

COT

*3rd European Interdisciplinary Meeting
20th Annual Scientific Meeting of AGEV*

PUBLIC HEALTH AND NUTRITION

*2 - 4 October 1997
Berlin, Germany*



*Arbeitsgemeinschaft Ernährungsverhalten e.V.
Working Association for Nutritional Behaviour*

and



*Wissenschaftszentrum Berlin für Sozialforschung
Arbeitsgruppe Public Health
Social Science Research Center Berlin
Research Group Public Health*

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Dear Colleagues,

On behalf of the organizers we have the pleasure to welcome you at the Social Science Research Center Berlin (WZB) for the 3rd European Interdisciplinary Meeting on Public Health and Nutrition organized by AGEV and the Research Group Public Health of the WZB.

The field of Public Health faces high levels of health impairments and chronic diseases, considerable expenditures for health and disease and persistent inequality in health. Because chronic diseases can only be prevented, not cured, effective measures to improve the health of the entire population and to lessen inequalities are needed. Food and nutrition are considered to have an important part in most of the highly prevalent chronic diseases in welfare societies. This meeting will concentrate on nutrition in public health, in order to continue on the path of the World Health Organisation European area's goal of "Health for all by the year 2000", which envisaged the reduction of morbidities and mortalities and the reduction of inequalities in health.

We are envisaging a fruitful convention and wish you a pleasant stay in Berlin.

Elfriede Feichtinger
Barbara Maria Köhler
Gertrud Winkler

ORGANIZERS AGEV Arbeitsgemeinschaft Ernährungsverhalten e.V.

WZB Wissenschaftszentrum Berlin für Sozialforschung
Arbeitsgruppe Public Health

PATRONAGE Beate Hübner, Senator of Health and Social Affairs, Berlin

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Roland Schneider, München (D)
Gertrud Winkler, Augsburg (D)

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Elfriede Feichtinger, Rosenheim (D)
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*THE MEETING ORGANIZERS ARE GREATLY INDEBTED
TO THE FOLLOWING SPONSORS FOR THEIR SUPPORT*

DFG Deutsche Forschungsgemeinschaft
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AMC Alfa Metalcraft Corporation Handelsges. mbH
Bingen (D)

AMC International AG
Alfa Institut
Rotkreuz (CH)

Bernhard Schwertner Feldorganisation
Augsburg (D)

CPC Europe Consumer Foods Ltd
Euro R & D Center
Heilbronn (D)

ISFE Internationale Stiftung für Ernährungsforschung
und Ernährungsaufklärung
International Foundation for the Promotion of Nutrition
Research and Nutrition Education
Rotkreuz (CH)

Union Deutsche Lebensmittelwerke GmbH
Hamburg (D)

WEDNESDAY 1 OCTOBER 1997

15.00 - 18.00	Registration at Meeting Desk	Lobby (3rd floor)
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THURSDAY 2 OCTOBER 1997

08.00 - 18.30	Meeting Desk open	Lobby (3rd floor)
09.00 - 11.45	Plenary Session 1	A300 (3rd floor)
11.45 - 12.15	Coffee Break	Lobby (ground floor)
12.15 - 13.15	Poster Sessions 1 - 3	Lobby (ground floor)
13.15 - 14.15	Lunch Break	Cafeteria (ground floor)
14.15 - 15.00	Plenary Session 2	A300 (3rd floor)
15.00 - 15.30	Coffee Break	Lobby (ground floor)
15.30 - 18.30	Parallel Sessions 1 - 4	Locations to be announced
18.45 - 19.15	Welcome Reception	Lobby (3rd floor)
19.15	Conference Dinner (optional)	Cafeteria (ground floor)

FRIDAY 3 OCTOBER 1997

08.30 - 18.15	Meeting Desk open	Lobby (3rd floor)
09.00 - 11.15	Plenary Session 3	A300 (3rd floor)
11.15 - 11.45	Coffee Break	Lobby (ground floor)
11.45 - 13.00	Poster Session 4 - 7	Lobby (ground floor)
13.00 - 14.00	Lunch Break	Cafeteria (ground floor)
14.00 - 14.45	Plenary Session 4	A300 (3rd floor)
14.45 - 15.15	Coffee Break	Lobby (ground floor)
15.15 - 18.30	Parallel Sessions 5 - 8	Locations to be announced
18.30 - 20.30	AGEV Members Meeting	A305 (3rd floor)

SATURDAY 4 OCTOBER 1997

08.30 - 13.30	Meeting Desk open	Lobby (3rd floor)
09.00 - 10.30	Plenary Session 5	A300 (3rd floor)
10.30 - 11.00	Coffee Break	Lobby (3rd floor)
10.15 - 12.45	Plenary Session 6	A300 (3rd floor)
12.45 - 13.00	Closing	A300 (3rd floor)

THURSDAY 2 OCTOBER 1997

- 09.00 - 09.30** *Welcome*
Friedhelm Neidhardt, President of WZB
Beate Hübner, Senator of Health and Social Affairs, Berlin
Ulrich Oltersdorf, Chairman of AGEV
- 09.30 - 11.45** *Plenary Session 1*
Chair: Ulrich Oltersdorf, Stuttgart (D)
- 09.30 - 10.15** *Pirjo Pietinen, Helsinki (SF)*
Impact of Nutrition Research on Public Health - Experiences and Examples [101]
- 10.15 - 11.00** *Daniela Schlettwein-Gsell, Basle (CH)*
Can we Measure the Impact of Cultural and Psychological Factors on Nutritional Status? [102]
- 11.00 - 11.45** *Aileen Robertson, Copenhagen (DK)*
WHO Perspective on the Nutrition Situation in Europe [103]
- 11.45 - 12.15** *Coffee Break*
- 12.15 - 13.15** *Poster Sessions 1 - 3*
- 13.15 - 14.15** *Lunch*
- 14.15 - 15.00** *Plenary Session 2*
Chair: Suzi Leather, Exeter (GB)
- 14.15 - 15.00** *Unni Kjøernes, Oslo (N)*
Dilemmas in Modern Nutrition Politics - a Focus on Northern Europe [104]
- 15.00 - 15.30** *Coffee Break*
- 15.30 - 18.30** *Parallel Sessions 1 - 4*
- 18.45 - 19.15** *Welcome reception*
- 19.15** *Conference dinner (optional)*

THURSDAY 2 OCTOBER 1997**12.15 - 13.15 *Poster Sessions 1 - 3******Poster Session 1 Epidemiological Findings in Children***

Chair: Angela Döring, Munich (D)

- 12.15 - 12.30 *Krystyna Dluzniewska, Krystyna Baranowska, Anna Janik, Jacek Kwiatkowski, Roman Lutynski, Krakow (PL)*
Dietary Habits, Nutrients Intake And Nutritional Status Of School Children In The Krakow Region [311]
- 12.30 - 12.45 *Alzbeta Béderová, Marica Kudlácková, Anastázia Brtková, Tatiana Magálová, Bratislava (SK)*
Lipid And Antioxidant Parameters In Children And Adolescents From Socio-economic Different Regions Of Slovakia [312]
- 12.45 - 13.00 *Mareike Mast, Inga Körtzinger, Antje Bartrow, Vicky Hunte, Susanne Neite, Eckart König, Manfred J. Müller, Kiel (D)*
Kiel Obesity Prevention Study (KOPS): Definition Of Obesity In Children [313]
- 13.00 - 13.15 *Gabriele Berg, Dietrich Rothenbacher, Günter Bode, Guido Adler, Hermann Brenner, Ulm (D)*
Breastfeeding Does Not Protect Infants From Helicobacter Pylori Infection [314]

THURSDAY 2 OCTOBER 1997**12.15 - 13.15 *Poster Sessions 1 - 3******Poster Session 2 Aspects of Nutrition in a Transition Society******Chair: Ulrich Oltersdorf, Stuttgart (D)***

- 12.15 - 12.30 *Iwona Traczyk, Swiatoslaw Ziemiński, Warsaw (PL)*
Nutritional Assessment Of Vegetarian Diets, Including Nitrate And
Nitrite Content [321] C-6A)
- 12.30 - 12.45 *Monika Swiatkowska, Stanislaw Berger, Warsaw (PL)*
Influence Of Advertising As A Part Of Promotion For The
Consumers' Decision-making Process Concerning Food Purchase
[322]
- 12.45 - 13.00 *Krystyna Rejman, Stanislaw Berger, Warsaw (PL)*
Fats And Oils - Market And Consumption Changes In Poland
During The 1990s [323]
- 13.00 - 13.15 *Karol Krajewski, Hanna Górka-Warsewicz, Malgorzata Durak, Warsaw
(PL)*
Dairy Product Life Cycle And Consumer Preferences In Poland
[324]

THURSDAY 2 OCTOBER 1997**12.15 - 13.15 *Poster Sessions 1 - 3******Poster Session 3 Food and Nutrition Policy as a Tool of Health Policy***

Chair: Anette Schmitt, Düsseldorf (D)

- 12.15 - 12.30 *Angela Hort, Helmut Brand, Bielefeld (D)*
Periconceptional Use Of Multivitamins In The Reduction Of
Congenital Abnormalities: Is There Sufficient Evidence For The
Implementation Of A National Health Policy For Germany? [331]
- 12.30 - 12.45 *Hanna Górską-Warsewicz, Barbara Kowrygo, Stanislaw Berger,*
Warsaw (PL)
Selected Aspects Of Consumer Behaviour On Milk Market [332]
- 12.45 - 13.00 *L. Szponar, G. Okolska, Maria Kundzicz, H. Mojska, K. Orlowska,*
Warsaw (PL)
Dietetic Food Products As An Important Factor In Health
Promoting Nutrition Policy [333]

THURSDAY 2 OCTOBER 1997**15.30 - 18.30 *Parallel Sessions 1 - 4******Parallel Session 1 Methods of Nutrition Epidemiology and Dietary Assessment***

*Chairs: Gertrud Winkler, Augsburg (D)
Roland Schneider, Munich (D)*

15.30 - 16.15 *Roland Schneider, Munich (D)*
Method Mix In Order To Describe Eating Habits
Experiences With Prospective And Retrospective Methods [211]

16.15 - 16.45 *Monique van de Broek, Patricia van Assema, Johannes Brug, Maastricht*
University (NL)
The Relative Validity Of A Short Dutch Questionnaire As A Means
To Rank Adults And Adolescents According To Total And
Saturated Fat Intake [212]

16.45 - 17.15 *Inga Körtzinger, Mareike Mast, Anke Bierwag, Manfred J. Müller, Kiel*
(D)
Dietary Underreporting: Validity Of Dietary Measurements Of
Energy Intake Using A 7-Day Dietary Record And A Diet History In
Non-Obese Subjects [213]

17.15 - 17.30 *Apple Break*

17.30 - 18.00 *Ute Alexy, Wolfgang Sichert-Hellert, Mathilde Kersting, Gerhard Schöch*
Development Of Scores To Measure The Effects Of Nutrition
Counselling On The Diet Of Children And Adolescents [214]

THURSDAY 2 OCTOBER 1997**15.30 - 18.30 *Parallel Sessions 1 - 4******Parallel Session 2 Nutrition Surveillance: Results of Dietary Assessment***

Chairs: Karin F. A. M. Hulshof, Zeist (NL)

Ritva Prättälä, Helsinki (SF)

15.30 - 16.05 *Karin F.A.M. Hulshof, Michiel R.H. Löwik, Zeist (NL)*
Socioeconomic Differences In Dietary Quality In The Netherlands.
Experiences From Two National Surveys [221]

16.10 - 16.45 *Ritva Prättälä, Ville Helasoja, Anu Kasmel, Jurate Klumbiene, Andrus
Lipand, Janina Petkevichiene, Helsinki (SF)*
Social And Cultural Differentiation Of Food Habits In Finland And
The Baltic Countries [222]

16.45 - 17.15 *Stephanie Bodenbach, U. Julius, B. Fegebank, W. Kirch, Dresden (D)*
Nutritional Situation In Saxon Prisons [223]

17.15 - 17.30 *Apple Break*

17.30 - 18.00 *Kristina Langnäse, M. J. Müller, Kiel (D)*
Nutrition And Health Of A Homeless Population [224]

18.00 - 18.30 *Beate Schellhorn, Angela Döring, Jutta Stieber, Oberschleißheim (D)*
Relation Between The Use Of Vitamin And Mineral Supplements
And Educational Attainment: Results From The Who Monica
Project Augsburg 1994/95 [225]

THURSDAY 2 OCTOBER 1997**15.30 - 18.30 *Parallel Sessions 1 - 4******Parallel Session 3 Conceptual Aspects of Nutritional Prevention***

Chairs: Agneta Yngve, Huddinge (S)

15.30 - 16.05 *Eva Svederberg, Lund (S)*
Conceptualizations In Relation To Choice And Use Of Food [231]

16.10 - 16.45 *Claudia Götz, Berlin (D)*
Health Cognitions And Eating Behaviour - New Approaches For
Nutrition Counselling [232]

16.45 - 17.15 *Monique M. Raats, Paul Sparks, Moira Geekie, Richard Shepherd,*
Institute of Food Research, Reading (GB)
Using Personal Dietary Feedback Information To Promote Dietary
Change [233]

17.15 - 17.30 *Apple Break*

17.30 - 18.00 *Dietlinde Friebe, Hans-Joachim Franz Zunft, Brigitte Seppelt, Potsdam-*
Rehbrücke (D), Michael Gibney, Dublin (IRL)
Attitudes Of The German Population To Food, Nutrition And
Health - Results From A European Survey [234]

18.00 - 18.30 *Oleg O. Biloukha, Virginia Utermohlen, Division of Nutritional*
Sciences, Ithaca NY (USA)
Effects Of Economic Status And Exposure To Western Media On
Body Image And Changes In Food Consumption In Urban
Ukrainian Women [235]

THURSDAY 2 OCTOBER 1997**15.30 - 18.30 *Parallel Sessions 1 - 4******Parallel Session 4 Food and Nutrition Policy as a Tool of Health Policy***

Chairs: Barbara M. Köhler, Berlin (D)

Elizabeth Dowler, London (GB)

15.30 - 16.15 *Elizabeth Dowler, London (GB)*

Nutrition And Inequalities In Health: The New Agenda [241]

16.15 - 16.45 *Suzi Leather, Exeter (GB)*

Health Impact Assessment Of The European Union Common
Agricultural Policy [242]

16.45 - 17.15 *Anette Schmitt, Düsseldorf (D)*

The Concept Of An Interdisciplinary Food And Nutrition Policy In
The Grand Duchy Of Luxembourg [243]

17.15 - 17.30 *Apple Break*

17.30 - 18.00 *Sean Stitt, Elaine Prisk, Liverpool (GB)*

Food Policy In Britain [244]

18.00 - 18.30 *Bettina Berndt, Helmut Hesecker, Berlin (D)*

Legislation Of Foods For Special Dietary Uses In Germany [245]

FRIDAY 3 OCTOBER 1997**09.00 - 11.15 *Plenary Session 3***

Chair: Daniela Schlettwein-Gsell, Basle (CH)

09.00 - 09.45 *Kristen Borré, Greenville NC (USA)*

"You Are What (You Think) You Eat": Models And Methods Of Dietary Assessment In The Cross-Cultural Environment [105]

09.45 - 10.30 *Karil Bialostosky, Hyattsville, Maryland (USA)*

Culturally And Socially Sensitive Methods And Instruments Of Dietary Assessment In The NHANES Program [106]

10.30 - 11.15 *Lynn Harbottle, Keele (GB)*

Beyond Cultural Sensitivity: Employing Ethnographic Techniques To Improve The Effectiveness And Outcomes Of Community Nutrition Surveys [107]

11.15 - 11.45 *Coffee Break*

11.45 - 13.00 *Poster Sessions 4 - 7*

13.00 - 14.00 *Lunch*

14.00 - 14.45 *Plenary Session 4*

Chair: Aileen Robertson, Copenhagen (DK)

14.00 - 14.45 *Agneta Yngve, Huddinge (S)*

Modern Concepts In Preventive Nutrition [108]

14.45 - 15.15 *Coffee Break*

15.15 - 18.15 *Parallel Sessions 1 - 4*

18.30 - 20.30 *AGEV Members Meeting*

FRIDAY 3 OCTOBER 1997**11.45 - 13.00 Poster Sessions 4 - 7****Poster Session 4 Epidemiological Findings in Adults**

Chair: Roland Schneider, Munich (D)

- 11.45 - 12.00 Aleksandra Gilis-Januszevska, Roman Lutynski, Jacek Kwiatkowski, Kraków (PL)
A Case-Control Study Of Diet And Colorectal Cancer [341]
- 12.00 - 12.15 Tatiana Magálová, Vladimír Bella, Anastázia Brtková, Elena Grancicová, Bratislava (SK)
Antioxidant Vitamins And Breast Cancer [342]
- 12.15 - 12.30 Rainer Hampel, Th. Kühlberg, K.-P. Schneider, D. Klinke, E. Panzig, Ä. Glass, Rostock (D)
Goitre Endemie In Germany And Its Relation To Serum Levels Of Selenium And Zinc [343]
- 12.30 - 12.45 Lucyna Pachocka, Katarzyna Maliszewska, Longina Klosiewicz-Latoszek, Warsaw (PL)
Effect Of Dietary Changes On Body Fat Mass In Overweight Patients Measured By Bioelectrical Impedance And By Anthropometry [344]
- 12.45 - 13.30 Anja Brönstrup, B. Mock, B. Weltermann, R. Prinz-Langenohl, H. W. Höpp and K. Pietrzik, Bonn (D)
Relevance Of Homocysteine In The Prevention And Treatment Of Coronary Heart Disease In Routine Medical Practice [345]

FRIDAY 3 OCTOBER 1997**11.45 - 13.00 Poster Sessions 4 - 7****Poster Session 5 Nutrition Surveillance: Results of Dietary Assessment**

Chair: Manfred J. Müller, Kiel (D)

11.45 - 12.00 *Ewa Rychlik, Lucjan Szponar, Joanna Lapucha, Warsaw (PL)*
Dietary Habits In Children Aged 11 Years In Poland [351]

12.00 - 12.15 *Anastázia Brtková, Marica Kudlacková, Alzbeta Béderová, Tatiana Magálová, Silvia Tomová, Bratislava (SK)*
Total Antioxidant Status, Conjugated Fatty Acid Dienes And Lipid Parameters In Children And Adolescents From 3 Different Regions Of The Slovak Republic [352]

12.15 - 12.30 *Victor Rogozkin, Olga Dobryakova, St. Petersburg (RUS)*
Monitoring Of Nutritional Status Of Olympic College Students In 1995-96 [353]

alternatively

A. M. Donkin, A. E. Johnson, J. M. Lilley, Roger J. Neale, R. M. Page, R. L. Silburn, K. Morgan, Loughborough (GB)
The Influence Of Self-reported Heart Trouble On Food Consumption Practices In Elderly People [356]

12.30 - 12.45 *Anna Klos, Jerzy Bertrandi, Warsaw (PL)*
Examination Of Nutritional Status Of Men Starting Military Service [354]

12.45 - 13.30 *Aleksandra Gilis-Januszczyńska, Andrzej Pajak, Ewa Kawalec, Kraków (PL)*
10 Years Observations Of The Intake Of Polyunsaturated Fatty Acids And Alfa-Tocopherol In Men And Women Aged 35-64 Years. Findings Of The POL-MONICA Krakow Project [355]

FRIDAY 3 OCTOBER 1997**11.45 - 13.00 Poster Sessions 4 - 7****Poster Session 6 *Nutritional Prevention in Adults***

Chair: Ingrid-Ute Leonhäuser, Giessen (D)

- 11.45 - 12.00 *Naomi S. Evans, London (GB)*
We Want Pies And Chips! Opinions Of Homeless And Marginalised
People Of Healthy Food And Food Supplied By Day Centres [361]
- 12.00 - 12.15 *Lucjan Szponar, Katarzyna Stos, Ewa Matyska, National Food and
Nutrition Institute, Warsaw (PL)*
The Level Of Knowledge Of The Hygiene Requirements And The
Principles Of Adequate Nutrition Among Mass Catering Staff In
Poland [362]
- 12.15 - 12.30 *Anja Hensel, I. Binder, K. Gedrich, G. Karg, Freising-Weihenstephan
(Germany)*
Computer-Based Nutrition Optimization: A Non-fuzzy And A Fuzzy
Approach To Support Changes In Persons' Food Habits [363]

