and Single Issues: Information on availability and prices of single print issues and print or electronic back volumes can be obtained from Customer Service at aboservice@karger.com

For customers in Germany: Please contact your local bookstore or S. Karger Verlag für Medizin und Naturwissenschaften GmbH Wilhelmstr. 20A, 79098 Freiburg (Germany) Tel. +49 761 45 20 70, Fax +49 761 45 20 714 aboservice@karger.com

For customers in all other countries: Please contact your bookshop or S. Karger AG Allschwilerstr. 10, 4009 Basel (Switzerland) Tel. +41 61 3 06 11 11, Fax +41 61 3 06 12 34 karger@karger.com

Advertising: Correspondence should be addressed to the publisher.

S. Karger Verlag für Medizin und Naturwissenschaften GmbH

Attn. Ellen Zimmermann (Head of Marketing)

e.zimmermann@karger.com

Price list Banner No. 5 of January 1, 2017 is effective.

Publisher: S. Karger Verlag für Medizin und Naturwissenschaften GmbH

Wilhelmstr. 20A, 79098 Freiburg (Germany)

www.karger.de, information@karger.com

V.i.S.d.P. (Person responsible according to the German Press Law):

Sibylle Gross

Type setting and printing:

Bosch Druck GmbH, 84030 Ergolding, Germany.

Printed on acid-free and non-aging paper (ISO 9706).

Supplement 1/2017

ISBN 978-3-318-06069-0

e-ISBN 978-3-318-06070-6

Bibliographic Services

Index Medicus/MEDLINE

Science Citation Index Expanded

SciSearch®

Current Contents®/ClinicalMedicine

Journal Citation Reports/Science Edition

KARGER

Fax +49 761 4 52 07 14

Information@Karger.com

www.karger.com

© 2017 S. Karger GmbH, Freiburg

Accessible online at:

www.karger.com/ofa

Vol. 10, Supplement 1,
May 2017

Obesity *Facts*

The European Journal of Obesity



May 17-20 2017
Porto, Portugal

24th European Congress on Obesity

Porto, Portugal, May 17–20, 2017

ABSTRACTS

KARGER

Basel · Freiburg · Paris · London · New York · Chennai · New Delhi ·
Bangkok · Beijing · Shanghai · Tokyo · Kuala Lumpur · Singapore · Sydney

PROGRAMME ORGANISING COMMITTEE (POC)

Chair

Davide Carvalho (Portugal)

Ellen Blaak (Netherlands)

John Blundell (UK)

Conceição Calhau (Portugal)

Nathalie Farpour-Lambert (Switzerland)

Paula Freitas (Portugal)

Gijs Goossens (Netherlands)

Jason Halford (UK)

Dragan Micic (Serbia)

Jorge Mota (Portugal)

Dana Mullerova (Czech Republic)

Carlos Oliveria (Portugal)

Hermann Toplak (Austria)

Tommy Visscher (Netherlands)

Volkan Yumuk (Turkey)

ORAL SESSIONS

Wednesday, 17 May 2017

OS1 – Psychology & Behaviour	1
OS2 – Metabolic Outcomes	3
OS3 – Adipose Tissue Biology	5

Thursday, 18 May 2017

OS4 – Energy Balance	7
OS5 – Environment and Policy	9
OS6 – Childhood Obesity Management: from the Lab to the Community	11

Friday, 19 May 2017

OS7 – Treatment Interventions and Outcomes	14
OS8 – Lifecourse Epidemiology	16

Saturday, 20 May 2017

OS9 – Inter-organ Crosstalk	19
OS10 – Child Health and Obesity Prevention	21
OS11 – Bariatric and Metabolic Surgery	23

EASO SYMPOSIA

Thursday, 18 May 2017

AS2 – the MooDFOOD EU Project	26
AS3 – Developing and Designing Evidence-Based Digital Tools for Weight Loss Maintenance: The H2020 NoHoW Project	28
AS4 – Young Adult Obesity: The Transition from Adolescence to Emerging Adulthood	29

Friday, 19 May 2017

AS5 – Epicardial and Perivascular Adipose Tissue Dysfunction in Obesity	30
AS6 – Functional Body Composition, Obesity & Cardiometabolic Health: Beyond the Adipocentric View	32

REVIEW / WORKSHOP SESSIONS

Wednesday, 17 May 2017

RS1 – Size matters: How can Big Data Help Obesity	34
RS2 – A Year in Adipose Tissue: Novel Players and Future Treatments in WAT and BAT Biology	35
RS3 – Loss versus Maintenance: The False Dichotomy	37
RS4 – Population Based Approaches	38