FRIDAY 3 OCTOBER 1997**11.45 - 13.00 Poster Sessions 4 - 7****Poster Session 7 Nutritional Prevention in Children**

Chair: Ritva Prättälä, Helsinki (SF)

- 11.45 - 12.00 *Joel Monárrez, Manfred Braig, Homero Martínez, México (MEX)*
An Ethnographic Approach To Design A Food-Aid Basket For
Children Under 5 Years Of Age In An Indigenous Area Of Northern
Mexico [371]
- 12.00 - 12.15 *Marjolein Deketh, Dresden (D)*
Infant Nutrition In Caries Prevention [372]
- 12.15 - 12.30 *Inga Körtzinger, Mareike Mast, Anika Bumbe, Andreas Grund, Manfred
J. Müller, Kiel (D)*
School-Oriented Intervention For The Prevention Of Obesity As
Part Of KOPS (Kiel Obesity Prevention Study) [373]
- 12.30 - 12.45 *Rolf Manz, I. Kießling, Ch. Müller, S. Bodenbach, W. Kirch, Dresden
(D)*
Nutritional Prevention By Educating Children: Evaluation Of An
Education Program Sponsored By The Saxonian Ministry Of
Agriculture, Nutrition And Forestry [374]
- 12.45 - 13.30 *Rolf Manz, K. Böhme, B. Apley, J. Margraf, Dresden (D)*
Health And Nutrition Education In Children: Evaluation Of An
Education Program For Pre-School And School Children [375]

FRIDAY 3 OCTOBER 1997**15.15 - 18.15 Parallel Sessions 5 - 8****Parallel Session 5 Nutrition Epidemiology: Results**

*Chairs: Manfred J. Müller, Kiel (D)
 Maria Lennernäs, Uppsala (S)*

- 15.15 - 16.00 *Maria Lennernäs, Stockholm (S)*
The 24-Hour Society. Some Aspects On Eating When Others Are Sleeping [251]
- 16.00 - 16.30 *Ann MacInnes, Linda McKie, Aberdeen (GB)*
The Dietary Beliefs And Practices Of Elderly People Residing In The Community: A Lay Epidemiology [252]
- 16.30 - 17.00 *Edelgard Hermann-Kunz, B. Bellach, U. Ellert, Berlin (D)*
Relation Between Alcohol Consumption, Daily Fat Intake And Hypertension [253]
- 17.00 - 17.15 *Apple Break*
- 17.15 - 17.45 *Roman Lutynski, Department of Hygiene and Ecology, Jagiellonian University, Kraków (PL)*
Results Of Iodine Prophylaxis In A Goiter Area Of Southern Poland [254]
- 17.45 - 18.15 *Klaus Lauer, Annette Wahl, Wolfgang Firnhaber, Detlef Claus, Darmstadt (D)*
Defined Nutritional Items And The Risk Of Multiple Sclerosis (MS): A Case-control Study [255]
-

FRIDAY 3 OCTOBER 1997**15.15 - 18.15 *Parallel Sessions 5 - 8******Parallel Session 6 Nutrition Surveillance: Reporting and Trend Assessment***

Chairs: Angela Döring, München (D)

Barbara M. Köhler, Berlin (D)

15.15 - 16.00 *Dieter Borgers, Bielefeld (D)*
Health Reporting And Nutrition [261]

16.00 - 16.30 *Helmut Oberitter, Frankfurt (D)*
The German Nutrition Reports [262]

16.30 - 17.00 *Angela Döring, Gertrud Winkler, Birgit Filipiak, Oberschleißheim (D)*
Trends In Dietary Intake In Men. Results Of The Monica Augsburg
Dietary Surveys 1984/85 And 1994/95 [263]

17.00 - 17.15 *Apple Break*

17.15 - 17.45 *Gertrud Winkler, Neuherberg (D), Sabine Brasche, Erfurt (D), Joachim
Heinrich, Neuherberg (D)*
Dietary Trends In Adults From The City Of Erfurt Before And
After The German Reunification [264]

17.45 - 18.15 *Katja Fischer, Georg Karg, Kurt Gedrich, Freising-Weihenstephan (D)*
Development Of Nutrition In Bavaria/Germany From 1985 To 1995
[265]

FRIDAY 3 OCTOBER 1997**15.15 - 18.15 Parallel Sessions 5 - 8****Parallel Session 7 Nutritional Prevention: Programme Planning and Evaluation**

Chair: Peter Glasauer, Rome (I)

- 15.15 - 16.00 Lynne A. Kennedy, J. Ubido, A. Price, S. El Hassan, J. Sephton
Liverpool and Bolton (GB)
Community Nutrition Assistants As Agents Of Change - Operational
Guidelines From A UK Demonstration Project [271]
- 16.00 - 16.30 Karil Bialostosky, Hyattsville MD (USA)
U.S. Nutrition Policy And The Dietary Guidelines For Americans
[272]
- 16.30 - 17.00 Naomi S. Evans, London (GB)
Eat Well! An Intervention Programme To Improve The Nutritional
Value Of Food Provided For Homeless And Marginalised People
[273]
- 17.00 - 17.15 *Apple Break*
- 17.15 - 17.45 Judith M. Hendry, Aberdeen (GB)
Primary School Children's Perception And Consumption Of Fruit
And Vegetables [274]
- 17.45 - 18.15 Marguerite O'Donnell, Una Fallon, Cecily Kelleher, Galway (IRL)
Nutrition Education Resource Material For Use In General
Practice: Process Evaluation [275]

FRIDAY 3 OCTOBER 1997**15.15 - 18.15 Parallel Sessions 5 - 8****Parallel Session 8 Public Health Nutrition: Science Development and Professional Aspects***Chairs: Ingrid-Ute Leonhäuser, Giessen (D)**Elfriede Feichtinger, Rosenheim (D)*

15.15 - 16.00 Ingrid-Ute Leonhäuser, Giessen (D)
Public Health And Nutrition In Germany: The State Of The Art -
Conclusions For An Integrated Concept [281]

16.00 - 16.45 Jackie Landman, Edinburgh (GB)

[282]

16.45 - 17.15 Joan M. Allen-Peters, Wolfville, Nova Scotia (CDN)
Influencing Public Policy In Health And Nutrition: An Advocacy
Role For Nutrition And Home Economics Professionals [283]

17.15 - 17.30 Apple Break

17.30 - 18.15 Diskussion

SATURDAY 4 OCTOBER 1997**09.00 - 10.30 *Plenary Session 5***

Chair: Agneta Yngve, Huddinge (S)

09.00 - 09.45 *Pat Caplan, London (GB)*

*The Wisdom Of The Experts: Health Professionals And Their Views
On Healthy Eating [109]*

09.45 - 10.30 *Arne Oshaug, Oslo (N)*

Skills Of A Public Nutrition Wizard: Professional Challenge [110]

10.30 - 11.00 *Coffee Break***11.00 - 12.45 *Plenary Session 6******Focus Discussion: Public Health Nutrition***

Chairs: Aileen Robertson, Copenhagen (DK)

Rolf Rosenbrock, Berlin (D)

Introductory Statements:

Barbara M. Köhler, Berlin (D)

*Parallels Meet In Infinity: Public Health Science and Nutrition
Science in Germany [111]*

Jackie Landman, Edinburgh (GB)

*Views From A Bridge: Professionalisation In Dietetics And Nutrition
in the UK [112]*

Agneta Yngve, Huddinge (S)

Public Health Nutrition Training - A European Project [113]

12.45 - 13.00 *Closing*

**MEETING
DESK**

The meeting desk will be open

Wednesday	1 October 1997	15:00 - 18:00
Thursday	2 October 1997	8:00 - 18:30
Friday	3 October 1997	8:30 - 18:30
Saturday	4 October 1997	8:30 - 13:30

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REGISTRATION Full registration includes admission to all sessions of the Meeting, the meeting documents, refreshments during coffee breaks, lunches on Thursday 2 October and Friday 3 October 1997 and the welcome reception on Thursday 2 October 1997.

The Turkish Buffet Dinner on Thursday, 2 October 1997 is *not* included in the registration fees. Tickets (DEM 60, beverages included) are available at meeting desk.

LOCATION

All sessions and the welcome reception will take place in the WZB Science Center Building. Please consult location table (page 6) and message board at meeting desk for exact location of the sessions.

Lunches and buffet dinner will take place at the Science Center Cafeteria.

**SOCIAL
PROGRAMME**

On Thursday, 2 October 1997, 18:45 pm, the organizers offer a welcome reception for meeting participants. Beverages are free.

A Turkish Buffet Dinner on Thursday, 2 October 1997, is optional. Dinner tickets (DEM 60 including beverages) are available at meeting desk.

SMOKING

This is a non-smoking conference. Please do not smoke during sessions and in meeting rooms.

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| Page, R. M. | [356] | Ziemlanski, S. | [321] |
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PIS 1

[101]

Pirjo Pietinen, National Public Health Institute, Helsinki (SF)

IMPACT OF NUTRITION RESEARCH ON PUBLIC HEALTH - EXPERIENCES AND EXAMPLES

Nutrition research provides scientific evidence for making dietary recommendations and food and nutrition policy. Whenever the evidence is strong and clear enough to make the scientific community to agree on a recommendation and whenever that leads to action involving nutrition education of the health professionals and the public, food legislation, catering etc., one could assume that it could have an impact on public health.

There are examples of analyses of the possible contributing factors at the population level concerning the saturated fat - serum cholesterol - coronary heart disease risk chain of events.

However, there are examples where dietary recommendations have gone further than the strict scientific evidence has actually permitted and there are examples where in spite of ample nutrition research leading to recommendations and further action at the food level these have not improved public health at all. Media has a growing role in confusing people with sporadic study reports which preferably give a surprising result on a diet-health related issue. This tends to give the message to the people that they have been "brain-washed" with uncertain messages by the authorities giving recommendations. The EU has introduced a new problem within its member states since its food legislation is not necessarily in harmony with the pre-existing national legislation. At worst this can lead to abolishing good and relevant national legislation.

PIS 1

[102]

Daniela Schlettwein-Gsell, Institute of Experimental Gerontology, University of Basle (CH)

CAN WE MEASURE THE IMPACT OF CULTURAL AND SOCIO-PSYCHOLOGICAL FACTORS ON NUTRITIONAL STATUS?

Nutritional surveys as a rule present calculations of nutrient intake and blood analysis for which operational methodology has been established, but only exceptionally include information on food consumption, cooking methods, meal patterns or eating habits. This is to some extent a consequence of the fact that with the available methodology not even food consumption can be assessed on an internationally comparable basis. Another reason may be the fact that the growing herd of sociologists who graze in the field of nutrition develop their concepts in

the firm belief that food habits reflect a search for identity and cultural belonging only. This means that we have to intensify methodological research in order to be able to assess and operate systematically the different factors which make up our eating habits.

Promising results have been reported from Eurocode food coding system and in 1995 an international working group has started to assemble data on meal patterns and eating habits. New statistical methods allow to delineate significant determinants. At the same time we will have to pay more attention to the impact of physical necessities and look at food habits as a connection of physiological need and environmental availability of food. Reciprocal interrelations have been found between meal patterns and circadian rhythms, culinary art and recommended allowances as well as food intake and social settings. Not enough attention has been given to the fact that genetic predisposition may influence food habits on a much wider scale than individual preferences. Still far from being able to measure the impact of sociocultural factors on nutritional status, we will at least be aware of the questions which we have to include in future field studies.

[103]

Aileen Robertson, Acting Regional Adviser in Nutrition, WHO Regional Office for Europe, Copenhagen (DK)

WHO PERSPECTIVE ON THE NUTRITION SITUATION IN EUROPE

Up until the break-up of the former Soviet Union the European Region of the World Health Organization (WHO) had 30 member states and almost overnight this figure rose dramatically to 51 members. An enormous transition is taking place in countries of Central and Eastern Europe (CCEE) and the newly independent states (NSI) where more than 20 governments are struggling with economic difficulties and endeavouring to develop policies in-line with their newly found independence, democracy and the "free market".

WHO nutrition programme addresses international health through food and nutrition policy development, advocacy and educational activities. In September 1996 the follow-up to the International Conference on Nutrition (ICN) was held in the European Region. The aim of this consultation was to assess how far member states had progressed in implementing the World Declaration, Rome, 1992, where they agreed to develop national plans of action for nutrition.

In 1990 the Innocenti Declaration, which aims to promote breastfeeding was ratified by WHO member states and progress of its implementation will be presented at the World Health Assembly in

lack of
depression
y meab

Meal Pattern
Rhythm
Confined
Dietary

Denise A - Dole

RHYTHM Cycle
PIS 1

11-10

11-10

depression cycle a driver to...
- old recipes //

1998. Recently, September 1997, the European Regional consultation on Iodine Deficiency Disorders (IDD) was held in Munich. IDD is a public health concern for most WHO European member states and this consultation aimed to raise awareness and highlight that IDD is the single most common preventable cause of mental retardation.

The "Health for All" (HFA) and its targets are being re-drafted by WHO to address HFA issues for the 21st century. Health targets related to nutrition will play a prominent role: through national comparisons and surveillance, such as The Health Behaviour in School-Aged Children, a WHO cross-national study; HFA data-base which includes data on anthropometry and FAO food balance sheets; and through reports such as the WHO technical series report on Obesity.

In the future WHO hopes to highlight the important role that the health sector must play in relation to new world trade regulations. Food is now incorporated into the free trade agreements co-ordinated by The World Trade Organization (WTO) and so far no health impact analysis has been carried out. Nutritionists and food safety experts will have to work even more closely when developing food and nutrition policies in order to address new health issues that emerge from the rapidly changing food system and so protect public health.

Physical inactivity is increasingly recognised as a risk factor for health. Various WHO initiatives, including encouraging the development of National Policies on Active Living, promote physical activity which is closely linked to nutrition issues, such as obesity, micro-nutrient deficiency and local food security. There are many initiatives in the European region that simultaneously promote healthy nutrition and physical activity: growing food in cities, vegetable box schemes, horticultural projects and community initiatives. The promotion, support and protection of community action will be increasingly important as the global market encourages a convergence of eating patterns resulting from export of Western-style eating patterns.

PIS 2

[104]

Unni Kjærnes, National Institute for Consumer Research, Lysaker (N)

DILEMMAS IN MODERN NUTRITION POLITICS - A FOCUS ON NORTHERN EUROPE

There is at present intense public discussion over issues related to food and health. The significance of problems as well as relevant solutions are subject to debate, promoted by processes of international integration and restructuring of the food market. This situation is reflected in considerable uncertainty when it comes to contemporary nutrition policy formulation. The conceptions of nutrition problems

Plan of Action
for Nutrition
Documents X

chase a food label
in order to
know

→ open it
food market

as well as local
activities //

→ biodiversity / impact
on health

seem quite similar in European countries, particularly in Northern Europe. The implementation of nutrition policies, however, diverge considerably. The degree of institutionalisation and the political effort put into these matters are highly dissimilar. Policies vary concerning administrative sector (health, agriculture, social policy, consumer policy etc.) and the selection of means and measures. The overall outcomes in terms of health promotion (or health 'obstruction') differ accordingly. An analysis of this variation may contribute to a better understanding of political and institutional conditions for different outcomes. This presentation will, first, characterise differences in Northern Europe in terms of institutionalisation. Second, common dilemmas and challenges in contemporary nutrition politics will be discussed.

The theoretical approach will lean on two related traditions, that of 'historical institutionalism' and the 'power resources' school of analysis with the concepts of different types of welfare states (the corporative, catholic type in fex Germany, the liberal British type and the universal Scandinavian type). There are no comparative studies which have collected the information needed for this type of analysis. The presentation must therefore be indicative, based on simple empirical facts from existing literature. The analysis will focus on the cases of Britain, Germany and the Nordic countries.

// Dept of Community Medicine - 1986 - BM 50 - //

[105]

Kristen Borré, Department of Family Medicine, School of Medicine,
Department of Anthropology, East Carolina University, Greenville NC
(USA)

"YOU ARE WHAT (YOU THINK) YOU EAT": MODELS AND METHODS OF DIETARY ASSESSMENT IN THE CROSS-CULTURAL ENVIRONMENT

The methods of scientific dietary assessment are rooted in the biases of Western society. Among most populations whose individuals eat in measured portions, current quantitative dietary methods are likely to be valid and reliable. Among non-Western societies variation in what is consumed and how it is done, often exceeds the wildest Western imagination. Many of the populations who construct their diets outside of a Western, nutritional rationale are those who are the least nourished in the world. Being able to determine the quantity and quality of the food eaten, how that food is distributed within the domestic unit, and how it is obtained and prepared is essential to predicting which populations are most nutritionally vulnerable.

This paper will present current alternative models and methods for studying dietary selection, distribution and consumption by individuals from non-Western societies. Example from studies in Mali and North

Baffin Island will demonstrate alternative methods of collecting dietary data and of dietary intervention. Integrating alternative dietary assessment methods with scientific models of nutrition will be considered. In conclusion, the challenges of integrating methods to study diet in a meaningful, realistic manner to enhance the validity of measurement and success of intervention are outlined. Methodological suggestions to meet these challenges are offered and critiqued.

PIS 3

[106]

-hand out

Karil Bialostosky, National Center for Health Statistics, Centers for Disease Control and Prevention, Hyattsville, Maryland (USA)

CULTURALLY AND SOCIALLY SENSITIVE METHODS AND INSTRUMENTS OF DIETARY ASSESSMENT IN THE NHANES PROGRAM

The National Health and Nutrition Examination Surveys (NHANES) are designed to provide periodic information on the health and nutritional status of the civilian noninstitutionalized population in the United States. The latest survey, NHANES III, was conducted from 1988 through 1994 by the National Center for Health Statistics at the Centers for Disease Control and Prevention and included measurements of diet, nutritional status, and health. Dietary information included a 24-hour recall, food frequency questionnaire, and questions on eating behavior, food program participation, and food security. The survey was designed to oversample children ages 2 months to 5 years, persons ages 60 years and older, blacks, and Mexican Americans. In addition, a special Hispanic HANES was conducted in 1982-84 for three Hispanic subgroups residing in selected areas of the United States.

This presentation will focus on issues encountered in Hispanic HANES and NHANES III related to the use of culturally sensitive and appropriate survey methods and instruments of dietary assessment including translations, acculturation measures, and probes and interview aids used to solicit information from different population groups. Specific examples will be provided to illustrate these issues. Related preliminary plans for the forthcoming NHANES IV, to begin in late 1998, will also be discussed.

PIS 3

[107]

Lynn Harbottle, Dept. of Sociology and Social Anthropology, Keele University, (GB)

BEYOND CULTURAL SENSITIVITY: EMPLOYING ETHNOGRAPHIC TECHNIQUES TO IMPROVE THE EFFECTIVENESS AND OUTCOMES OF COMMUNITY NUTRITION SURVEYS

No matter how rigorous the research design, standard nutritional assessment methods are inadequate to the task of comprehensively studying ethnic minority food habits. Based on work with Pakistani, Bangladeshi and Iranian communities in Britain, and with specific reference to the problem of iron-deficiency among weanlings, this paper considers the advantages of in-depth acculturation and anthropological input in the development of cross-cultural community surveys. Significant benefits, including the saving of staff time and enhanced cost-effectiveness, may be achieved by employing ethnographic techniques to precede the development of, and to operate in conjunction with, quantitative research tools. Qualitative methods may be particularly useful in estimating the level of nutritional risk or stability within a community, in enhancing the interpretation of data derived from positivistic methods and in increasing the understanding of nutritionists regarding the socio-cultural meanings and uses of food within a particular group, thus aiding the development of appropriate nutrition education programmes, as will be illustrated for the case of iron-deficiency.

PIS 4

[108]

Chenming Lin, Unit for Preventive Nutrition, CNT, Novum, Huddinge (S)

MODERN CONCEPTS IN PREVENTIVE NUTRITION

In 1992, two very important meetings took place. The UN Rio meeting, that resulted in Agenda 21 - an agenda that establishes goals and objectives for working towards a sustainable development of a healthy environment. The other meeting took place in Rome, and was also organized by UN agencies, in this case FAO and WHO in collaboration. This meeting was the International Conference on Nutrition, and some guidelines for the future were set here as well. There are a lot of things that actually can be traced in documentation from both meetings, among these are the war against poverty as well as needs for assuring food safety worldwide.