Thursday, 18 May 2017

RS5 – EASO COMs Session: Post-Bariatric Surgery Challenges	39
RS6 – Biological Rhythms and Behavioral Patterns	39
RS7 – EASO PPHTF Session: Integrating Insights	40
RS8 – Beyond the Minister of Health: Lessons from countries where obesity is classified as a disease	41
RS9 – Information Technology: A cause and a tool to treat obesity	42

Friday, 19 May 2017

RS11 – Discussion Session: Obesity and the Food Industry - collaboration or conflict	43
RS12 – The Definition of Treatment Success: Lifecourse Perspective	43
RS13 – Environmental Pollutants	44
RS14 – Pharmacotherapy	45
RS15 – EASO Knowledge Gap Session. Household Food Insecurity: Where are we now – lessons learnt	46
RS16 – EASO COTF Session: Interventions in Childhood Obesity	47

Saturday, 20 May 2017

RS17 – Physical Activity Strategies	48
RS18 – Debate: Challenges of Managing Obesity-Related Disorders	49

PLENARY SESSION

Wednesday, 17 May 2017

PL 1 – Obesity as a disease	50
-----------------------------	----

Thursday, 18 May 2017

PL2 – Childhood Obesity Plenary	51
PL3 – Great expectations: Patient and practitioner viewpoints	51

Friday, 19 May 2017

PL4 – Plenary Lecture	51
PL5 – Plenary Lecture	51

Saturday, 20 May 2017

PL7 – European and Portuguese Obesity Day Session	52
---	----

EASO POSTERS

Thursday, 18 May 2017

PO1 – Basic and Experimental Science	54
PO2 – Health, Behaviour and Environment	104
PO3 – Childhood Obesity	155
PO4 – Management and Intervention	220

Author Index	260
Imprint	II

Funding: Research relating to this abstract was funded by the Spanish Government (INTERBIOBES -AGL2015-67019-P- and EPIMILK -AGL2012-33692-) and by the University of the Balearic Islands (IBIFLEX, FA38/2016). CIBER de Fisiopatología de la Obesidad y Nutrición is an initiative of the ISCIII. MC is a recipient of a fellowship from the Spanish Government.

T3P86

Experiences in affective-sexual obesity contexts

Pereira, F.¹; Pereira, A.²; Veiga-Branco, M.³

¹Faculdade de Medicina da Universidade de Lisboa, PAIDEIA, ²Instituto Politécnico De Bragança, ³Instituto Politécnico De Bragança, Reci, Paideia

Introduction: The adverse effects of obesity are well documented; however, a growing topic is that relationship with sexuality. Studies show that obesity is associated with a decrease in sexual desire and involvement, avoidance of sexual encounters difficulties in sexual performance, reduced number of sexual partners, and the females to report poor quality of sexual life.

Methods: With the objective to find relationships between the level of Body Mass Index (BMI) and sexual experiences, we proceeded to a quantitative descriptive methodology through the BMI calculation to a sample of 306 users of Obesity Therapy (30.7% gender male and 69.3% female) aged 18 and 65 years.

Results: The results are Grade I obesity in most (96 to 31.4%) and pre-obesity in 23.5% (72) of respondents, but obesity and pre-obesity, particularly Obesity Grade I (63- 65.6% of individuals) is more prevalent in marital status "Married". Respondents with higher BMI have lower qualifications. Regarding the number of sexual partners, it appears that the higher the BMI, the lower the number of sexual partners that the sample states: 63 of respondents Obesity Grade I self reports a sexual partner, and the normal weight respondents, this number varies between 1 and 20, while the class III obesity varies from 1 to 4 partners. Individuals with normal weight and pre-obesity present frequency of sexual relations / week between 2/3 times / week, while individuals with Obesity Grade II and Grade III have this frequency 1/2 times/week.

Conclusion: BMI assumes influence of variable outlines the quality of affective and sexual experiences. It is considered urgent and relevant to invest in Sexual Education and Nutrition at the level of these populations.

Keywords: Obesity, sexual relations, BMI, sexual partner, sexuality, sexual desire, sexual experience, affective-sexual, relationship, sexual performance, Nutrition

Conflict of Interest: None Disclosed

Funding: No Funding

T3P89

Fasting plasma glucose levels in impaired fasting glucose participants and coronary artery calcification

Kang, S.¹; Song, S.¹

¹the Catholic University of Korea

Introduction: Prediabetes is associated with an increased risk of cardiovascular disease (CVD). While the association of impaired glucose tolerance with CVD has been shown in many studies, the relationship between impaired fasting glucose (IFG) and CVD remains unclear. The purpose of this study was to compare the coronary artery calcium scores (CACS) of participants with normal fasting glucose versus those with IFG, according to fasting plasma glucose (FPG) levels, and to assess whether differences in CACS were independent of important confounders.