Five years after these meetings, we can see what both meetings led up to, in Europe and elsewhere. We can actually trace the effects of Agenda 21 down to the grass root level in many countries, where

Health promotion
(primary care or
prevention)

Disease prevention
Public health

Community nutrition
Community development
Community participation

En
- Nutrition Research
- The Role of
- Nutrition

environmental work is performed in newly established working groups at community level. National Plans of Action for nutrition have been formulated in many countries, but the possibility of this message actually getting across is obvious. In many cases, these two activities, environmental work through Agenda 21, and public health nutrition work are taking place in parallel and without links between the two. Many advantages can be seen by building strong cross-links and taking advantage of the special qualities from each.

Some good examples from joint efforts will be given, as well as some other interesting features that have been seen recently, namely

- Nutrition and physical activity are receiving greater attention and more importantly are pictured as an inseparable couple.
- Fruits, vegetables and vegetarian food are also receiving greater attention and are being included in a variety of dietary guidelines.
- Resetting the family table: an initiative that is interesting as it not only supports good eating, but also emphasises the importance of eating and preparing food together in groups or families.
- Stronger links within and stronger support for Public Health Nutrition have been developed, within the European Commission and elsewhere.

The future for Public Health Nutrition is very interesting, and certainly bright.

PIS 5

[109]

Ann Keen
(Pat Caplan), Department of Social Anthropology, Goldsmiths College,
University of London (GB)

THE WISDOM OF THE EXPERTS: HEALTH PROFESSIONALS AND THEIR VIEWS ON HEALTHY EATING

This paper considers the views of health professionals (doctors, practice nurses, dieticians and others) who were interviewed as part of a project on 'Concepts of Healthy Eating' in London and West Wales. Most health professionals maintained that persuading people to change their dietary habits was very difficult, and that they had to counter through education not only people's inertia, but also the powerful impact of the food industry and its advertising. The views of health professionals concerning their patients is contrasted with those held by patients of health professionals - the 'experts' - much of whose advice is deemed irrelevant to their daily lives.

Nonetheless, health professionals are shown to have views about food and health which are in many respects surprisingly similar to those of lay informants, although these are couched in a scientific discourse. Furthermore, it appears that they are not always in agreement with each other about the relationship between food and health, and about

the extent to which food is a major priority in health prevention. Lay people are frequently aware of this situation, adding further weight to their mistrust of 'experts' and scepticism concerning its wisdom.

PIS 5

[110]

Arne Oshaug, Nordic School of Nutrition, University of Oslo (N)

SKILLS OF A PUBLIC NUTRITION WIZARD: PROFESSIONAL CHALLENGE

Wizards are considered very clever and skillful persons capable of doing wonders very few other can. Sometimes personnel working in public nutrition are expected to perform wonders, often beyond the possible, even for clever and skillful persons. Nutrition personnel often have skills of little relevance for their job performance when they start their professional career. The causes of this are discussed in the paper.

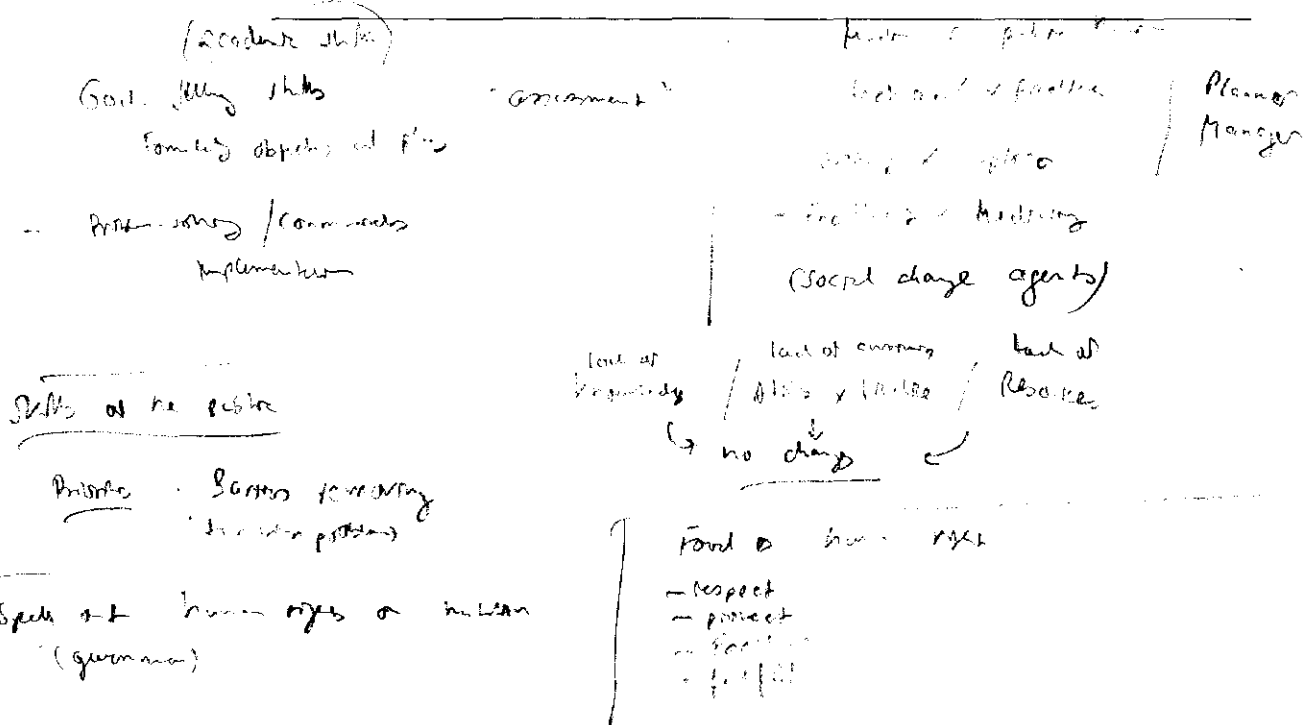
The low relevance of academic training compared to the nutrition needs in the society, and the professional challenges that meet nutrition personnel, call for a different type of graduate and postgraduate, as well as in-service training. Such training should be based on professional profiles of people working with food, nutrition and health issues in various sectors of society, an assessment of performance of nutrition personnel, and relevance of job descriptions compared to nutrition needs of the society. The training needs also to take account of the skills that other actors need in order to be part of the solution of the food, nutrition and health problems of the society. Public nutrition personnel may thus acquire skills which will enable them to perform closer to expectations. A 'public nutrition wizard' is seen as a person in full control of her/his job-situation, possessing an optimal mix and level of skills, with adequate job-experience, and who knows when to act, what to do, and how to do it.

- intellectual skills
- communication skills
- practical skills

acknowledge

skills of people/consumers

skills of authorities
(government)



PLS 6

[111]

Barbara M. Köhler, Wissenschaftszentrum Berlin für Sozialforschung, Arbeitsgruppe Public Health, Berlin (D)

PARALLELS MEET IN INFINITY: PUBLIC HEALTH SCIENCE AND NUTRITION SCIENCE IN GERMANY

The science, teaching and application of public health and nutrition have developed along different trajectories in Germany, with quite separate organisational and conceptual set-ups. Nutrition policy is set within the limits of agricultural policy, leaving a limited set of preventive measures to be taken. Public health, which has shown considerable growth in teaching and research in recent years, has only partially succeeded in penetrating nutrition thinking. What is needed for the prevention of nutrition-related diseases, the maintenance of health for all and the reduction of inequities in health is a better integration of both areas and strengthening of existing efforts.

nutrition + poverty
(drop of
income & average)

PLS 6

[112]

Jacqueline Landman, Department of Dietetics and Nutrition, Queen Margaret College, Edinburgh (GB)

VIEWS FROM A BRIDGE: PROFESSIONALISATION IN DIETETICS AND NUTRITION IN THE UK

Despite common knowledge bases and shared historical roots, the boundary between dietetics and nutrition in Britain is contested vigorously. Using her vantage close to both professions, the author will highlight some differences between these institutions. This contribution will outline the paradoxical influences within and outside of dietetics and nutrition, promoting rapid professionalisation lately, in public health nutrition. Is the price of professionalisation, partnership with the state, a bridge to far?

PLS 6

[113]

Agneta Yngve, Unit for Preventive Nutrition, CNT, Novum, Huddinge (S)

PUBLIC HEALTH NUTRITION TRAINING - A EUROPEAN PROJECT

proposal to EC 1987 (in discussion)

Recently, an expert group, supported by the European Commission, met to analyse the present situation of public health nutrition and of formal education in this field in different member states and to set the scene for a common training programme, the "European Master of Public Health Nutrition". The author will present this ongoing proposal.

accepted in Sept. '87

Agenda (1) Analyse der Public Health Nutrition Lage in Europa
(2) Identifizierung von gemeinsamen Zielen (3) Entwicklung von Inhalten

PaS 1

[211]

Roland Schneider, Infratest Epidemiology and Health Research, Munich (D)

**METHOD MIX IN ORDER TO DESCRIBE EATING HABITS
EXPERIENCES WITH PROSPECTIVE AND RETROSPECTIVE
METHODS**

Focus of the Survey: Aim of the study is to estimate the intake of a harmful substance within the German population. A survey method in order to reflect the detailed short-term as well as long-term nutrition had to be developed. In addition a compromise had to be made between food(stuffs) that can be surveyed by means of a questionnaire and food(stuffs) from which analyses of harmful substances are available. At least the method had to prove its practicability within a nation-wide (random) sample survey, also looked at from research-economical points of view.

Methodology: The nutrition survey method is based on a method mix between a food -frequency questionnaire and a three days estimation record. We conducted pretests, in which the participants had to quantify the portion size of their meals. This pretests showed, that a large number of the participants was not prepared for a detailed quantification of their portions. As a result a simplification of the report-procedure has been made (closed query, standardised portion sizes). For statistics three different variants have been taken into consideration (minimum plausible, medium plausible, maximum plausible portion size). These numbers are based on literature and own measures. The data will be validated according to sex and age with the data of the National Food Consumption Survey (NVS). The retrospective and prospective questionnaire include a list of approx. 60 identical foodstuffs, so that a direct comparison is possible.

Results and discussion: Altogether 2.000 persons have been asked nation-wide. 60-70% (depending on each wave) - out of the primary households, which have been chosen at random - took part at the nutrition survey. The data makes a comparison between retrospective and prospective data possible. Apart from that, the different portion sizes allow an estimation in the field of intake of different harmful substances. Other foodstuffs could only be taken into consideration as "main group" owing to the strong reduction to potential polluted foodstuffs. Although this could be a disadvantage, the data will be good enough to adjust for energy intake.

Summary: To sum up, the results show that in order to conduct population representative surveys, the combination of existing methods is a practicable procedure, if the survey is comprehensible and less complicated. The inaccuracy related with the surveying of the intake of

the portion sizes will be compensated due to a lower influence on the eating habits and a higher motivation of the people to take part at this survey.

PaS 1

[212]

Monique van den Broek, Patricia van Assema, Johannes Brug, Department of Health Education and Promotion, Maastricht University (NL)

THE RELATIVE VALIDITY OF A SHORT DUTCH QUESTIONNAIRE AS A MEANS TO RANK ADULTS AND ADOLESCENTS ACCORDING TO TOTAL AND SATURATED FAT INTAKE

Aim of the study is to assess the relative validity of an adapted version of the Dutch fat list, a short questionnaire on fat consumption, as a means to rank adults and adolescents according to individual total and saturated fat intake. The original fat list that was developed and validated in 1988 has been used frequently to assess the effects of community-based nutrition education programmes on dietary fat intake of the target population. The adapted fat list consists of 35 items covering food products that have the highest contribution to total and saturated fat intake in the Dutch population. Subjects are asked how frequently the food products are usually consumed, and for some food products additional items on quantity or kind of product are included. An individual total fat score is calculated for each subject. Fifty adults and fifty adolescents first completed the 35-item written questionnaire and subsequently kept diet records for seven subsequent days.

Data analyses are currently in progress. For both adults and adolescents a Pearson correlation will be assessed between total (saturated) fat intake estimated by the 7-day diet records and the fat score derived from the fat list. Also, gross misclassification, defined as disagreement between the two fat consumption assessments beyond an adjacent tertile, will be assessed. Based on these results, it will be concluded whether the adapted fat list can be effectively used to rank individuals according to their total and saturated dietary fat intake.

PaS 1

[213]

Inga Körtzinger, Mareike Mast, Anke Bierwag, Manfred J. Müller, Institute of Human Nutrition and Food Science, Christian-Albrechts-Universität, Kiel (D)

DIETARY UNDERREPORTING: VALIDITY OF DIETARY MEASUREMENTS OF ENERGY INTAKE USING A 7-DAY DIETARY RECORD AND A DIET HISTORY IN NON-OBESE SUBJECTS

Introduction: Substantial dietary underreporting questions the validity of dietary measurements of energy intake (EI). This study compared the value of a 7-day prospective dietary record (7dDR) with a computer program-based diet history (DH).

Methods: 7dDR and DH were performed in 50 non-obese subjects (33 females, 17 males, mean age 26.1 years, BMI 18.9-29.6 kg/m²) using total energy expenditure (EE=Sum of resting metabolic rate as measured by indirect calorimetry plus energy expenditure derived from an activity protocol) as standard for the validity of data on EI.

Results: EI was 2,206 (728-3,646) kcal/d for 7dDR and 2,398 (566-4,764) kcal/d for DH. There was an association between EI for 7dDR and EI for DH ($r=0.6$, $p<0.0001$). Underreporting (i.e., a difference between EI and EE [$\delta E=EI-EE$]) of 20% or more was seen in 48% (7dDR, mean -1,047 kcal/d, range -616 to -1,895, or -38.8% of EE) or 48% (DH, mean -1,151 kcal/d, range -594 to -2,057 kcal/d, or -42.3% of EE). Considerable differences were found between δE for 7dDR and δE for DH (mean 603, range 26 to 2,033 kcal/d), and only 34% of underreporting subjects were identified by both dietary measurements.

Conclusion: It is concluded that at the individual level dietary underreporting is influenced by the dietary assessment tool.

This study was kindly supported by Ministerium für ländliche Räume, Landwirtschaft, Ernährung und Tourismus, Kiel.

PaS 1

[214]

Ute Alexy, Wolfgang Sichert-Hellert, Mathilde Kersting, Gerhard Schöch, Forschungsinstitut für Kinderernährung (FKE), Dortmund (D)

DEVELOPMENT OF SCORES TO MEASURE THE EFFECTS OF NUTRITION COUNSELLING ON THE OVERALL DIET OF CHILDREN AND ADOLESCENTS

Objectives: Proof of the effects is an essential aspect of the evaluation of nutrition counselling. The single dietary parameters which are often used (e. g., cholesterol intake) do not take into account the complexity of nutrition. We have therefore developed special scores to measure

the success of counselling on different dietary criteria (food intake, nutrient intake).

Method: In 1994/95 an intervention study was carried out in Dortmund using children living in an orphanage ($n=9$, 12-14 years). Three dietary records were collected over 3-7 days, one before and one after each of the two individual nutrition counselling sessions. Counselling was based on the recommended intakes of food groups defined by the Optimized Mixed Diet (OMD), a general preventive dietary concept for children and adolescents. Intakes were calculated as nutrient density (mg/MJ; $\mu\text{g/MJ}$) and food group density (g/MJ). The German recommendations (DGE 1991) were used as references for nutrient intake and the OMD for food group intake. The following scores were calculated:

(1) Recommended Food Group Change Score (RFCS): Average change in the amounts of the deviations (%) from the reference food groups values (OMD=100%) before and after counselling taking into account the aim (eat more/less) of the counselling, exclusively based on the food groups addressed during counselling.

(2) Total Food Group Change Score (TFCS): Average change in the amounts of the deviations (%) of all food groups consumed from the reference values (OMD=100%) before and after counselling.

(3) Nutrient Improvement Score (NIS): Average change of the negative deviations (%) of 8 vitamins and 8 minerals from the reference values (DGE=100%) before and after counselling.

Results: On average, the intakes of the food groups mentioned during the first counselling session improved considerably (RFCS=36%), the change in the intake of all food groups was small (TFCS=6%) and the nutrient intakes did not improve (NIS=0%). From first to second counselling the value of the RFCS was 10%, the value of TFCS was 6%, and this time, the nutrient intakes improved slightly (NIS=3%).

Conclusions: The success of counselling on one dietary criterion (food intake or nutrient intake) does not guarantee success on others. Therefore it is mandatory to assess the effects of nutrition counselling on various criteria. Whereas most dietary guide-lines are defined only qualitatively (e. g., numbers of portions) the quantitative recommendations of food groups of the OMD allow quantitative scores of the overall food based dietary quality.

PaS 2

[221]

Karin F.A.M. Hulshof, Michiel R.H. Löwik, TNO Nutrition and Food Research Institute, AJ Zeist (NL)

SOCIOECONOMIC DIFFERENCES IN DIETARY QUALITY IN THE NETHERLANDS. EXPERIENCES FROM TWO NATIONAL SURVEYS

Objectives: This study explored differences in dietary pattern among adults according to socioeconomic status (level of education as indicator), and the stability of differences.

Methods: Data of the first (1987/1988) and second (1992) Dutch National Food Consumption Survey (DNFCS) (2-day record) were used. Evaluative measures of the dietary pattern included the guidelines for a healthy diet, recommended dietary allowances (RDA), a diet quality index (DQI) and food-based recommendations.

Results: In 1992 the number of subjects with a diet consistent with the guidelines was relatively low. Only about one third of the adults aged 22-65 derived less than 35% of energy from fat and only 8% derived maximal 10% of energy from saturated fat. About 17% consumed a diet with at least 50% of energy from carbohydrates. However, in 1987/88 these proportions were even lower, whereby some improvements over time were observed. Overall, the Dutch diet was not consistent with the dietary guidelines. In 1992 about 25% of the sample had DQI scores of either 0 or 1 (range 0-5, with '0' being lowest quality). In 1987/88 this percentage was even 43. The reasons for these differences will be discussed. In general, in 1992 as well as in 1987/88 subjects with a higher education more often met the guidelines for a healthy diet, particularly women aged 22-50. Moreover, regarding the food based recommendations for vegetables (150 g/day) and fruit (200 g/day) among subjects with a higher education a higher compliance was observed.

Conclusion: In 1992 as well as in 1987/88 we observed differences in the dietary quality according to socioeconomic status. In all socioeconomic groups in 1992, however, a higher DQI was observed.

PaS 2

[222]

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1) National Public Health Institute, Helsinki (SF), 2) Centre for Health Education, Estonia, 3) Kaunas Medical Academy, Lithuania, 4) Ministry of Social Affairs, Estonia

SOCIAL AND CULTURAL DIFFERENTIATION OF FOOD HABITS IN FINLAND AND THE BALTIC COUNTRIES

The aim of the study was to describe whether variation in food habits is similar in Estonia, Finland, Lithuania.

In 1994 a random sample of Finnish, Estonian and Lithuanian adults answered a mailed questionnaire on health behaviour ("FINBALT HEALTH MONITOR"). The questionnaires were planned together but each country was responsible for its own survey. In this study 3136 Finns, 1189 Estonians and 1823 Lithuanians, from the age group of 20-64 years, were included. Educational level was classified as low, medium or high. Foods included were: bread and bread spreads (butter, other spreads), fat used in food preparation (oil, butter, other), vegetables, coffee and tea.

Men used more often bread and butter but less often vegetables and vegetable oil. Use of vegetables and oil was consistently associated with higher, that of butter with lower educational level. Bread consumption varied by educational level only in Finland; Finns with a low educational level used more bread.

Drinking of coffee or tea followed a different socio-demographic pattern in Finland than in the Baltic countries. In Estonia there were no gender differences in coffee or tea drinking. In Finland men drank more coffee but tea drinking did not vary by gender. In Lithuania women drank more coffee, men more tea. Finns with a low educational level drank more coffee but less tea. In Estonia and Lithuania coffee drinking was associated with a high, tea drinking with a low educational level.

Earlier studies have shown that people with higher educational level prefer foods considered modern and/or healthy. Because of the different socio-economic conditions and cultural traditions, high and low status foods seem not to be the same in Finland and the Baltic countries.

PaS 2

[223]

*Stephanie Bodenbach, U. Julius, B. Fegebank, W. Kirch,
Forschungsverbund Public Health Sachsen, Dresden (D)*

NUTRITIONAL SITUATION IN SAXON PRISONS *

The state must assure conditions where prisoners can stay healthy during imprisonment. As diet plays an important role in disease prevention nutrition must be adequate and therefore controlled especially as financial constraints could result in an inadequate food supply. Little data on nutritional situations in German prisons has been published. This study aimed at assessing the nutritional situation in Saxon prisons, both in respect to quantity and quality as bases for advice after identifying need for change.