Methods: This was a cross-sectional study that was conducted through the Health Promotion Center of the University Hospital (Gyeonggi-do, Republic of Korea), during the period 2010–2014. CACS were assessed by multidetector computed tomography in 1,012 asymptomatic individuals. Anthropometric parameters and metabolic profiles were also acquired.

Study subjects were divided into four glucose groups, excluding participants with a history of CVD or diabetes mellitus.

Results: Out of 1,012 participants, 346(34.2%) had a CACS >0. The incidence of CAC differed according to FPG level ($\chi^2=44.22, p < 0.001$), and the mean CACS increased with FPG. After adjustment for other factors, those subjects with FPG ≥ 110 mg/dl had a significantly higher risk of coronary artery calcification than did subjects with normal fasting glucose. ($110 \leq$ FPG [mg/dl] < 120 , OR = 2.507, $p = 0.002$; $120 \leq$ FPG [mg/dl] < 126 , OR = 3.568, $p = 0.001$)

Conclusion: FPG values in the IFG patients are positively correlated with CAC, and IFG (especially FPG ≥ 110 mg/dl) could be an independent risk factor for CAC. These associations were not significantly altered after adjustment for other possible confounders.

Conflict of Interest: None disclosed.

Funding: No Funding.

T3P90

Fat and fat-free mass contribution to weight loss during an intensive diet and exercise intervention

Branco, T.¹; Martins, S.²; Vieira, P.²; Raimundo, A.³

¹Instituto Prof. Teresa Branco, Oeiras, Portugal, ²Universidade Europeia, Lisbon, Portugal; Instituto De Saúde Ambiental, Faculdade De Medicina, Universidade De Lisboa, Lisbon, Portugal, ³Universidade De Évora

Introduction: Due to overweight and obesity epidemic proportions and its comorbidities in most industrialized countries, weight loss is a serious health and economic concern (WHO, 2016). Different weight loss (WL) approaches can be used but an important objective is to maximize the loss of fat mass (FM) while minimizing the loss of metabolically active fat free mass (FFM). Research suggest that adding vigorous exercise to a WL program may help spare FFM in severely obese patients during massive weight reduction (Johannsen et al., 2012). The aim of the present study was to assess FM and FFM contribution to massive WL in a unique group of severely obese individuals undergoing a 16-wk competitive program of diet restriction and vigorous exercise.

Methods: 12 severely obese adults (28.9 ± 6.2 yr; 44.4 ± 7.7 Kg/m²), 6 women, participated voluntarily in the 16-week intensive diet and exercise intervention as part of the Portuguese version "The Biggest Loser" televised WL competition. Participants were housed together at an isolated ranch outside Lisbon. The exercise component of the competition consisted of 2–3 h/d (7 d/wk) of directly supervised vigorous circuit training and/or aerobic training. Participants were encouraged to exercise up to an additional 3 h/d. Dietary intake was monitored consisting of a calorie-restricted diet greater than 70% of their baseline energy requirements as calculated by the following: 21.6 kcal/kg.d x FFM (kilograms) + 370 kcal/d (Cunningham, 1991). At wk 16 (4 months), all the participants were assessed. Body composition was estimated by dual-energy X-ray absorptiometry and anthropometric measurements were performed.

Results: At 4-month, participants lost, on average, 25.1 ± 9.0 Kg of initial body weight (range: -39.3 Kg- $(-12.6$ Kg) loss), with a BMI mean reduction of 8.5 ± 3.2 kg/m² representing $19.6 \pm 7.3\%$ decrease ($P < 0.001$ for all). FM decreased in the whole body (-21.0 ± 1.3 Kg and $-38.2 \pm 16.3\%$), representing -13.9 ± 6.8 Kg ($-21.8 \pm 9.7\%$) in the trunk, -11.9 ± 3.9 Kg ($-37.0 \pm 15.1\%$) in lower limbs (LL), and -1.1 ± 1.3 Kg ($-21.9 \pm 34.7\%$) in upper limbs (UL) ($P < 0.001$ for all). FFM was reduced in the whole body (-4.1 ± 4.3 Kg and $-5.8 \pm 5.4\%$; $P < 0.01$) and in LL (-2.4 ± 1.7 Kg and $-8.3 \pm 5.3\%$; $P \leq 0.001$), while no changes were observed in the trunk and UL ($P > 0.05$ for all). The relative contribution of FM and FFM to WL was, respectively, 85.7% and 14.3% in the whole body, 85.6% and 14.4% in the trunk, 76% and 24% in LL, and 90.7% and 9.3% in UL.

Conclusion: Participants in this very controlled intervention experienced a massive WL with absolute mass reductions in the whole body, trunk and LL, and preservation in the UL. FM decrease was the major contributor to total body and regional WL, while FFM presented a minor contribution to weight reduction particularly in UL.