In 1996 two months meal plans of 4 out of 12 Saxon prisons were coded, average daily nutrient intake calculated based on the German Federal Food Code II.2 and compared to recommendations of the German Society for Nutrition (DGE). A representative sample of 208 prisoners (participation rate 65%) in three institutions completed questionnaires on satisfaction with meals, health problems associated with diet and interest in healthy nutrition. Regarding health problems attributable to nutrition and conditions of food preparation interviews with medical (n=4) and kitchen staff (n=9) were conducted.

Most food processing facilities were adequate. Recommendations were met except for overconsumption of fat, salt and cholesterol and underconsumption of carbohydrates, calcium, iodine and fluoride. One third of prisoners were overweight or obese, 10% underweight. One fourth reported frequent stomach problems, reflux and bloating, mostly associating complaints with food while physicians reported good nutritional situations. Most prisoners claimed health consciousness, perceiving healthy diet as high intake of vitamins through fruits and vegetables missing in the diets.

In spite of tight budgets the nutritional situation in Saxon prisons is good although areas for improvement were recognized regarding nutrient supply and acceptance of diet by prisoners.

* Funded by the Ministry of Agriculture, Nutrition and Forestry Saxony

PaS 2

[224]

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NUTRITION AND HEALTH OF A HOMELESS POPULATION

Hypotheses: (1) Nutrition and nutritional state of homeless people are affected by sex, age, duration of homelessness, type of accommodation, smoking, alcohol and drug use, medication and prevalence of certain diseases e.g. T.B. and cancer. (2) The diet of homeless persons is deficient with respect to nutrients as well as social and normative aspects of nutrition.

Objectives: (1) Description of nutritional habits and nutritional state of the homeless. (2) Definition of objectives and opportunities for intervention.

Study design: For a cross-sectional survey, carried out between May and July 1996, four institutions for homeless people in Hamburg (inhabitants: 1,703,800) and Kiel (inhabitants: 247,700) were visited. A total of 75 homeless (15 females, 60 males; age 19-62 years) participated in this study. A questionnaire focusing on sociodemographic data, food frequencies, nutritional habits and health was conducted. BMI, upper arm circumference and triceps skinfold were measured.

Methods: Chi-square tests were used to analyze the data. Food frequencies were compared with results of the German National Food Consumption Study (NVS) 1985-89 and the MONICA Augsburg Survey 1989/90. To evaluate the dietary pattern a "Dietary Pattern Index" (DPI) was calculated based upon recommendation of the DGE. Social and normative aspects of the diet were investigated using a scheme of food insecurity. Upper arm muscle and upper arm fat area were determined.

Results: Variables of hypothesis (1) showed no significant relation to DPI. Nutritional state was affected by sex, drug use and consuming diseases e.g. T.B. and cancer. Food frequencies differed from results of NVS and MONICA. Critical food groups were rice, pasta, fresh fruits and vegetables. 50% of the sample ate between 4 and 7 warm meals per week. Two thirds had access to cooking facilities. Soup kitchens were the main places for meals. Two thirds had enough to eat.

Conclusions: (1) Variables of hypothesis 1 are not related to nutrition of homeless persons. At risk of malnutrition (upper arm muscle area <25th percentile) are homeless drug users and homeless people suffering from cancer, T.B. or AIDS. (2) The diet of homeless people has nutrient as well as social and normative deficiencies. A quantitative lack of food does not exist in most homeless persons. (3) Soup kitchens should optimize the nutritional content of their meals and meet the special needs of their homeless clients.

PaS 2

[225]

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RELATION BETWEEN THE USE OF VITAMIN AND MINERAL SUPPLEMENTS AND EDUCATIONAL ATTAINMENT: RESULTS FROM THE WHO MONICA PROJECT AUGSBURG 1994/95

The relationship between the intake of vitamin and mineral supplements and the educational attainment was examined in a South German population. Analyses are based on data from the 3rd survey of the MONICA Project Augsburg which took place from 1994 to 1995. The study population were 4856 persons aged 25 to 74 years of a representative sample (n=6640, net response 74.9%). Within the standardized interview participants were asked "Have you taken any vitamin or mineral supplement in the preceeding seven days?" For each reported supplement, the following information was recorded: brand name, manufacturer, form or preparation, frequency of consumption, regular/irregular intake, dosage and self-medication/doctor's prescription. The educational level was obtained and classified as follows: lower (Hauptschule), middle (Mittlere Reife), and higher (Abitur) educational attainment.

More than a quarter of women (27.5%) and nearly a fifth of men (18.1%) took vitamin and/or mineral supplements. Educational level is directly related to the use of vitamin and mineral products. With increasing education more persons took vitamin and mineral supplements. The prevalence of supplement use was significantly lower among men with lower educational attainment (14.0%) than among men with middle (21.2%) or higher educational level (26.9%). The same but weaker relation was observed in women. The results of the investigation seem to indicate that people with higher educational attainment (especially men) who prefer healthier food anyhow take also more often vitamin and mineral supplements.

PaS 3

[231]

*Eva Svederberg, Lund University, Department of Education, Lund (S)***CONCEPTUALIZATIONS IN RELATION TO CHOICE AND USE OF FOOD**

Circumstances that contribute to compliance or lack of compliance with dietary guidelines conducive to health. For educational purposes, research has been proposed on the circumstances and facts which govern eating habits and the intake of nutrients. By focusing on the perspective of the individual, this study explores and describes how previous experiences influence people's thinking and acting in relation to their present eating habits to elucidate factors that contribute to, or hinder, changes for the promotion of health.

An empirical study comprised a group of eighteen metalworkers and their families in three ethno-cultural groups: Finnish, Croatian and Swedish. The open and explorative form of data collection from each family comprised a participant observation during the preparation of a hot meal, and two semi-structured interviews based on the participant observation: one interview focused on food rich in dietary fat and one on food rich in dietary fibre.

The analysis had an interpretative and contextual character aimed at categorising descriptions of the conceptualization influencing the choice and use of food. Also, one aspect of the sociocultural concept habitus, symbolic capital, was used in the analysis. In the families who changed their choice and use of food in accordance with the Swedish Nutrition Recommendations, experience related to health problems was predominantly decisive in the conceptualization of food and in their choice and use of food. In the families who did not change their choice and use of food at all, or just marginally changed their choice and use of food, experiences related to their cultural background were predominantly decisive.

PaS 3

[232]

*Claudia Götz, Berlin (D)***HEALTH COGNITIONS AND EATING BEHAVIOUR - NEW APPROACHES FOR NUTRITION COUNSELLING**

To motivate healthy or ill people to change a habitual behaviour such as eating behaviour by nutrition counselling is still an attempt which often does not lead to the desired success. So it is necessary to reconsider the counselling methods. Even today, the focus of nutrition counselling is to impart specific dietary knowledge to the patients or clients. Subjective motives for eating behaviour are often not taken into

account, although there are numerous ideas for counselling strategies provided by the behavioural sciences. For example, there are social-cognitive theories from the field of health psychology, which give promising impulses for a successful counselling. The validity of such theories has to be empirically examined with respect to the nutrition behaviour. The consideration of health cognitions, which play an important role in the social-cognitive theories, may contribute to more successful nutrition counselling.

To examine the relationship between health cognitions and the eating behaviour of patients with a diet-related disease, 144 patients from the out-patients department for lipid diseases of the Humboldt University of Berlin were interviewed using different questionnaires before and after nutrition counselling. Based on the health action process approach (HAPA), one of the newest social-cognitive theories of health behaviour, the following parameters were investigated: (1) the health and eating habits, (2) the perceived vulnerability to get a myocardial infarct or a stroke (risk perception), (3) the positive and negative outcome-expectancies regarding a healthy diet (outcome expectancies), (4) the self-efficacy expectancy to follow a healthy diet (perceived self-efficacy), (5) the intention to eat healthily (goal intention), (6) the fundamental attitude on eating and (7) the dietary knowledge.

The intention to eat healthily and the perceived vulnerability were found to be significant predictors for explain the eating behaviour. Although a significant correlation between self-efficacy expectancy and eating behaviour, as well as between outcome expectancies and eating behaviour, could be found, these variables did not account for the eating behaviour at a significant level. There was clearly no significant link between the dietary knowledge and the eating behaviour or the intention to eat healthily. Also some differences between short- and long-term participants showed that health cognitions can be seen as important motivational elements for changing the eating habits. Not only the presented results but also the results of other relevant studies indicate that the closer integration of health cognitions is a prerequisite for a need-oriented and motivational nutrition counselling strategy.

PaS 3

[233]

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Institute of Food Research, Reading (GB)*

USING PERSONAL DIETARY FEEDBACK INFORMATION TO PROMOTE DIETARY CHANGE

Despite widespread recommendations that people in the western nations should make changes to their diets, suitable dietary changes at national levels seem difficult to accomplish. At present, there exists

some controversy as to whether health promotion efforts should best be targeted at a population level or directed towards 'at risk' individuals. People's low estimates of their risks associated with diet-related health problems seem to be associated with a biased perception of their own diet. People may have problems estimating their intake of dietary components, such as fat: this difficulty may lead to people underestimating their need to make dietary changes and being uncertain about the effects of any changes they make to their diet.

Three studies investigating the motivational effects of the provision of different amounts of dietary feedback information are described. In each study detailed dietary measurements were taken. Experimental group subjects received personalized feedback about the fat content of their diets. Dietary intake was subsequently measured again. The results suggest that information provision may serve to either instil a positive motivation to change or enable people to act on previously existing positive motivations. The information acts both as a reassurance and a positive inducement to change. While more research is needed regarding useful strategies to facilitate dietary change, it appears that making people aware of which foods contribute large amounts of fat to their diet allows them to judge or plan how they might make changes which will reduce their fat intake.

PaS 3

[234]

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ATTITUDES OF THE GERMAN POPULATION TO FOOD, NUTRITION AND HEALTH - RESULTS FROM AN EUROPEAN SURVEY

Objective: To characterize the attitudes of EU consumers to food, nutrition and health data have been collected in a survey in 1995/1996 from 14,331 subjects in the 15 EU member states.

Methods: The survey was coordinated by the Institute of European Food Studies, Dublin. In Germany 12,500 adults, aged 15 years and upwards, were selected to complete the developed face-to-face interview-assisted questionnaire. The subject selection was quota-controlled to make the samples nationally representative. The results of the individual member states are weighted for sex, age and regional distribution. The questionnaire was focused on the following six main issues: influences on food choice; definitions of healthy eating; sources of information used for healthy eating messages; dietary changes; barriers to healthy eating; benefits of healthy eating.

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Results: German subjects defined healthy eating as "eat less fat" (72%), "eat more fruit and vegetables" (43%) and "balanced diet/variety (37%), thus reflecting dietary guidelines. Popular media sources (TV/radio, magazines and newspapers) were widely used for healthy eating information by about 38% of the respondents. These sources, however, were in a lower confidence than "health professionals". Only 23% of the subjects got information on healthy eating from health professionals but trusted them on a high level (80%). Approx. two third of German subjects were convinced their diet is already healthy enough and therefore they do not need to make any dietary changes. The majority of subjects were satisfied with their present eating habits. This is in contrast with the nutritional situation in Germany and reflects a gulf between the opinions of nutritionists and the public regarding the German nutrition.

Conclusions: The results can be used to improve the effectivity of healthy eating promotion and nutrition education messages. Especially nutrition educators may allocate where their effort should be focused and where different messages may be needed for different subgroups.

PaS 3

[235]

Oleg O. Biloukha, Virginia Utermohlen, Division of Nutritional Sciences, Cornell University, Ithaca, NY (USA)

EFFECTS OF ECONOMIC STATUS AND EXPOSURE TO WESTERN MEDIA ON BODY IMAGE AND CHANGES IN FOOD CONSUMPTION IN URBAN UKRAINIAN WOMEN

A cross-sectional study of body image and self-reported change in food consumption over the preceding 2 years in 171 urban women, ages 18-60 years was conducted in Lviv, Ukraine. In regression models, awareness of societal emphasis on appearance (Social Attitudes Towards Appearance Questionnaire - SATAQ; Heinberg et al. 1995) was significantly lower in women aged <35 years. Internalization, as measured by the SATAQ, increased with level of awareness, and was significantly higher in women aged <40 years, who watched Western films virtually every day and who read Western magazines at least once a month. Persons with a lower BMI and higher internalization scores were more likely to have a "thinner" ideal body image, as assessed using the Figure Rating Scale (Stunkard et al. 1983).

No significant change was reported in the consumption of brown bread, potato, margarine, and a slight decrease for other starches, juices and fruit; significant increases were reported for green vegetables and vegetable oil; significant decreases were reported for meats, fish, cheese, butter, milk and sweet desserts. Wealthier women, as measured by a factor consisting of people/room ratio, % of income spent for food,

educational level, and presence of a VCR in the household, were least likely to report a change in their consumption of meats, cheese, fat, candy, cake, rice and pasta.

Internalization, but not awareness, of a thin ideal was associated with exposure to Western media and with dieting. Changes in food consumption were not dependent on Western media exposure or internalization of Western ideal body image.

PaS 4

[241]

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NUTRITION AND INEQUALITIES IN HEALTH: THE NEW AGENDA

In the early 1990's the key policy document in British public health, Health of the Nation, was published. It established key areas for policy activity, and acknowledged the need for intersectoral responses. The Nutrition Task Force, created to address nutrition's role in reaching the quantified targets, spawned a number of sub-committees, one of which, the Low Income Project Team, was charged with establishing how local initiatives could enable those on low incomes to eat healthily. That committee in fact widened its remit to propose effective intervention in the public and private sectors, at national and local levels.

Now, in recent months, the new government has created a minister for public health, with reduction in health inequalities as her prime responsibility. The paper will review the experience of the last few years in the UK of food, nutrition and low income: the policy agenda and response.

PaS 4

[242]

Suzi Leather, Consumer Affairs Consultant, Exeter (GB)

HEALTH IMPACT ASSESSMENT OF THE EUROPEAN UNION COMMON AGRICULTURAL POLICY

Since the inception of the Common Market under the Treaty of Rome, the Common Agricultural Policy (CAP) has been the principal policy of the European enterprise. The CAP influences the quantity, quality, price and availability of food both produced inside the EU as well as food supplies imported into the EU from third countries.

Many CAP regulations constitute a direct barrier to public health goals eg. increasing the consumption of fruit and vegetables and reducing the amount of saturated fat in the diet. There are also important distributional aspects of CAP costs which indirectly affect health.

Historically, the burden of CAP costs has fallen most heavily on poor households. The CAP is regressive: food price rises have a disproportionately greater effect on the poor than on the better-off and poor families are more dependent upon foods covered by the CAP so amplifying the regressive nature of the CAP. Also, by in effect taxing cheap calories like sugar, the CAP further depresses the consumption of healthier foods by poor households.

These effects have largely been ignored by policy makers and yet are significant not only from the viewpoint of distributional justice (should the poor have to pay more?) but for their dietary and health outcomes.

The paper examines the workings of the CAP and considers the distributional aspects of CAP costs and the effects these have on food choice and health outcomes. The paper concludes that insufficient attention is paid to these aspects of Europe's agriculture policy and that in the interests of public health this must be remedied as a matter of urgency.

Anette Schmitt*, VDI Technology Centre, Future Technologies, Düsseldorf (D)

THE CONCEPT OF AN INTERDISCIPLINARY FOOD AND NUTRITION POLICY IN THE GRAND DUCHY OF LUXEMBOURG

The purpose of this background paper is to focus attention on the options of interdisciplinary research and multi-sectoral collaboration for strengthening and expanding political support for a national Food and Nutrition Policy (FNP). With the potential recognition and acceptance of a healthy nutrition as a means of improving the well-being of the population and of reducing the cost of health care, nutritional surveillance has become an important topic on the health political agenda in the Grand Duchy of Luxembourg.

The experiences of the Health Ministry of the Grand Duchy of Luxembourg suggest that four prerequisites ought to be demonstrated before a national FNP can be initiated, developed and implemented: (1) A clear projection and demonstration of the policy requirements imposed by the current national nutritional situation and the assessment of the capacity of FNP measures to counteract nutritional diseases and the spiralling costs of related health care. (2) An evaluation of the feasibility of a national FNP in terms of equity, adequacy, reliability, impact on the supply and demand of food, and ease of administration. (3) An appraisal of the roles and responsibilities of potential partners for FNP including various ministries, the public health sector, the European Community, non-governmental

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organisations, food industry, retailers, agriculture, and the consumers. (4) The adequacy of resources available to Health Ministry by focusing attention on efficiency, economies of scale, and cost-effectiveness of activities undertaken in the frame of FNP.

FNP needs a proper data base and objectives as a foundation, a political mandate and multi-sectoral support for its implementation in a broader socio-economic context. The impact of the population's nutrition leaves its mark on all aspects of food demand and supply, and is therefore both implicitly and explicitly political. The challenge for the Health Ministry in the Grand Duchy of Luxembourg in advancing the (still young) agenda of FNP is to pointing out the health implications of economic policies by identifying the potential health gains and losses from different socio-economic policies on the one hand, and on the other hand to influence the development of these policies so that avoidable causalities can be prevented.

This is only feasible and reliable if based on an interdisciplinary methodology, since food consumption is analysed by different disciplines, e.g. econometrics and biometrics. The econometric consumption analysis determines the factors which influence household and individual consumption. The biometric consumption analysis determines how individual food consumption influences health. These two analyses are seemingly unrelated. In reality they are closely related through the samples which they use. Since sampling is expensive and funds are limited the Health Ministry of Luxembourg has exploited existing econometric data from household budget survey and food industry marketing studies so that it can be used for biometric analyses. Through international collaboration some own consumption (behaviour) surveys have been launched and compared to the previous data. In this way problems of nutrition should be analysed at regular time intervals in an interdisciplinary (particularly socio-economic) context and in a more efficient and effective way than now.

*) Former member of the Interdisciplinary Nutrition Policy Group, Health Ministry of Luxembourg

PaS 4

[244]

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FOOD POLICY IN BRITAIN

The consumer end of the food industry is not subject to any form of democratic supervision or control. The quest for maximum profit in a fiercely competitive market has inevitably resulted in more cut corners that are now producing their own grisly consequences. Meanwhile, the

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primary production end of the food industry is busy destroying our soil / water / wildlife / countryside in quest of EU grants and profits.

Although the 1980s and 1990s have been decades of alarm about food and health, the national government of Britain has actually shed several traditional responsibilities in this area in the belief that things are better left to the mechanisms of the 'free' market. It is now almost 50 years since British farmers were last told what to grow in order to meet our nutritional needs. Our needs scarcely get a mention in the present day agricultural planning which fails even to meet its own objectives and costs a fortune to administer.

The aims of the Common Agricultural Policy (CAP) of the EU are laudable. In practice however, the CAP has become an expensive monster which encourages the use of environmentally destructive production methods, produces enormous surpluses which are expensive to store, fails to meet our nutritional needs, undermines Third World economies and results in higher than necessary taxes and food prices.

This paper argues that to focus only on nutrition, or food manufacturing, or agriculture in Britain, misses the main point - it is no use nutritionists telling us to eat more fish when we have already fished out the seas, no use farmers producing more eggs when they give us salmonella poisoning, no use eating fewer sausages if the fat turns up in another new product, no use stopping eating beef because of BSE, if other animals are consuming similar feedstuffs which cause similar diseases.

National governments and the European Commission need to look at food and health in the widest possible terms. All the worst predictions of the past 30 years have proved entirely correct. In Britain, relevant government bodies represent only the interests of agribusiness at the expense of consumers, small farmers and the countryside. Commercial interests have a role to play but they must be subservient to two overriding and related concerns - the production of healthy, affordable, accessible food from a healthy countryside. The evidence from wartime Britain was that a national Ministry of Food succeeded in feeding everyone a balanced diet, but to the detriment of the land, reducing its fertility as a result. What happened since 1954, with the British government failing to protect food and consumer interests, has been detrimental to both the land and the people. It has been beneficial only to multinational companies and finance capital.

This paper looks at the situation in Britain and calls for a coherent EU-wide legislative body, accountable to the Commission in Brussels, to regulate and control food production, distribution and consumption in Britain and across Europe and to protect the public health and nutrition of all citizens.

PaS 4

[245]

Bettina Berndt, Helmut Heseker, Bundesinstitut für gesundheitlichen Verbraucherschutz und Veterinärmedizin (BgVV), Fachgruppe Ernährungsmedizin, Berlin (D)

LEGISLATION OF FOODS FOR SPECIAL DIETARY USES IN GERMANY

With the completion of the European home market on January 1, 1993, health protection of consumers regarding foods has been regulated to a great extent uniformly throughout Europe. Numerous standards, guidelines, recommendations, and laws help to protect consumers from unsafe food and fraudulent practices.

In Germany, on July 1, 1993, EC guideline 89/398 EWG about Foods for Special Dietary Uses came into force and is regulated in §4a of the Dietetic Directive of the German Directive on Foods for Special Dietary Uses. New dietetic products, except those regulated in the enclosure 8 of the Dietetic Directive (like dietetic foods for athletes, diabetics, foods for special medical purposes, infants) are notifiable to the Federal Institute for Health Protection of Consumers and Veterinary Medicine (BgVV) in Berlin. The BgVV evaluates whether the product corresponds to §1(2) of the Dietetic Directive, the governmental food surveillance is responsible for the execution.

After almost four years of experience with the new directive, first statements can be made about the most frequent forms of supply of dietetic foods and the most popular target groups. Absolutely, most applications for dietetic foods were for foods in typical food forms (as cereal, pizza, sausage, cookies), followed by products in untypical food forms (as pills, capsules, tablets) and juices. But regarding the trend, untypical food forms apparently seem to become more and more popular. This results in an increasing problem of delimitation between foods and drugs. And, as presently new - novel and functional - foods seem to swamp the market without having a clear definition yet, the situation necessitates to think about new concepts and regulatives. The problem will be shown with an example of the practice.

PaS 5

[251]

*Maria Lennernäs, National Institute of Public Health, Stockholm (S)***THE 24-HOUR SOCIETY. SOME ASPECTS ON EATING WHEN OTHERS ARE SLEEPING**

Approximately 65% of the Swedish work force work during day time, 27% have irregular and displaced work hours (various schedules; shift work), 8% being affected by night work. There is a tendency in the society towards spending more work hours and leisure time "around the clock". This is in conflict with our diurnal predisposition and circadian, biological rhythms in body temperature, glucose tolerance, insulin clearance, cortisol release, mental and physical performance, natural sleep and eating patterns etc. Risks for accidents increase as well as the incidence in cardiovascular disease. Metabolic disturbances like increased levels of blood lipids and blood glucose seem to occur. Psycho-physiological effects and the ability to cope is related to circadian type (morningness, eveningness) and age.

When subjects eat in relation to work schedule is probably affected by the workers experience of well being in such situations, family habits, meal pauses, access to foods/beverages and facilities at the work site.

In dietary and nutritional assessment the chronometric aspects of eating (24-hour distribution of energy intake; the frequency and temporal position of different eating types, effects on displaced eating on metabolism and health) have rarely been evaluated and work hours been overlooked when designing studies. Our own studies, based on data from repeated 24-hour dietary recalls in male day-, two- and three-shift workers (n=16, 80 recalls; n=114; 714 recalls) showed that the 24-hour dietary intake (amounts of energy and nutrients, nutrient density, % of energy from macro-nutrients) and coffee consumption was similar in the work groups. Intakes were lowest days off. About 50% of the 24-hour energy was consumed during day-, morning- and afternoon 8-hr work shifts respectively, 35% during the night shifts.

Interestingly, the higher proportion of the 24-hour energy intake ingested during night shifts, the higher serum LDL-cholesterol. A concept for qualitative analysis of meal patterns was developed based on combinations of food groups representing key nutrients.

More knowledge is needed about: the effect of night meals and irregular eating on metabolism (postprandial effects) and nutritional status (long term effects); effects of food composition on wakefulness; dietary intake and meal patterns in relation to work hours. Dietary guidelines in situations of displaced work hours have to be developed and implemented.

PaS 5 [252]

Ann MacInnes and Linda McKie, Department of General Practice and Primary Care, University of Aberdeen, Foresterhill Health Centre, Aberdeen (GB)

THE DIETARY BELIEFS AND PRACTICES OF ELDERLY PEOPLE RESIDING IN THE COMMUNITY: A LAY EPIDEMIOLOGY

Objectives: In this paper we present data from a two year study of the dietary beliefs and practices of people aged 75 and above residing in the community.

Study Design and Methods: The project comprised two stages. In the first stage 37 elderly people were interviewed on three separate occasions. Drawing upon an analysis of stage one data an interview schedule was developed and employed in 160 one off interviews.

Summary: A lay epidemiology is concerned with how people define and identify patterns of health and illness (Davison et al, 1992). Whilst lay beliefs may draw upon prevailing biomedical advice they also go beyond biomedicine to locate beliefs and practices in social and economic contexts, and life experiences (Crawford, 1984; Stacey, 1988, Popay and Williams, 1994). This paper will focus on participants explanations for current nutritional behaviour.

PaS 5 [253]

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RELATION BETWEEN ALCOHOL CONSUMPTION, DAILY FAT INTAKE AND HYPERTENSION

High blood pressure is a major risk factor for cardiovascular disease. About 26 percent of the adult German population suffer from hypertension according to the WHO criteria. The results of the most recent representative health surveys show clear differences between east and west Germany. The prevalence of hypertension in west Germany is 23 percent compared to 36 percent in the East. There is almost no difference between men and women in the West (25 vs. 22 percent) but a large one in east Germany (40 vs. 32 percent). These differences suggest that blood pressure is influenced to a great part by behavioural factors. Therefore, the determination of the relevant behavioural risk factors for hypertension is required to develop prevention strategies.

In a subsample of the health survey in East Germany we calculated the relative risk of several factors (e.g. alcohol consumption, smoking, socioeconomic status, body mass index, daily salt and fat intake) in a logistic regression model. In this study alcohol and nutrient intake were assessed by a computer-based dietary history interview, blood pressure, body height and weight by medical examination; data on socioeconomic status and smoking were based on a self administered questionnaire.

The results of the logistic regression show that the risk of developing hypertension increases with alcohol consumption, salt and fat intake even if these intakes were adjusted for energy. At constant energy intake the risk of hypertension increases in men about 20 percent per 100 kilocalories total fat intake and about 30 percent per 100 kilocalories alcohol intake. The influence of fat intake on the risk of hypertension in men becomes even clearer if saturated fat is included in the model instead of total fat (OR: 1.38). These effects cannot be demonstrated in women.

PaS 5

[254]

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RESULTS OF IODINE PROPHYLAXIS IN A GOITER AREA OF SOUTHERN POLAND

In the Carpathian goiter area the iodine prophylaxis started as early as in 1935 at the level of 5mg KI per kg of salt. KI salt supplementation was gradually increasing from 5 to 30 mg/kg. For decades cretinism and severe goiter cases were not noted, but mild forms of IDD still existed. In this epidemiological situation it was decided to investigate this phenomenon and try to reveal its probable reason.

The nutritional study performed on the basis of dietary recall and weekly menu evaluation proved a low iodine intake. The mean daily intake of iodine contained in food products amounted to 46.5 µg/person in the rural population and 46.1 µg/person in the urban population, but the iodized salt applied in the households should increase the mean level of iodine intake to 141.4 and 1483 µg/person, respectively. It was found, however, that cooked food products lost the iodine content, therefore the mean daily iodine intake decreased in the villagers' diet, as well as townspeople up to 50%.

This study proved that the thyroid enlargement observed in the population of Southern Poland had to be attributed to intake of insufficient quantities of iodine, below the minimal daily needs. Furthermore, considerable presence of goitrogenic substances present in some vegetables, particularly in villagers' diets, made the results of the preventive programme unsatisfactory. In order to eliminate IDD

the increased iodine level in salt has to be continued, but also the elevated iodine content in local foodstuffs of animal origin (milk, eggs) should be obtained, using iodine containing additives in animal foods.

PaS 5

[255]

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DEFINED NUTRITIONAL ITEMS AND THE RISK OF MULTIPLE SCLEROSIS (MS): A CASE-CONTROL STUDY

A number of ecological studies pointed to specific risk factors contained in a diet rich in animal protein and fat and, more specifically, to meat products preserved by curing and smoking. In order to test this hypothesis on the individual level, a case-control investigation was started which now includes 269 cases with definite or probable MS and 135 hospital controls with low-back pain syndromes. A four-categories food frequency questionnaire was applied to 306 individuals, and altogether 100 cases and 46 controls of rural origin having practised home curing were interrogated on common preservation habits during childhood (age 0-15). Gender which might have operated as a confounder in this unmatched design, was controlled in the analysis by logistic regression or stratified analysis, respectively.

The commodity "hot-smoked sausages", when consumed more than once per week, was associated with a six-fold risk of disease (OR 6.5; 95% CI 1.9-22.8; $p=0.003$), whereas "cold-smoked bacon" (OR 2.2; 95% CI 1.3-3.7; $p=0.003$) and "cold-smoked sausages" (OR 1.6; 95% CI 0.96-2.7; $p=0.07$) showed a weaker relationship. Effect modification by urban residence was apparent in these data. Among individuals having practised home curing, the use of timber from a professional source (which is more likely to be coniferous), or either such timber or coniferous fire-wood, in combination with nitrate or nitrite, was associated with an elevated risk of MS (OR 4.5; 95% CI 1.4-18.9; $p=0.009$; and OR 6.4; 95% CI 2.0-26.9; $p=0.0009$, respectively) which, in addition, was showing a gradient from non-benign MS over benign MS cases to non-MS controls. The data may point to a possible promoting role of specific agents in processed meat products on intra-CNS autoimmunity and/or later CNS vulnerability to inflammatory damage.

Supported by the Hertie Foundation, Frankfurt, Germany

PaS 6

[261]

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HEALTH REPORTING AND NUTRITION

The development of a system of health reporting in Germany dates back to the early seventies and can be seen in the wider context of reforms to increase the scientific basis of politics. The early attempts however stopped prematurely and it was only in the late eighties, that a more systematic approach emerged. Among these initiatives, the development in North Rhine-Westphalia was successful and dealt systematically with all aspects of health.

In the field of nutrition related health reporting a different tradition was put forward with the nutrition reports starting in 1969. The philosophy of these reports grounded in consumer information. Health was originally not covered. Today, the political mechanism of the nutrition reports can be seen as an established routine for the development of a broader health orientated reporting system.

The characteristic features of a continuous and politically orientated reporting system, however, still have to be worked out. They constitute a separate level of communication aside from science and political programmes. The reality of a political process guided by scientifically proven knowledge is an ideal that can only be partially fulfilled.

Compared to other sectors of health and health care, the field of nutrition and health has already reached a certain level in the public and political arena. To widen its influence, its scope and its empirical basis, several prerequisites valid for any politically orientated reporting system have to be developed:

Influence

- institutionalization of communication process (expert boards etc.)
- a legitimate public interest has to be created
- in a historical perspective, a transfer to political action should exist

Scope

- the object of reporting should be aligned to political action
- reduction of complexity
- irrelevant aspects should be abandoned

Empirical basis

- simple indicators have to be created
- the indicator should monitor a certain dynamic data production by routine systems and mechanisms

PaS 6

[262]

Helmut Oberritter, Deutsche Gesellschaft für Ernährung e. V., Frankfurt (D)

THE GERMAN NUTRITION REPORTS

The government of the Federal Republic of Germany (FRG) commissioned the German Society of Nutrition (DGE) in 1968 to prepare a report concerning the nutritional status of the German population. This Nutrition Report was well received when it was submitted in 1969 because for the first time it provided an overview of a wide range of data that was available about nutrition in the FRG.

In addition to the analysis of the nutrition situation in the Reports and the presentation of chemical-toxicological and microbiological aspects of nutrition since 1976, all Reports contained reviews of important aspects covering current science of nutrition, eg.: changes in food quality during storage, processing and packaging; nutrition education in schools (1972); influence of advertisement on nutrition behaviour (1976); relationships between nutrition research and health policy (1980); psychosocial evaluation of nutrition in families with children; critical evaluation of alternative diets (1984); documentation Chernobyl; food allergies and food intolerance reactions; recommendations for covering nutrient and food energy requirements (1988); selected socio-cultural influences on nutritional behaviour; tumourigenesis - inhibiting and promoting effects of nutritive factors; iodine supply and iodine deficiency prophylaxis in Germany (1992); the significance of phytochemicals for health; novel food; deficient nutrition of geriatric patients (1996).

Aims of the reports are the collection of data concerning the nutrition status, nutrition behaviour and risks of unbalanced nutrition or contaminated food. These data are of use for political decisions but also for the definition of target groups in nutrition communication and counselling. The reviews of current scientific aspects promote the discussion of and the research on nutritional problems. Furthermore, the data of the reports are the scientific basis for adequate nutrition recommendations for the various target groups.

One important issue of all Nutrition Reports is the analysis of the nutrition status. The Nutrition Report 1988 states that from 1965/66 until 1985/86 consumption of energy increased by roughly 15%, total consumption of fat by 26% and sugar by almost 20%. There was an increase in alcohol consumption (15%), cholesterol (29%) and purins (35%). Consumption of complex carbohydrates, mainly of starch, decreased by 6%.

The Nutrition Reports 1988, 1992, and 1996 show new trends. They find increases in the consumption of cereal products, potatoes, vegetable, fruit, fresh dairy products, cheese and fish, a decrease in the consumption of eggs, sugar, and meat, and a stagnation in fat consumption. The trend to a steadily increasing consumption of fat and sugar to the debit of complex carbohydrates has exceeded its maximum - a change in trend!

The review "Iodine supply and iodine prophylaxis in Germany" in the Nutrition Report 1992 was very efficient. Within one year the recommendations of the report have been realized by the government.

PaS 6

[263]

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TRENDS IN DIETARY INTAKE IN MEN. RESULTS OF THE MONICA AUGSBURG DIETARY SURVEYS 1984/85 AND 1994/95

Analyses of trends in dietary habits are scarce in Germany. In the MONICA Project Augsburg dietary surveys have been carried out on representative population samples in 1984/85 (S1) and in 1994/95 (S3). On the basis of this data trends in dietary habits will be examined.

In S1 421 and in S3 430 men took part (response about 70% in both surveys). A 7-day weighed-record method was used; instruction of the participants and coding of the records (using the German nutrient data base, BLS version 2.1) were done in the same way in both surveys. Age-standardized values are presented, and Wilcoxon tests were applied.

Mean daily total energy intake slightly decreased from 2595 to 2548 Kcal/day. This can be explained by a significant decrease in alcohol intake (S1: median 32 g/day; S3: 23 g/day). The mean proportion of energy derived from fat slightly differed between the two surveys (38.4% vs. 37.4%), after exclusion of the energy derived from alcohol the difference was more pronounced (S1: 42.1%; S3: 40.3%). The mean P/S-ratio increased from 0.39 to 0.43 reflecting a favorable trend. Compared to these rather minor changes, the intake of selected vitamins showed remarkable and significant changes. The median intake of vitamin C, for example was 63 mg/day in S1 and 89 mg/day in S3. In S3 the food intake pattern was characterized by a higher intake of milk, vegetables, and fruits, and a lower intake of meat products, bread and baked goods.

Concerning the intake of macronutrients a trend towards a more favorable pattern was observed. In contrast, the intake of some foods/food groups and the intake of antioxidant vitamins showed remarkable changes.

PaS 6

[264]

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DIETARY TRENDS IN ADULTS FROM THE CITY OF ERFURT BEFORE AND AFTER THE GERMAN REUNIFICATION

Objectives: The need for better information on food intake was emphasized shortly after the reunification. Nevertheless, information on food intake changes in East Germany is still scarce. Since 1990, even food balance sheets show data for Germany as a whole. Our aim is to provide additional information on dietary changes in East Germany after the reunification.

need for more data from East Germany

Methods: Dietary records from two surveys conducted in independent random population samples from Erfurt (East Germany) in 1987/88 (S1) and in 1991/92 (S2) were used to analyse trends in food intake. Structured records of 281 men and 256 women from S1 and open-ended records of 353 men and 252 women from S2, all aged 25 to 64, were included into the comparison.

Results: Distinct changes were found for most foods with a tendency towards a "healthier" choice of food. For instance, intake of fruit, dairy products and non-alcoholic beverages increased markedly, intake of meat and meat products, and alcoholic drinks decreased for both genders. Overall, amazingly similar patterns of change were observed with men and women.

Conclusion: The majority of changes could be explained by the improved variety in food supply. We consider further monitoring of long term dietary trends in East Germany under the changed food market conditions as important. Very recently, relapses into conventional food habits are suspected, but a regular nutrition surveillance does not exist.

X
MOXIC-Project
Difficult to do
for different
records
Structure/opened
Diff. in BLS

PaS 7

{271}

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**COMMUNITY NUTRITION ASSISTANTS AS AGENTS OF CHANGE
- OPERATIONAL GUIDELINES FROM A UK DEMONSTRATION
PROJECT**

Community approaches to nutrition are increasingly popular in the UK. The previous focus on individual education is redressed by including consideration of the environmental factors influencing food choice. Previous work however, shows that this approach is time consuming and resource intensive. In terms of the population perspective, investigation of more efficient use of health professionals time and effective means of reaching a higher proportion of the community is therefore warranted.

A demonstration project in the North of England aims to test the feasibility of using lay or non-professionals trained as Community Nutrition Assistants (CNAs). Their role is to facilitate community dietetic services to achieve changes in both the determinants of healthy eating and eating patterns in the local community. CNAs are expected to increase the number and diversity of client groups.

The efficacy and cost effectiveness of using non-professionals is evaluated. Using formative evaluation both process and outcome measures are examined. Local people are recruited and participate in a comprehensive training programme before being employed by the local Health Authority to work as CNAs. Ongoing support is provided. Supervised fieldwork involves accessing individuals and groups in the local community to identify nutrition related problems. Nutrition initiatives are implemented either by the CNAs, referrals to the Community Dietitians or a combination of both according to need. The CNAs are becoming increasingly autonomous, they hold regular meetings, events such as public open days, and produced their own newsletter.

Evaluation of the CNAs training, community practice and personal development is now complete. A combination of quantitative methods, questionnaires, work diaries, telephone surveys; and qualitative methods, focus groups and interviews were used. Impact at the service and community level is currently being analysed.

Preliminary results indicate that CNAs have a valuable role in promoting dietary changes in the community: service delivery is more efficient with dietitians able to take on a more specialist role; whilst changes in determinants of healthy eating, such as access and

availability, and improvements in clients dietary practices are possible using a community based approach. Increased empathy with members of the local community helps to remove the communication barriers typically associated with the client-professional relationship. Lay people clearly benefit from a greater understanding of the social, cultural and psychological factors influencing food and health related behaviours. Results, including operational guidelines, and recommendations for best practice will be shared.

PaS 7

[272]

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U.S. NUTRITION POLICY AND THE DIETARY GUIDELINES FOR AMERICANS

The Dietary Guidelines for Americans, and their graphic representation in the Food Guide Pyramid, offer sensible advice on healthy eating and represent a keystone in the United States' policy on nutrition and health. The fourth edition of the Dietary Guidelines was released jointly by the U.S. Department of Health and Human Services (HHS) and the U.S. Department of Agriculture (USDA). Revised every 5 years since 1980, the 1995 edition is the first to be mandated by Congress.

The Guidelines are based on established medical and scientific knowledge at the time they are issued and provide nutrition and dietary guidance for the public. Each Federal agency is required to promote these Guidelines in carrying out any Federal food, nutrition, or health program, and tailor the advice to meet the needs of various population subgroups. This presentation will provide a background on the evolution of Federal dietary guidance policy, from food adequacy to chronic disease prevention. The discussion will then more specifically describe the process involved in the revision of the 1995 Dietary Guidelines, and discuss key changes to the Guidelines. Uses of the Guidelines by the Federal Government and other organizations and examples of materials developed for different audiences will also be described.

PaS 7

[273]

*Naomi S. Evans, The Passage Day Centre, London (GB)***EAT WELL! AN INTERVENTION PROGRAMME TO IMPROVE THE NUTRITIONAL VALUE OF FOOD PROVIDED FOR HOMELESS AND MARGINALISED PEOPLE**

'You are what you eat!', what we eat influences our long and short term health. Findings from nutrition surveys in Britain show malnourishment amongst homeless and marginalised people especially for vitamins A, C, and E; with low intakes of fibre and starch. Saturated fat intakes, sodium and sugar are higher than levels suggested for health. Compared to the British population chronic chest conditions, wounds, skin ulcers and digestive problems are three times higher in homeless people. Transient lifestyles and the average age of death being 42, make assessment of long term health conditions difficult. 'Homeless' people are opportunistic eaters largely reliant on day centres (DC) for their food. In Britain approximately 120 DC provide food for 'homeless' people; they are voluntary organisations with low incomes. The aim of this intervention programme is to improve the nutritional value of food provided by DC, whilst not increasing the financial burden.

The programme was piloted at a DC in London. A survey (n=40) was carried out to assess clients attitudes to current food provision and potential changes. The intervention methods included: assessing cheaper food supplies; increasing the use of fresh produce; altering cooking methods; and altering the type of food provided, taking into account clients opinions. New foods were promoted by using posters around the centre. Health promotion posters were exhibited, tailored to be culturally relevant to this people group. The uptake of new foods was monitored and comments about food alterations noted. A follow up survey was carried out to assess clients opinions to the changes in food.

The findings of this intervention programme will be disseminated by a workshop that will be taken around the country to other DC, and a book on 'standards of good practice for food provision in DC.'

PaS 7

[274]

Judith M. Hendry, University of Aberdeen, Department of General Practice and Primary Care, Foresterhill Health Centre, Aberdeen (GB)

PRIMARY SCHOOL CHILDREN'S PERCEPTION AND CONSUMPTION OF FRUIT AND VEGETABLES

Aim: the overall aim of this study was to suggest school activities which could be introduced for 7-9 year olds as a component of the 5-14 curriculum to promote the increased consumption of fruit and vegetables in children.

Objectives: (1) to establish the reported consumption patterns of food, specifically fruit and vegetables of the sample of school pupils, (2) to propose teaching and health education materials for use with primary school children, (3) to develop related school activities, across the curriculum, on the promotion of fruit and vegetables, e.g. an active involvement by children in menus, tuckshops and cooking, (4) to propose training and staff development materials for those working with primary children on issues concerning diet and specifically fruit and vegetable consumption.

Methods: The data was collected from the study population of children aged 7, 8 and 9 years old by using small focus groups. Each focus group consisted of six children from the same primary year. A total of 6 focus groups, two groups from each of the three age groups studied, were recruited from four schools. The schools served both rural and urban catchment areas and different social classes. The subjects were chosen on the day of study by their class teacher. Each focus group was asked the same questions about food and health with specific emphasis on fruit and vegetables. In addition to the taped focus group discussion the children were asked to draw pictures of the fruits and vegetables they ate. Semi-structured interviews were also carried out with six adults in each school to substantiate the children's data.

Results: The focus group method of data collection used in this study has been widely used with adults but its use with children is underdeveloped. The taped interviews gave rise to qualitative data which was analysed under the following headings: meaning of the word "healthy"; knowledge of healthy foods (fruit and vegetables); preferred playpiece; experiences of school dinners; packed lunches; influence of the home on eating habits; shopping experiences.

Conclusions: The methodological difficulties of accessing consumption data from this age group were overcome by using the focus group method.

PaS 7

[275]

*Marguerite O'Donnell¹, Una Fallon, Cecily Kelleher²,**1) Community Nutrition Service, Merlin Park Hospital, Galway (IRL), 2) University College Galway (IRL)***NUTRITION EDUCATION RESOURCE MATERIAL FOR USE IN GENERAL PRACTICE: PROCESS EVALUATION**

This evaluation study was undertaken as part of a health promotion intervention in general practice for children aged 8-15 years as part of The Galway Health Project (1995). Sixteen general practices were randomized in a factorial design to provide the intervention on an opportunistic or recall basis. Education resource needs were assessed for six general practitioners (GP) and two research nurses (RN) who provided the intervention. A folded "accordion style" wallchart was developed to assist in standardizing the process and content of the intervention.

The length of the interview was 10 minutes using a "step" and "simulation question" format. Content covered diet, smoking and exercise. The study design used methodological triangulation. Six GP and two RN were interviewed using a structured questionnaire. One hundred and thirty (n=130) children who had received the intervention were forwarded a postal questionnaire; questionnaire A for the 8-11 year age group and questionnaire B for the 12-15 year age group. Thirty children (n=30) were invited to attend two focus groups. Response rates were 100% (6 M, 2 F) for the interview with GP and RN, 63% for the children's postal survey (37 M, 46 F; 68.7% from 8-11 year age group, 31.3% from 12-15 year age group) and 64% for the focus groups (10 M, 10 F, age group 8-11 years).

Results showed that all practitioners and children found the resource material useful. It assisted in standardising the 10 minute intervention process. 81 children (66.3%) did not measure their height and 55.6% (n=47) did not complete the food record. Findings indicated practitioners should have instructed the child on how to complete the food record and height measurement activities. The increase fibre message required further clarification.

PaS 8

[281]

*Ingrid-Ute Leonhäuser, Justus-Liebig-Universität, Giessen (D)***PUBLIC HEALTH AND NUTRITION IN GERMANY: THE STATE OF THE ART - CONCLUSIONS FOR AN INTEGRATED CONCEPT**

At the end of the 1980s there was the beginning of constructing the field of Public Health, orientated towards the Anglo-American model. Nowadays there are academic courses of studies at seven universities where graduates of different disciplines can qualify in the subject of public health. In addition, five research collaborations have been created. They are located in Berlin, Munich, Hannover, Bielefeld and Dresden. Based on the represented position and ideas of the WHO, Public Health includes teaching, research and practical acting of promotion, maintenance and regeneration of health in its physical, psychological and social dimensions.

As in German language the translation of the term "public health" is focused on the public area of health and health services the scientists have decided to create "Gesundheitswissenschaften" (sciences of health). Corresponding to the international accepted definition from Acheson "Gesundheitswissenschaften" is "the science and the art of preventing disease, prolonging life and promoting health through the organized efforts of society" (Hurrelmann, Laser, 1993).

When analysing the projects in the field of the sciences of health in Germany no research can be found focused on the context of health and nutrition, especially on the context of diseases and malnutrition. Although it is recognized that food consumption and nutrition behaviour are connected with many health risks, topics and scientific experiences of the German nutrition science are not integrated there. In 1995 the German Society of Nutrition (DGE e.V.) carried out a workshop "Prevention of Malnutrition Diseases". The need for a public health nutrition approach contributing to the concept of health promotion (Müller, Erbersdobler, 1996) is widely agreed on. From that point of view malnutrition control and nutrition education programming for disease prevention and nutrition in the life cycle are absolutely necessary.

In Germany, human nutrition is one of the most important subjects of the course of studies at universities called nutritional science and home economics. Students will be qualified contributing nutrition approaches in public health respectively in sciences of health. They acquire special knowledge and competences derived from the nutritional, biological, behavioral, social and managerial sciences. But first of all there is the need of collaborating between the two disciplines "Sciences of Health" and "Nutritional Sciences" and their scientific societies. Last but not

Model/need for a "nutritional science and home economics" research promotion resource centre

SHM no
connect between
public health
and
nutrition sciences

also public health
research
at WHO level

Science of Health
Science of Nutrition

History of
"Deliberation" lead

least the policy makers have to support this process in order to realize the concept of health promotion in the community.

Recommendations for an integrated concept of "Public Health Nutrition" in Germany and on the European level have still to be worked out and harmonized.

PaS 8

[282]

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CURRICULUM DESIGN AND PROFESSIONAL DEVELOPMENT IN PUBLIC HEALTH NUTRITION IN THE UK

The paper will outline the background in the past five years which formed the impetus for a new profession in Public Health Nutrition. Drawing on educational research and professional expertise in the UK and mainland Europe, members of committees appointed by the Nutrition Society of Great Britain, with the support of the government undertook rounds of consultation. Consultation led to consensus about the roles and functions of Public Health Nutritionists, the need for and shape of this new profession. The paper will describe the structure and contents of the curriculum. The explicitly international and European orientations of the curriculum and new profession will be discussed.

PaS 8

[283]

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INFLUENCING PUBLIC POLICY IN HEALTH AND NUTRITION: AN ADVOCACY ROLE FOR NUTRITION AND HOME ECONOMICS PROFESSIONALS

Although there are many interpretations of the term "advocacy", the key concept is political action. Some professionals in Nutrition and Home Economics may still feel somewhat uncomfortable with the "political" aspect of their role as advocates, although the global problems of poverty, lack of affordable housing, undernutrition, inadequate health provision and poor health, all demand the assumption of a growing degree of responsibility for political activism if they are to remain effective in working toward an improved quality of life at household and community level.

Moving toward an advocacy role, particularly at the community level, demands increased skills in teamwork and coalition building for the professional; meaningful and substantive changes in curricula for professional education and training; and a willingness to participate in

continuous personal and professional self-appraisal to evaluate individual effectiveness as a role model and mentor for future professionals and clientele.

There are a number of interesting examples of effective advocacy for improved nutrition and health in Canada and a wealth of experience to be gained from other countries. Among the program elements common to those documented successful efforts are thorough research, adequate resource allocation, collaborative partnerships, positive and effective communication, and careful evaluation. These and other useful elements of advocacy experiences need to be more carefully documented and shared for wider learning throughout the public health professional community.

PoS 1

[311]

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DIETARY HABITS, NUTRIENTS INTAKE AND NUTRITIONAL STATUS OF SCHOOL CHILDREN IN THE KRAKOW REGION

The aim of the study was to assess the nutritional agents influencing nutritional, developmental and health status of school children. The cross-sectional surveys of food intake and nutritional status were performed during the last ten years in Krakow city and Krakow Region on randomly selected groups of school children aged 7, 10 and 13 (girls) / 14 (boys). The studied population was 882 children, the method of nutritional assessment was 24-hours dietary recall.

The dietary patterns of rural and urban children were related to the educational level of parents, nutritional traditions, food accessibility in rural localities and advertised feeding patterns and fast-food proposition in towns. The dietary differences between urban and rural children, connected with variety of used food products and composition of meals, influenced the energy value and nutrients level of the diet.

The mean energy intake of rural children was lower in all corresponding age groups. The proportion of energy yielding nutrients, expressed as energy percent (E%), were similar in groups of rural and urban children. The small rise of polyunsaturated fatty acids intake and decrease of cholesterol intake was observed in the recent survey. The vitamins and minerals density in diets of urban and rural children were comparable.

The rural children had lower body height and weight especially in prepubertal age ($p < 0.05$) and thinner skinfolds in groups aged 7 and 10. The evaluation of BMI, as a measure of nutritional status indicated the proportion of mild undernourished children, higher in rural rural prepubertal girls; the incidence of overnutrition was higher in urban children. The overnourished and obese 11 years old children had elevated mean levels of blood triglycerides, total and LDL-cholesterol and fasting insulin levels, indicating metabolic changes in obesity.

PoS 1

[312]

Alžbeta Béderová, Marica Kudlácková, Anastázia Brtková, Tatiana Magálová, Research Institute of Nutrition, Bratislava (SK)

LIPID AND ANTIOXIDANT PARAMETERS IN CHILDREN AND ADOLESCENTS FROM SOCIO-ECONOMIC DIFFERENT REGIONS OF SLOVAKIA

The aim of this study was to analyse the trends in evaluation of selected parameters of nutritional status in current socio-economic conditions due to economic depression. Randomly selected young generation from 8 risk regions of Slovakia were examined. Serum lipid parameters were determined enzymatically, vitamin C colorimetrically. Total antioxidant status (TAS) was determined by RANDOX-test. Vitamin A, E, and β -carotene were determined by HPLC method in the randomly selected group.

Borderline values were observed in 8.4% and high cholesterol levels in 21-26% of the children. 10-15.5% of borderline values and 6-12.4% of high cholesterol levels were found in the adolescent group. Decreased HDL-cholesterol levels were found in 12% of the children and 12-25% of the adolescents. High levels of LDL-cholesterol were observed in 6-8% of the children and 5-10% of the adolescents. Hypertriacylglyceremia was found in 11.2-15.3% of the children and in 15.4-19% of the adolescents. Mean plasma TAS values in children were 1.64 mmol/L and 1.97 mmol/L in adolescents. Decreased β -carotene levels were found in both age groups. Mean values of vitamin E were 22.7 mmol/L in children and 21.7 mmol/L in adolescents. Vitamin C levels over 50 mmol/L were found in 51%-56% of the probands. The ratio of vitamin E/total cholesterol over 5.2 was observed in 22% of the children and 27% of the adolescents. In individual regions fat represented 28.6-40.1% of the total energy intake in children and 34.3-40% in adolescents, respectively. The Slovak RDA for fat was exceeded by 16-44.2% in children and by 23.1-63.5% in adolescents, respectively. Intake of vitamin C did not meet the RDA, it was by 45% lower in children and by 50% in adolescents.

PoS 1 [313]

Mareike Mast, Inga Körtzinger, Antje Bartrow, Vicky Hunte, Susanne Neite, Eckart König, Manfred J. Müller, Institute of Human Nutrition and Food Science, Christian-Albrechts-Universität, Kiel (D)

KIEL OBESITY PREVENTION STUDY (KOPS): DEFINITION OF OBESITY IN CHILDREN

Introduction: Due to the high obesity prevalence, prevention is necessary. KOPS assesses the nutritional status of children (5-6 years). Overweight children: (A) weight $\geq 25,9$ kg, (B) TSF-skinfold thickness boys $\geq 12,9$ mm, girls $\geq 15,5$ mm (both 90th percentile, Forschungsinstitut für Kinderernährung, Dortmund), (C/D) fat mass from anthropometric measurements/bioelectrical impedance analysis (BIA): boys $\geq 20,0\%$ fat, girls $\geq 23,7\%$ fat (90th percentile G. Steinkamp, Hannover).

Problem: Assessment of obesity prevalence considering different methods.

Methods: In 1996, 317 boys and 294 girls (total 611 children, 30,6% of the age-class) were examined. Measurements: weight, height, four skinfolds, BIA.

Results: All data are given in median values (ranges). Boys: weight 23.6 kg (15.0-45.0 kg), height 1.21 m (1.00-1.38 m). Girls: weight 22.8 kg (15.8-40.7 kg), height 1.20 m (1.07-1.38 m). Overweight according to (A): 163 (26.7%) children, 28.6 kg (25.0-45.0 kg); according to (B): 127 (20.9%) children, 16.1 mm (13.0-27.0 mm); according to (C): 79 (13.0%) children, 25.5% (20.1-41.1%); according to (D): 218 (40.8%) children, 21.2% (2.4-45.3%).

Conclusions: Different methods result in different obesity prevalences (13,0% to 26,7%). Bodyweight does not classify the prevalence of obesity sufficiently and reaches a sensitivity of 83% (boys) and 95% (girls) (specificity of both: 82%). With respect to BIA there is no valid equation for calculation of fat mass in this age group. Therefore at present anthropometric measurements seem to be most reliable for epidemiologic studies.

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PoS 1

[314]

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BREASTFEEDING DOES NOT PROTECT INFANTS FROM HELICOBACTER PYLORI INFECTION

Background: *Helicobacter pylori* is a major cause of several gastroduodenal diseases including peptic ulcer and gastric cancer. The infection is acquired predominantly during early childhood. In a small case series of Gambian children, breastfeeding was found to be associated with delayed onset of the infection. The aim of this study was to investigate whether breastfeeding protects against acquisition of *Helicobacter pylori* infection.

Methods: Study subjects were all children in the city of Ulm, Germany, who were screened for school fitness by physicians of the Public Health Service in 1996. Infection status was determined by ¹³C-urea breath test. In addition, the parents of the children filled out a standardized questionnaire.

Results: 945 children aged 5 to 8 years participated in the study (response rate 79%). The crude prevalence of *Helicobacter pylori* infection was 11.2% in children who were never breastfed (n=197) compared with 13.1% in ever breastfed children (n=718). There was a strong and significant interaction between breastfeeding and smoking of the mother. While breastfeeding was associated with a reduced frequency of *Helicobacter pylori* infection among children whose mother smoked (adjusted odds ratio: 0.3; 95% confidence interval: 0.1-1.0) the opposite was true among the majority of children whose mother did not smoke (adjusted odds ratio: 1.7; 95% confidence interval: 0.8-3.6). In the latter group, prevalence of infection was highest among children who were breastfed for more than 6 months.

Conclusion: Our study suggests that breastfeeding does not protect against *Helicobacter pylori* infection among children of non-smoking mothers.

PoS 2

[321]

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**NUTRITIONAL ASSESSMENT OF VEGETARIAN DIETS,
INCLUDING NITRATE AND NITRITE CONTENT**

There is some evidence, based on the results of population studies that vegetarian diets confer health advantages. Compared to non-vegetarians, vegetarians have lower evidence of ischaemic heart disease, arterial hypertension, diabetes, obesity, colon cancer. However, some studies show increased frequency of iron deficiency, risk of retinol deficiency, higher level of lipid peroxides in blood and lower antioxidant enzymes activity in vegetarians in comparison to people on traditional diet.

At the same time, it is well known that products of plant origin, which compose majority of vegetarian diet, very often contain a lot of toxic compounds including nitrate. Diet based only on products of plant origin may be a source of significant amounts of these compounds. Considering dynamic increase in number of vegetarians in Poland, there is a need for assessment of vegetarian diet regarding human health status.

The aim of the study is a comparison of nutritional adequacy of vegetarian and traditional diets and analyses of nitrate and nitrite content in these diets. Present study is a part of a bigger project examining influence of vegetarian diet on the methemoglobin level in blood, nitrate and nitrite content in saliva (as a marker of the threat of nitrate and nitrite excess) and cholesterol and lipid peroxides level.

In the communication, there will be a comparison of vegetarian and traditional diets with a special attention paid to the problem if these diets meet the requirement for the main nutrients, energy and some vitamins and minerals, but also comparison of nitrite and nitrate content.

PoS 2

[322]

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**INFLUENCE OF ADVERTISING AS A PART OF PROMOTION FOR
THE CONSUMERS' DECISION-MAKING PROCESS CONCERNING
FOOD PURCHASE**

During the time of transition in the Polish economical system the advertising of consumer goods has played a more and more important role for the way of nutrition and health conditions of consumers which are closely connected. That is why it is so important to give scientific explanation on how and by which way advertising influenced the changes in the way of food consumption among Polish citizens. The study contains the collection of primary source data based on questionnaires (n about 500) and personal interviews among different groups of Polish population, especially women and young people.

Such investigations show the important role in evaluation of advertising influence on the way of food consumption patterns among different groups of the Polish population. The studies also explored consumers' decision-making process in purchasing of specific groups of food products. The results of the study could be also important in establishing the food and nutrition policy in Poland.

PoS 2

[323]

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**FATS AND OILS - MARKET AND CONSUMPTION CHANGES IN
POLAND DURING THE 1990s**

The economic changes in Poland in the 1990s have had the advantageous influence for the development of vegetable fats and oils production. This sub-sector is the one of the most efficient sectors of entire food industry and belongs to the branches of the highest development dynamics. It was due to the strong increase in margarine and oils production by 110% and 70%, respectively (1990-95). These changes were observed according to the increasing demand for vegetable fats and oils (from 7.6 to 14.4 kg per capita per year) and to the decreasing demand for butter (from 7.8 to 3.7 kg). The level of other animal fats consumption was rather stabilized (7-8 kg per capita per year). To estimate the influence of the consumers' financial status on fats and oils consumption the questionnaire research was carried out. Households at high and low levels of income were intentionally chosen in Warsaw and Zamosc district. Results are showing that income

has some influence on fats and oils consumption patterns. Data are presented in tables and figures.

PoS 2

[324]

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DAIRY PRODUCT LIFE CYCLE AND CONSUMER PREFERENCES IN POLAND

Of fundamental importance when identifying the factors which shape the life cycle of dairy products are the ever changing needs and preferences of consumers. The purpose of this paper was to study the consumer preferences of selected dairy products during the different phases of their life cycle on the present Polish dairy market. It was established that effectiveness of the marketing mix elements varies at the consecutive phases of the dairy products life cycle. In the case of new products price does not matter much, while packaging and health qualities are perceived as very important. At the maturity phase all that really matters are the utility and nutritional values and the safety of dairy products. As society gets wealthier and the dairy market develops, product life cycles of dairy products grow shorter.

PoS 3

[331]

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PERICONCEPTIONAL USE OF MULTIVITAMINS IN THE REDUCTION OF CONGENITAL ABNORMALITIES: IS THERE SUFFICIENT EVIDENCE FOR THE IMPLEMENTATION OF A NATIONAL HEALTH POLICY FOR GERMANY?

In the discussion about primary prevention of congenital abnormalities, vitamins often have been picked out as a central theme in literature. In randomised controlled trials, a significant reduction of congenital abnormalities up to 17% by the periconceptional use of multivitamins (folic acid, vitamin B₁₂, vitamin B₆, vitamin C and zinc) were found. This protective effect can be explained by lower prevalence of neural tube defects, cardiovascular malformations, malformations of the urinary system, limb deficiencies and hypertrophic pyloric stenosis. Multivitamin consumption including 0.8 mg folic acid at least 28 days before conception and continuing for at least until the second missed menstrual period, have been most effective.

These findings in primary prevention of congenital abnormalities raise an important public health issue. Therefore, for women of childbearing age, there are three possibilities of primary prevention of congenital abnormalities:

- consumption of vitamin-rich diet,
- supplementation of vitamins, and
- food fortification with vitamins.

With regard to an appropriate consumption of multivitamins in practice, there are many problems. To ensure that in Germany all women of childbearing age will benefit from the discussions and findings in other countries (USA, UK, Netherlands, Ireland, Australia, EU), food fortification with folic acid and other vitamins should be checked. Furthermore, implementation of a national health policy for Germany should be considered.

PoS 3

[332]

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SELECTED ASPECTS OF CONSUMER BEHAVIOUR ON MILK MARKET

In the years 1989-95, a rapid decline in the consumption of milk and milk products was observed in Poland. It was mainly caused by the reduction of subsidies to dairy products, higher than the inflation rate increase of milk prices, as well as the changing preferences of consumers.

The purpose of this study was the evaluation of consumer behaviour in the field of milk and milk products. Two sources of information were used: the results of household budget surveys and results of personal interviews. 500 personal interviews were conducted in 1996.

The results show that the level of education, financial situation and structure of households were the most important factors influencing choice of milk and milk products. It should be also underlined that the decrease in the consumption of milk and milk products was caused by the rapid increase of dairy product prices in relation to other food products of animal origin - raw and processed meat, eggs and fish.

PoS 3

[333]

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DIETETIC FOOD PRODUCTS AS AN IMPORTANT FACTOR IN HEALTH PROMOTING NUTRITION POLICY

High frequency of diseases and ailments originated from improper nutrition and poor health quality of food are being observed at present in Poland in epidemiological scale. Health promotion in a nutritional way is a factor of great importance in protection of public health. Beneficial results could be also obtained in supporting rational nutrition by use of dietetic food products in a daily diet.

The aim of this study was to evaluate one of the integral elements of health promoting nutrition policy by permitting dietetic food products for turnover in Poland in the years 1992-1996. According to the Polish regulations the market introduction of any dietetic food products requires the approval of the General Sanitary Inspector after obtaining positive opinions of experts from the National Food and Nutrition Institute. Expert opinions are based on current state of science on nutrition, health protection requirements, actual state of Polish population health, EU and Codex Alimentarius rules.

The following foodstuffs are included in a group of dietetic food products for adults: food intended for weight control, low-sodium food, gluten free food, food for sportsmen, food for diabetics, dietary supplements. In addition, foodstuffs intended for infants and young children are also regarded as dietetic food products.

In the years 1992-1994 the number of dietetic food products permitted for turnover in Poland amounted to 1074 different products, including 52% (560) from import and 48% (517) from domestic production. From the total number of dietetic food products permitted for turnover about 47% (513) were intended for young children, 35% (561) for adults.

Permission for usage of these dietetic products aimed at:

- increasing possibility to support slimming treatment;
- lower risk of occurrence and development of hypertension;
- support diabetes treatment by nutrition;
- treatment of allergic reaction to gluten by nutrition;
- lower risk of occurrence of vitamin and mineral deficiency;
- support an increase in physical activity by nutrition.

In summary, the authors state that many elements of health promoting nutrition policy are made in this way in Poland.

PoS 4

[341]

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A CASE-CONTROL STUDY OF DIET AND COLORECTAL CANCER

In Poland an increase in colorectal cancer incidence and mortality is observed. Nutritional factors are strongly suspected of being important in causing colon cancer.

The aim of the study was to investigate the relation between dietary factors and the risk of colon and rectal cancer. Studied population was 95 cases of colon and rectal cancer and 145 controls admitted to hospital for acute, non-neoplastic or digestive disorders. Dietary habits were assessed by use of the dietary history method.

Patients with colon and rectal cancer consumed more meals per day than controls ($p < 0.05$). More frequent consumption of fried dishes ($p < 0.005$), fried meat ($p < 0.05$), cream ($p < 0.05$), and eggs ($p < 0.05$) were observed in the group of cases as compared to controls. Patients with colorectal cancer less frequent consumed raw vegetables ($p < 0.05$), fermented dairy products ($p < 0.05$) and cereal products ($p < 0.05$).

In the study the differences between colon and rectal cases were also investigated. Findings of the study are consistent with some of data from other investigations on colorectal cancer and can support the nutritional hypothesis of the aetiology of colorectal cancer.

PoS 4

[342]

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ANTIOXIDANT VITAMINS AND BREAST CANCER

Present incidence of breast cancer as well as its ratio to all cancer ranks Slovakia to European countries with higher and still increasing incidence and mortality of breast cancer. There is epidemiological evidence that ascorbic acid, tocopherols, tocotrienols, retinoids and β -carotene may influence the risk of breast cancer. Identification of dietary correlates is an important public health issue, because dietary habits are modifiable.

Study subjects were enrolled from the breast clinic at the National Cancer Institute. Women participated in a screening examination for breast cancer and their diseases were firstly diagnosed (palpation,

sonography, mammography and histology). The study included 170 women with benign breast disease (moderate and severe dysplasia, fibroadenoma and cystic disease), 70 with breast cancer and 122 apparently healthy controls randomly selected among those with no diagnosis of breast disease. Serum levels of retinol, β -carotene, α -tocopherol, ascorbic acid and dietary intake of vitamin A, C, E, dietary fiber and folic acid were analysed.

Serum levels of β -carotene are deficient in all groups, including controls. We found the lowest levels of retinol and α -tocopherol in fibrocystic disease but there were slightly decreased α -tocopherol levels in all groups. There was weak association between serum and dietary vitamins C and E. Serum levels of retinol and β -carotene were not correlated with total dietary vitamin A. There were deficient intakes of fiber in all groups and folic acid in dysplasia and breast cancer. Low intake of vegetables and fruits is frequent in our population and together with high and still rising intake of saturated fatty acids seems to be associated with increased incidence of breast cancer.

PoS 4

[343]

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GOITRE ENDEMIE IN GERMANY AND ITS RELATION TO SERUM LEVELS OF SELENIUM AND ZINC

Various experiments on animals and scientific observations conducted in human medicine report on development of goitre and even hypothyroid manifestations due to selenium and zinc deficiencies. Selenium and probably zinc act on iodothyronine-5'-deiodase type I, found in thyroid gland influencing the iodine turnover. Therefore, the manifestations of iodine deficiency appear aggravated by simultaneous deficiency of selenium and zinc. Germany is an iodine deficient territory I-II(WHO). Modern trends like non- fatty foods and fibre rich diet lead to further reduction of selenium and zinc intake. It is questionable if selenium and zinc supply play a role in the goitre epidemiology in Germany, in addition to iodine deficiency.

We determined serum Se and Zn levels using atomic absorption spectrophotometry, iodide in urine (Cer-arsenit method) and thyroid volume using ultrasonography with a 7.5 MHz transducer in 5932 clinically healthy subjects of both sexes (mean age 40 ± 17 years) distributed over 32 regions in Germany. This was done to assess the goitre prevalence and iodine distribution in Germany.

The median iodide excretion in urine was found to be $72.4 \mu\text{g/g}$ creatinine. There were no significant differences in the values between sexes, age and geographical location. The median prevalence of goitre

was 50%. Frequency of goitre and thyroid nodules increased proportionately with age. Urine iodide and thyroid volume were inversely correlated. Mean serum Se level: $0.93 \pm 0.2 \mu\text{mol/l}$, mean serum Zn level: $13.1 \pm 1.75 \mu\text{mol/l}$. Though no deficiency of the trace elements were detected, both Se and Zn levels were found to be in lower limit of normal. No definite correlation between serum levels of Se, Zn to urine iodide or thyroid volume or number of thyroid nodules were established. Persons over 40 years and with Zn levels under $10 \mu\text{mol/l}$ had larger thyroid volume than age matched individuals with normal Zn levels. Cluster analysis (iodide, Zn, Se) did not show any influence on thyroid volumes. Apart from the already known iodine deficiency the present Se and Zn distribution situation does not contribute to the existing goitre endemic in Germany.

PoS 4

[344]

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EFFECT OF DIETARY CHANGES ON BODY FAT MASS IN OVERWEIGHT PATIENTS MEASURED BY BIOELECTRICAL IMPEDANCE AND BY ANTHROPOMETRY

Objective: To estimate the effect of a low energy diet on body fat mass measured by bioelectrical impedance (BIA) in overweight and obese people ($\text{BMI} \geq 25$).

Design: Randomised six weeks trial.

Methods: The studied group consisted of 120 patients (79 women, 41 men) aged 45 ± 13 who attended the Metabolic Outpatients Clinic. Dietary assessments were performed by 24-hour dietary recall. Body fat mass was measured by bioelectrical impedance methods, skinfolds thickness by calipers. Percent body fat and fat free mass was estimated from equations based on BMI and skinfolds thickness. Visceral obesity was recognised when waist to hip ratio was ≥ 0.8 for women and ≥ 1.0 for men.

Results: After 6 weeks of the diet the mean intake of energy decreased from $10,309 \pm 3,016 \text{ kJ}$ to $4,821 \pm 1,542 \text{ kJ}$, total fat intake from $102 \pm 42.8 \text{ g/d}$ (37.5% of the energy E%) to $41 \pm 22 \text{ g/d}$ (30.9 energy%), protein intake from $95 \pm 37 \text{ g/d}$ (15.4 E%) to $54 \pm 19 \text{ g/d}$ (19.1 E%), carbohydrates intake from $286 \pm 94 \text{ g/d}$ (47.1 E%) to $143 \pm 53 \text{ g/d}$ (50 E%). The value of total energy, total fat and saturated fatty acids intake correlated with body weight, BMI and body fat. After the dietary period, body weight decreased by 4.3 kg (4.5%) and body fat by 3.98 kg (11.2%). Weight in androidal obesity was reduced by 4.5% and in gynoidal obesity by 4.4%. Body fat content was reduced by 11.2% and

11.1% respectively. Body fat mass determined by BIA method was significantly correlated with body weight, BMI and waist circumference.

Conclusion: BIA method may be helpful for the analysis of changes in total body composition occurring under treatment for obesity.

PoS 4

[345]

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RELEVANCE OF HOMOCYSTEINE IN THE PREVENTION AND TREATMENT OF CORONARY HEART DISEASE IN ROUTINE MEDICAL PRACTICE

Atherosclerotic diseases are the leading cause of death in the industrialized world. A variety of risk factors for these diseases have been identified; among them are smoking, hypercholesterolemia, diabetes mellitus, obesity etc. However, in about 50% of affected individuals the established risk factors are absent. Thus, there must be other factors associated with risk of vascular diseases. As such, elevated levels of the amino acid homocysteine have been identified operating independently from other, currently known factors. Even though many descriptive and analytic epidemiologic studies have highlighted the importance of homocysteine, it is not known if and how physicians deal with the increased burden of evidence in daily practice.

Aim: To evaluate the relevance of hyperhomocysteinemia and its B-vitamin determinants in metabolism in the prevention and treatment of coronary heart disease (CHD) in routine medical practice.

Design: We developed a questionnaire addressing all risk factors that may be practically relevant in the prevention of CHD. The questionnaire with closed questions covered 3 sections: the practical relevance of several risk factors, diagnostic parameters used for their identification and treatment in case of diagnosis of the risk factor. General practitioners and internal specialists registered in Bonn received the questionnaire via mail.

Results: Of 325 physicians addressed, 56% responded and sent the questionnaire back. Over 89% of physicians considered hyperlipidemia, hypertension and smoking as practically relevant risk factors for CHD. However, insufficient vitamin status of certain B-vitamins (leading to elevated homocysteine levels) was regarded as relevant risk factor by only 9%. The majority (67%) never asked for analysis of homocysteine as diagnostic tool and 93% never or only sporadically treated patients with the B-vitamin folic acid (a determinant of homocysteine).

Conclusions: The representative survey showed that homocysteine as risk factor for CHD so far has no major relevance in routine medical practice. In contrast to this, other established and scientifically long-proven risk factors for CHD are very well considered by general practitioners and internal specialists. Thus, the transfer of knowledge between science and established medicine has not yet occurred with regard to homocysteine. As was the case for cholesterol, guidelines for diagnosis and therapy may be helpful in increasing the knowledge and relevance of this new and independent risk factor among physicians in medical practice.

PoS 5

[351]

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DIETARY HABITS IN CHILDREN AGED 11 YEARS IN POLAND

In 1996-97 the dietary habits of 1193 girls and 1026 boys aged 11 years were estimated. The examined children were from schools randomly selected from the whole urban and rural area of Poland. The aim of the study was to assess energy and nutrients intake in school children and to calculate the range of dietary abnormalities and their effects of the physical development and nutritional status. Dietary assessment was performed on the basis of the food frequency questionnaire "Nutri-Test", and in 836 children on the basis of a 24-h recall.

The energy value of daily diet in girls and boys (11.14 MJ/2,662 kcal and 11.90 MJ/2,849 kcal respectively) was higher than those in the Polish Recommended Dietary Allowances for their age. About 10% of the examined children had a deficiency of energy and some minerals and vitamins. The structure of energy intake was improper: the per-cent of energy (E%) derived from fat (35.2 E% and 35.6 E%) was higher and that from carbohydrates (51.6 E% and 51.1 E%) lower than recommended. The nutrient content in the daily diet was insufficient in comparison with Polish RDA. The intake of minerals, particularly calcium and magnesium, was lower than allowances. The vitamin content in the daily diet, with exception of vitamin A, was also lower than recommended in Poland. Many irregularities have been noted in the level of consumption of food groups. The intake of milk, dairy products, vegetables and fruit, especially with ascorbic acid, was lower than recommended. Moreover, the girls and boys under study consumed too much fats, meat products, sugar and sweets.

Dietary habits of children in Poland are inadequate especially because of high fat and low mineral and vitamin intake, and could be a risk to develop diet related diseases.

* In the part of the study on the basis of the food frequency questionnaire "Nutri-Test".

PoS 5

[352]

Anastázia Brtková, Marica Kudlacková, Alžbeta Béderová, Tatiana Magálová, Silvia Tomová, Research Institute of Nutrition, Bratislava (SK)

TOTAL ANTIOXIDANT STATUS, CONJUGATED FATTY ACID DIENES AND LIPID PARAMETERS IN CHILDREN AND ADOLESCENTS FROM 3 DIFFERENT REGIONS OF THE SLOVAK REPUBLIC

The plasma total antioxidant status (TAS) and plasma conjugated fatty acid dienes (CD) were assessed in randomly selected 106 healthy children (aged 11-14 yrs.) and 158 adolescents (aged 15-18 yrs.) from 3 districts of Slovakia. Somatometric (weight, height, BMI, percentage of body fat) and biochemical parameters (total cholesterol, HDL-cholesterol, LDL-cholesterol, triacylglycerols, risk index, vitamin C, albumin and total proteins) were measured as well. Plasma TAS was assessed with RANDOX-Kit (UK). Plasma CD concentration was determined by spectrometric method. Lipid parameters were assessed enzymatically, LDL-cholesterol and RI were counted. Vitamin C was determined by colorimetric method.

Mean (\pm SD) plasma total antioxidant capacity was 2.08 ± 0.63 mmol/L in children and 2.32 ± 0.57 mmol/L in adolescents. We did not observe significant sex differences in total antioxidant status. The differences between districts were significant. Positive correlation was observed between plasma TAS, age and body weight and negative correlation was found between TAS and total proteins, total cholesterol, LDL-cholesterol and risk index. Mean (\pm SD) plasma conjugated diene levels were 1.31 ± 0.49 D/ml in children and 1.45 ± 0.51 D/ml in adolescents. Significant differences were found between districts. No significant age and sex differences were found in conjugated diene levels. Significant negative correlation between total antioxidant capacity and conjugated diene concentration was found in the female group. A significant positive correlation between plasma conjugated diene concentration and total cholesterol, LDL-cholesterol and total protein concentration was observed.

PoS 5

[353]

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MONITORING OF NUTRITIONAL STATUS OF OLYMPIC COLLEGE STUDENTS IN 1995-96

Surveys of dietary intakes and nutritional status of Olympic College students in St. Petersburg were made during a period of economic transformation in 1995-96. The information on food intake was collected using two 24-hour recall interviews.

There was a slight change in food pattern with age and some differences between girls and boys 17 years old. Nutrient intakes did not change significantly during the period of study. Protein contributed about 15% and fat 34-40% of the dietary energy, total energy intake ranged from 4,300 to 5,300 kcal dependent on sports. Bread and bread products, porridge, confectionery, meat and meat products were consumed more frequently and in larger quantities. Milk and dairy products, fruit and vegetables were consumed in small quantities and relatively infrequently.

Diabetes tends to aggregate in families and the risk for relatives is much higher than that in the general population. The evaluation of family history is one of the most useful and practical ways for identifying persons within a population who are at risk for diabetes. A standard medical questionnaire regarding family and personal medical history was filled by 265 students. The concentration of glycated haemoglobin (GH) in blood was assayed by means of affinity chromatography. It was found that 18 young athletes had the first risk group for diabetes. There was a significant difference of GH level in prediabetic young athletes ($5.9 \pm 0.26\%$) and prediabetic sedentary subjects ($6.9 \pm 0.34\%$). The early identification of young athletes at risk for diabetes and appropriate treatment with nutritional intervention should lead to prevention or delay of illness.

PoS 5

[354]

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EXAMINATION OF NUTRITIONAL STATUS OF MEN STARTING MILITARY SERVICE

Examinations of nutritional status of 550 young men, aged 19-20 years starting military service were performed. Estimation of nutritional status was performed based on the parameters body height, body weight, arm circumference, relative body mass indicator (Body Mass

Index), mean of the four skinfold thicknesses. Based on BMI value, each subject was classified to one of the following groups: overweight ($\text{BMI} \geq 24.5$), standard weight ($\text{BMI} = 21.5-24.4$) and underweight ($\text{BMI} \leq 21.4$). Total fat content in organism was estimated using skinfold thicknesses measured according to Durnin and Womersley method. Depending on total fat content, each subject was classified to one of the groups: obese (fat content ≥ 19) standard (18.9-13.1) and with little fat content (≤ 13).

16.8% of the examined soldiers were indicated overweight, while obesity was recorded among 13%. Nutritional status depends on place of living and character of work. From 550 soldiers 289 were from the country and 261 from the cities. Overweight was indicated among 19.5% of the examined coming from the country and among 15.3% coming from the cities. Obesity was indicated among 11.5% of soldiers living in the country and among 13% living in the cities. Occurrence of overweight among the examined coming from the country is connected with their muscular mass as a result of harder physical work. The slightly higher occurrence of obesity among men living in the cities is connected with the different way of life and different kind of work.

PoS 5

[355]

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10 YEARS OBSERVATIONS OF THE INTAKE OF POLYUNSATURATED FATTY ACIDS AND ALFA TOCOPHEROL IN MEN AND WOMEN AGED 35-64 YEARS. FINDINGS OF THE POL-MONICA KRAKOW PROJECT

During the last ten years a remarkable alteration of dietary habits and lifestyle of the Polish population has been noticed. This changes could be related to the observed decrease of mortality and incidence of CHD in early the 1990s.

The aim of the study was to assess changes in polyunsaturated fatty acids (PUFA) and alfa-tocopherol intake. The studied population was over 280,000 men and women aged 35-64, residents of non-urban province, subjected to Pol-Monica-Kraków project. Three independent random samples were screened in 1983/84 ($n=2657$), 1987/88 ($n=1303$), 1992/93 ($n=1287$). Intake of nutrients was assessed by 24-hour recall method. Frequency of selected food items was estimated using a food frequency record.

Total energy from fats as a percent of energy (E%) was 35.7-36.8 E% in men and 33.9-34.4 E% in women. Changes in intake of PUFA and alfa-

tocopherol had similar directions for men and women. The intake of PUFA and alfa-tocopherol decreased in 1987/88 compared to 1984/83. In 1992/93 the intake of PUFA and alfa-tocopherol increased by 43.8% ($p < 0.05$) and 69.6% ($p < 0.05$) in men and 40.1% ($p < 0.05$) and 67.5% ($p < 0.05$) in women as compared to 1987/88. These remarkable changes in the intake of PUFA and alfa-tocopherol found in 1992/93 could be linked to the increased frequency of consumption of vegetable oils and margarines

PoS 5

[356] **!! The abstract PoS 5 [356] Roger J. Neale is cancelled, new abstract will be distributed at poster site !!**
A. M. Donk
L. Silburn,
Group, Sut

THE INFLUENCE OF SELF-REPORTED HEART TROUBLE ON FOOD CONSUMPTION PRACTICES IN ELDERLY PEOPLE

The project "Consumption, diet and ageing: The construction of food choice in later life" funded by the Economic and Social Research Council as part of its programme "The Nations Diet: The Social Science of Food Choice" collected food frequency data over a 4 day period from a random sample of 809 elderly people over the ages of 65 years living in their own homes in Nottingham (population, 300,000) over a 12 month period starting January 1994. A range of physical, demographic and health status factors were also measured.

21.6% of the sample claimed they suffered from heart trouble (HT) but there was no relationship between the presence or absence of HT and social class, life satisfaction score, marital status or income. Approximately one third of all those with HT were "Watching what they ate" and there were several significant differences in food frequency between those with and without HT. Thus those with HT had significant reductions in the consumption of eggs, cream, bacon and liver and there was a significantly greater tendency for those with HT to avoid the consumption of certain types of food completely e.g. cream, milk, steak, chops, sausages and bacon.

With certain cooking practices there was a significantly lower tendency for those with HT to fry certain meats e.g. steak or to add fat in roasting or preparing vegetables. In relation to salt use there was no significant difference in the frequency of adding salt to vegetables or pasta/rice between those with or without HT.

In conclusion it would appear that a proportion of those with HT do make certain changes to food consumption, particularly in relation to fat consumption. The most obvious is a sub-group of perhaps 20 to 30%

who say they avoid certain foods completely which are high in fat or do not add fat in certain types of food preparation.

PoS 6

[361]

Naomi S. Evans, The Passage Day Centre, London (GB)

WE WANT PIES AND CHIPS! OPINIONS OF HOMELESS AND MARGINALISED PEOPLE OF HEALTHY FOOD AND FOOD SUPPLIED BY DAY CENTRES

The general belief is that the barrier to healthy eating patterns amongst homeless and marginalised people is their attitude to food. Previous research has shown that their expressed barrier to change is lack of food choice or money! A nutrition intervention study to improve food produced by Day Centres (DC) for this group of people must therefore assess their opinions to food and potential changes.

A survey to assess their opinions involved a structured questionnaire by a trained interviewer. The questionnaire included basic demographic data, opinions about current food provision and attitudes/preferences to change. An opportunistic sample of 68 people (85% males, 15% females) was collected from two DC in central London. The age distribution up to 65 years was even, however only 4% were over 65. The accommodation status included: rough sleepers (13%); hostel dwellers (21%); people in Bed and Breakfast (6%); flat dwellers (52%) and others (8%). 84% ate at DC at least 2-3 times/week, and for 85% it was their main meal of the day. 44% ate vegetarian food, if available. Boiling was the most popular method for cooking vegetables, although many commented on it being overcooked; 94% liked steamed vegetables. Many current food dislikes were due to cooking methods or use of cheap processed meats. One DC served a fried breakfast, subjects were asked if they would like to see the additional foods included: brown bread, fruit, cereal and yoghurt, 80%, 80%, 75% and 58% respectively said yes. For lunches 90% of those interviewed said they would like salads in the summer, 76% curries and 71% spaghetti bolognese, to give a few examples.

It is clear homeless and marginalised people are reliant on the food served in DC and are open to healthy changes in their diet.

PoS 6

[362]

Lucjan Szponar, Katarzyna Stos, Ewa Matyska, National Food and Nutrition Institute, Warsaw (PL)

THE LEVEL OF KNOWLEDGE OF THE HYGIENE REQUIREMENTS AND THE PRINCIPLES OF ADEQUATE NUTRITION AMONG MASS CATERING STAFF IN POLAND

On the basis of national study results the knowledge on the principles of hygiene and adequate nutrition was assessed in mass catering staff from primary schools and kindergartens (MCSPS and MCSK). A part of the subjects had participated in sanitary training earlier.

The study covered 1336 MCSPS and 1334 MCSK randomly selected from the whole country. For obtaining data, an inquiry method was used, with 90 relevant questions. Subjects could select one correct answer from 4 different possible responses. The level of knowledge was estimated on the base of the number of correct answers. MCSPS obtained on average 63 points and MCSK 64 points. The difference was not significant. Staff of primary school after sanitary training obtained significantly higher numbers of points than non-trained (64.3 and 61.0). The same was observed in kindergarten staff, but the difference was not significant (64.2 and 64.0).

Out of 9 problems connected with the knowledge of the principles of rational nutrition and hygiene requirements the greatest percentage of correct answers was given to the questions related to essential hygienic requirements during meal consumption (average 88.3% in MCSPS and 89.5% in MCSK). The lowest percentage of correct responses was given to questions concerning the rules of hygiene conditions assessment in mass catering places (average 50.4% in MCSPS and 48.8% in MCSK). Staff after sanitary training obtained significantly more points in this subject than non-trained.

Conclusions:

- Mass catering staff in Poland presented insufficient knowledge of the principles of proper nutrition;
 - Periodic sanitary training increases the professional qualifications in mass catering staff from primary schools and kindergartens;
 - The obligatory system of sanitary training is effective and should be continued.
-

PoS 6

[363]

Anja Hensel, I. Binder, K. Gedrich, G. Karg, TU München, Institut für Sozialökonomik des Haushalts, Freising-Weihenstephan (Germany)

COMPUTER-BASED NUTRITION OPTIMIZATION: A NON-FUZZY AND A FUZZY APPROACH TO SUPPORT CHANGES IN PERSONS' FOOD HABITS

Problem: The use of new media and computers for nutritional consulting has considerably increased in the recent past. One opportunity offered by the new media is computer-based nutrition optimization. It shows how a person's food habits (i.e. subjective food requirements) should be changed to meet the recommended nutrient intake (i.e. objective food requirements). Two different approaches evolved: The non-fuzzy and the fuzzy one. The aim of the present study is to examine both approaches in regard to their ability to solve the optimization problem and to show possible consequences of these methods for nutritional consulting.

Methods: Both methods start with a given diet of a person. The traditional non-fuzzy approach uses linear or quadratic programming to compute diets that meet the recommended nutrient intake and change the person's food habits as little as necessary. The new fuzzy approach uses an optimization procedure based on fuzzy logic. Since the recommended nutrient intake is not equivalent to the individual's nutrient requirements, this approach interprets the recommendations as fuzzy. A diet is changed in such a way that the fulfillment of the nutrient recommendations is as high as possible and the change in the person's food habits doesn't exceed a given level.

Results: It can be seen that the fulfillment of a person's subjective food requirements deteriorates when the fulfillment of the objective food requirements is improved and vice versa. Diets optimized with the non-fuzzy approach meet the person's requirements for all nutrients. But for this purpose in general considerable changes of food habits (measured in food portions) are necessary. Using the fuzzy approach the recommendations are met only for some nutrients. For this purpose, however, only little changes of the person's food habits are required.

Conclusions: Both approaches are useful to support the work of nutritional consultants: The results of the non-fuzzy approach can be used as a distant target in changing behaviour. It is to be pursued in several steps. The optimal diet of the fuzzy approach can be used as a first step in changing behaviour. When this step is successfully taken other optimization steps may follow until all nutrient requirements are met. It remains to be settled which of the two approaches is more

suitable to provide a sustainable and complete improvement of persons' nutrition.

PoS 7

[371]

Joel Monárrez, Manfred Braig, Homero Martínez, Tecnológico de Monterrey, Campus Chihuahua and Instituto Nacional de Salud Pública de México (MEX)

AN ETHNOGRAPHIC APPROACH TO DESIGN A FOOD-AID BASKET FOR CHILDREN UNDER 5 YEARS OF AGE IN AN INDIGENOUS AREA OF NORTHERN MEXICO

Introduction: Infant mortality rate among the Tarahumaras of Northern Mexico is the highest among the indigenous populations in the country (95,3x1000). Malnutrition is very often associated with death. This has prompted the Government to offer a food-aid basket to alleviate this problem. However, this aid rarely reaches the child, as the foods offered are not tailored to the Tarahumaras' cultural beliefs of infant feeding.

Objective: This study was conducted to suggest improvements to the governmental food-aid basket based on an ethnographic approach that took into account the cultural acceptability of the foods offered.

Methods: In 6 weeks (Summer '96) we obtained ethnographic information from 94 mothers of children under 3 years selected from 310 households visited in 51 communities of different size and accessibility. We used a combination of methods, including: key informant's free-listing of foods thought appropriate for children; paired comparisons of food preferences; choices of foods to be added/deleted from the governmental basket; structured interviews about mothers' concepts related to infant-feeding practices; focus groups to validate findings in the previous phases, and; non-participant observation.

Results: The foods selected included maize, beans, broad-beans, green peas, noodles, potatoes, milk, sugar and salt. Only four of these nine foods were part of the original government food basket. On the other hand, we found that some traditional food, often targeted for interventions, like pinole (toasted maize powder), were not good suggestions for food aid, as mothers liked to prepare it themselves (to provide care for their family).

Conclusion: External food aid should take into consideration cultural feeding practices. The use of rapid ethnographic techniques proved useful to design a culturally acceptable food-aid basket targeted to children.

PoS 7

[372]

Marjolein Deketh, Universitätsklinikum Carl Gustav Carus, Abteilung Kinderzahnheilkunde, Dresden (D)

INFANT NUTRITION IN CARIES PREVENTION

Since reunification of Germany, caries prevalence in primary dentition has increased in East Germany. This is mainly due to the cariogenic diet of children. For the development of information on appropriate dietary habits for dental health, we studied which meals and foods influenced the cariogenicity of the diet in infants (aged 15-21 months), involved in a dental health prevention programme in Dresden.

409 parents of infants were interviewed on sociodemographic characteristics, dietary and oral hygiene habits of their children. Dietary habits were assessed by a 24-hour recall and a food frequency questionnaire. Cariogenicity of the diet was defined as the number of cariogenic meals per day. Regression analyses were used to determine associations with cariogenicity of the diet.

The mean number of meals consumed by infants was 6.0 in total, 3.0 'main' meals (breakfast, lunch, supper), 1.5 meals 'in between' (morning and afternoon meals) and 1.5 snacks or drinks consumed between the meals. 73% of the 'main' meals, 80% of the meals 'in between' and 67% of the snacks and drinks consumed between the meals were cariogenic.

Frequency of intake of beverages containing sugar, chocolate, 'Milchschnitte' (milk cream cake) and dairy products containing sugar were associated with the cariogenicity of the diet independent of the intake of other sweet foods ($p < 0.05$).

Dental health prevention programmes should inform parents of young children how to reduce the cariogenicity of the diet for example by replacement of cariogenic foods by foods without cariogenic potential. Foods of special interest are beverages containing sugar, chocolate, 'Milchschnitte' and dairy products containing sugar. Dietary advices in dental health education should not contradict general nutritional principles.

PoS 7

[373]

Inga Körtzinger, Mareike Mast, Anika Bumbe, Andreas Grund, Manfred J. Müller, Institute of Human Nutrition and Food Science, Christian-Albrechts-Universität, Kiel (D)

SCHOOL-ORIENTED INTERVENTION FOR THE PREVENTION OF OBESITY AS PART OF KOPS (KIEL OBESITY PREVENTION STUDY)

Introduction: KOPS assesses the nutritional status of 5-6 year old children. Beside nutritional status, nutritional and leisure time behaviour of the children were assessed by a questionnaire. The question is if nutrition knowledge and the level of physical activity can be improved by intervention.

Methods: 258 children took part in nutrition lessons and structured physical activity games. Nutrition knowledge was tested before and six weeks after the intervention, leisure time activities via a parents questionnaire.

Results: Nutrition questionnaires were received of 189 children (95 girls, 94 boys). The highest possible score by correct answers was 14. Improvement after intervention was 3.9 to 6.3 points in boys, 3.9 to 6.5 points in girls. Before the intervention, 75% of the children were not able to group shown food items, afterwards only 31%. More children were able to give information on the sugar content in selected food items after intervention (before: 21% all answers correct, afterwards: 49% all answers correct). In terms of leisure time behaviour 258 children were questioned (125 boys, 133 girls). 34% boys and 44% girls spend 1 to more than 3 hours watching television daily. Association bodyweight/physical activity: $r=0,63$, association fatmass/physical activity: $r=0,29$. The intervention gave high motivation for more physical activity.

Conclusion: Nutrition knowledge and leisure time activities could be improved significantly by intervention.

This study was kindly supported by Bad Schwartau Werke GmbH & Co, E.G. Fresenius Stiftung, Bundesverband der Zuckerindustrie and Team Success AG.

PoS 7

[374]

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**NUTRITIONAL PREVENTION BY EDUCATING CHILDREN:
EVALUATION OF AN EDUCATION PROGRAM SPONSORED BY
THE SAXONIAN MINISTRY OF AGRICULTURE, NUTRITION AND
FORESTRY**

Since 1992 the Saxonian Ministry of Agriculture, Nutrition and Forestry sponsors a program to educate pre-school children and school-children in nutrition. In order to improve knowledge, change attitudes and food habits towards healthy behaviour 60 trained women visit schools or kindergarten where they apply a standardised program developed by the Ministry.

There are a lot of factors influencing the effects of information on attitudes on nutrition and nutrition behaviour. Children are influenced by their parents, siblings and peers. Therefore the project evaluates several aspects of the program as a whole: its costs, its effects, the conditions under which it works or not and takes into consideration alternative channels influencing children. We are interested in the effects as well as in the effectiveness of the program. Finally the results will lead to program modifications and program improvement directly.

Within a control group design treated and not-treated groups are compared regarding knowledge, attitudes and behaviour on nutrition before and after program application. Because there is a deficit in evaluation methods especially in children one of the major problems is the development of adequate language-free methods to assess the children's knowledge, attitudes and behaviour. In cooperation with other health promoting programs we therefore developed a set of measurements for the evaluation of effects on nutrition (see handout).

PoS 7

[375]

Rolf Manz, K. Böhme, B. Apley, J. Margraf, Forschungsverbund Public Health Sachsen, Dresden (D)

**HEALTH AND NUTRITION EDUCATION IN CHILDREN:
EVALUATION OF AN EDUCATION PROGRAM FOR PRE-SCHOOL
AND SCHOOL CHILDREN**

Health education in children including nutrition is expected to be one of the most effective ways in prevention of chronic diseases. For the majority of the prevention concepts a theoretical frame is the behavioural theory i.e. knowledge and attitudes are preconditions for healthy behaviour. Modern prevention programs also take into account the role of environmental conditions like family, school and peers for the development of individual life styles.

Within a general program on health promotion in Saxony children are educated in nutrition. With respect to behavioural theory the program focuses on knowledge and attitudes on nutrition to change food habits towards healthy behaviour. Knowledge and the behaviour of the parents and siblings are also taken into consideration.

To evaluate short and long-term effects of the program a control group design is used. Treated and not-treated groups of children are compared regarding knowledge, attitudes and behaviour on nutrition before and after the program application. 300 treated pre-school and school children (age 5 to 6 years) are compared to 300 control-children (also age 5 to 6). Demographic status and general health behaviour of the family and teachers are considered as background variables. One of the major problems in evaluating effects of health and nutrition education in young children is the development of adequate language-free methods to assess the children's knowledge, attitudes and behaviour. We therefore developed a set of measurements including picture tests, group discussion and behaviour registration. The poster will present preliminary results both on the development of the assessing methods and differences between treatment and control groups.

A M E N D M E N T S

- A) PROGRAMME***
- B) PARTICIPANT LIST***
- C) ABSTRACTS***

30 September 1997

SATURDAY 4 OCTOBER 1997**09.00 - 10.30 *Plenary Session 5***

Chair: Agneta Yngve, Huddinge (S)

09.00 - 09.45 *Anne Keane, London (GB)*

Too Hard To Swallow? The Palatability Of Healthy Eating Advice [109a]

09.45 - 10.30 *Arne Oshaug, Oslo (N)*

Skills Of A Public Nutrition Wizard: Professional Challenge [110]

10.30 - 11.00 *Coffee Break*

11.00 - 12.45 *Plenary Session 6*

Focus Discussion: Public Health Nutrition

Chairs: Aileen Robertson, Copenhagen (DK)

Rolf Rosenbrock, Berlin (D)

Introductory Statements:

Barbara M. Köhler, Berlin (D)

Parallels Meet In Infinity: Public Health Science and Nutrition Science in Germany [111]

Jackie Landman, Edinburgh (GB)

Views From A Bridge: Professionalisation In Dietetics And Nutrition in the UK [112]

Agneta Yngve, Huddinge (S)

Public Health Nutrition Training - A European Project [113]

12.45 - 13.00 *Closing*

THURSDAY 2 OCTOBER 1997**15.30 - 18.30 *Parallel Sessions 1 - 4******Parallel Session 2 Nutrition Surveillance: Results of Dietary Assessment***

Chairs: Ritva Prättälä, Helsinki (SF)

- 15.30 - 16.15 Ritva Prättälä, Ville Helasoja, Anu Kasmel, Jurate Klumbiene, Andrus Lipand, Janina Petkevichiene, Helsinki (SF)
Social And Cultural Differentiation Of Food Habits In Finland And The Baltic Countries [222]
- 16.15 - 16.45 Eva Roos, R. Prättälä, E. Lahelma, P. Kleemola, P. Pietinen, Helsinki (SF)
Socioeconomic differences in the quality of the diet [226]
- 16.45 - 17.15 Stephanie Bodenbach, U. Julius, B. Fegebank, W. Kirch, Dresden (D)
Nutritional Situation In Saxon Prisons [223]
- 17.15 - 17.30 *Apple Break*
- 17.30 - 18.00 Kristina Langnäse, M. J. Müller, Kiel (D)
Nutrition And Health Of A Homeless Population [224]
- 18.00 - 18.30 Beate Schellhorn, Angela Döring, Jutta Stieber, Oberschleißheim (D)
Relation Between The Use Of Vitamin And Mineral Supplements And Educational Attainment: Results From The Who Monica Project Augsburg 1994/95 [225]

B-19 PARTICIPANTS

In order to ease future communication we kindly ask you to check if your address, phone and fax number, and e-mail address given in this amendment or in the programme book are still correct. Please notify the meeting desk if revision is needed or you are not listed at all.

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PaS 2

[226]

Eva Roos, R. Prättälä, E. Lahelma, P. Kleemola, P. Pietinen, National Public Health Institute, Helsinki (SF)

SOCIOECONOMIC DIFFERENCES IN THE QUALITY OF THE DIET

The purpose of this study was to describe how nutrient intake and food consumption varied according to education and household income in men and women. The second aim was to find out to what extent the goals of the national dietary guidelines were met in different socioeconomic groups.

Data used in this study was collected for a random dietary survey using a 3-day estimated food record and a self-administered questionnaire. A random sample of people aged 25-64 years was drawn from the population register from four regions in Finland. The sample was stratified by 10 years age groups regions and sex. 1861 subjects (870 men and 991 women) completed the food records in an acceptable manner (response rate 66%).

The main outcomes measures were food group and nutrient consumption, a saturated fat index, educational level and household income. Men with a higher educational level had a lower energy intake and women with a higher income a lower intake of carbohydrates. The intake of vitamin C and carotenoids increased with increasing socioeconomic status. Otherwise, no socioeconomic differences in energy intake, densities of fat and saturated fat, macronutrient or fibre were found. Higher socioeconomic groups consumed more cheese, vegetables, fruit and berries and candies and less milk, butter and bread. Higher socioeconomic groups did not follow current national dietary guidelines better than lower socioeconomic groups. Higher socioeconomic groups consumed more of modern the recommended foods, such as vegetables and fruit and berries, but less of traditional recommended foods, such as bread and potatoes.