



Medical research in Västmanland

Is there any?

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Föreningen för medicinsk statistiks höstmöte
20 oktober 2015

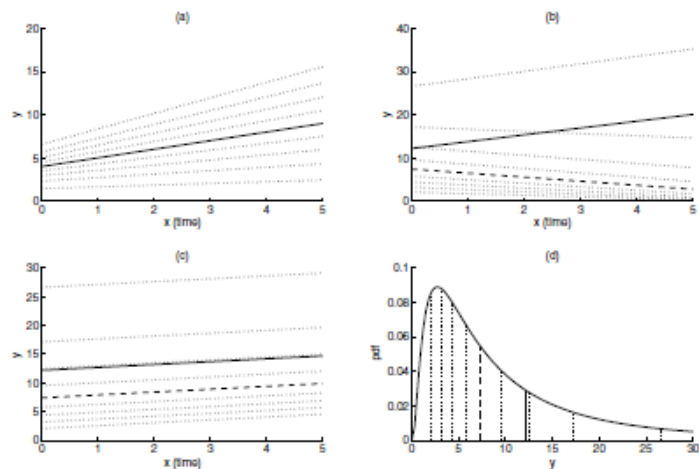
A few words about me

- Ph.D. in statistics, Uppsala University, 2006
- Thesis title: *Estimation and Inference for Quantile Regression of Longitudinal Data: With Applications in Biostatistics*

Estimation and Inference for Quantile Regression of Longitudinal Data

With Applications in Biostatistics

ANDREAS KARLSSON



After dissertation

- Biostatistician at Department of Occupational and Environmental Medicine, Uppsala University, 2006-2007
- Biostatistician/research assistant/researcher at Centre for Clinical Research Västerås since 2007
- Associate professor (*Docent*) in Applied medical statistics and epidemiology, Uppsala University, 2014

Centre for Clinical Research Västerås

Centrum för klinisk forskning Västerås (CKF)

- Joint venture between Uppsala University and Västmanland County Council (*Landstinget Västmanland*) since 1999
- Coordinating clinical research in Västmanland County Council
- Academically part of the Medical Faculty, Uppsala University, but located in Västerås
- Economically part of Västmanland County Council (i.e., they pay the bills)
- Other centres: CKF Dalarna, CKF Gävleborg, CKF Södermanland

In the shadow of Stockholm, Uppsala and Örebro...



Researchers

- Employed by Västmanland County Council (or affiliated organizations)
- Doctors, nurses, midwives, dieticians, physiotherapists, psychologists, public health scientists, dentists, ...
- Usually Ph.D. student or post doc
- Writing single paper or a thesis
- 46 dissertations since 1999
- Ph.D. students registered mainly at Uppsala University, but also at Karolinska Institutet, Lund University, Linköping University, Örebro University, ...

23 Ph.D. students (2014)

University	n	%
Uppsala	15	65.2
KI	4	17.4
Lund	2	8.7
Linköping	1	4.3
Örebro	1	4.3

23 Ph.D. students (2014)

Occupation	n	%
Doctor	12	52.2
Psychologist	2	8.7
Dentist	1	4.3
Dietician	1	4.3
Midwife	1	4.3
Nurse	1	4.3
Pharmacist	1	4.3
Physiotherapist	1	4.3
Public health scientist	1	4.3
Social worker (<i>socionom</i>)	1	4.3
Statistician	1	4.3

Research areas

- Cardiology
- Dentistry
- Emergency medicine
- Medical informatics
- Nursing
- Nutrition
- Oncology
- Otorhinolaryngology
- Physiotherapy
- Psychology/psychiatry
- Public health
- Sexual and reproductive health
- Surgery

Types of studies

- Intervention studies (RCT)
- Observational studies
 - Cohort studies
 - Cross-sectional studies
 - Case-control studies
 - Matched case-control studies
 - Cross-over studies
 - Register studies

Helping the researchers with...

- Writing grant applications
- Study planning
- Power calculations
- Study design
- Randomization
- Data management
- Statistical analyses
- Construction of graphs and tables
- Interpreting the results
- Writing manuscripts (mainly Methods and Results)
- Answering comments from referees
- Supervising of theses

Required statistical skills

Comprehensive knowledge about application of biostatistical methods:

- Descriptive statistics
- Factor analysis
- Power analysis / sample size calculations
- Randomization
- Regression analyses (Cox, GEE, linear, logistic)
- Reliability and validity
- Repeated measures
- Sensitivity and specificity
- Survival analysis / time-to-event analysis

Required skills for interaction with clinicians

- Ability to structure a clinician's research question/problem
- Cut to the core of the problem
- Translate it to statistical terms - formulate a hypothesis
- Pedagogic skills for **communicating results to clinical researchers** with limited knowledge of statistical methods
- Translate results back to clinical terms
- Interpretation, interpretation, interpretation ...

Lessons learned

- **Optimal** methods are **not** always the **best** methods
- The best statistical method is the one giving results that are easily interpretable for the clinician
- If the results cannot be translated to clinical terms, the statistical method is useless
- "Quick and dirty" methods are often useful (often due to time constraints)
- All results and conclusions are (more or less) approximate

The most important lesson...

"To consult the statistician after an experiment is finished is often merely to ask him to conduct a post-mortem examination. He can perhaps say what the experiment died of."

R. A. Fisher (1890-1962)

He was right!

Examples of published articles

- Cardiology

Eur J Epidemiol (2012) 27:647–655

DOI 10.1007/s10654-012-9713-7

BODY MASS INDEX

Intelligence level in late adolescence is inversely associated with BMI change during 22 years of follow-up: results from the WICTORY study

Andreas Rosenblad · Göran Nilsson ·
Jerzy Leppert

Scandinavian Journal of Psychology, 2014, 55, 601–610

DOI: 10.1111/sjop.12162

Personality and Social Psychology

Prevalence of Type D personality and factorial and temporal stability of the DS14 after myocardial infarction in a Swedish population

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²Department of Neuroscience, Uppsala University, Sweden

- Emergency Medicine

Källestedt et al. *Scandinavian Journal of Trauma, Resuscitation and Emergency Medicine* 2010, **18**:43
<http://www.sjtreem.com/content/18/1/43>



ORIGINAL RESEARCH

Open Access

Hospital employees' theoretical knowledge on what to do in an in-hospital cardiac arrest

Marie-Louise Södersved Källestedt^{1*}, Andreas Rosenblad¹, Jerzy Leppert¹, Johan Herlitz², Mats Enlund¹

- Medical informatics

INTERNATIONAL JOURNAL OF MEDICAL INFORMATICS 80 (2011) 663–668



ELSEVIER

journal homepage: www.ijmijournal.com



Reporting systems, reporting rates and completeness of data reported from primary healthcare to a Swedish quality register – The National Diabetes Register

Eva Thors Adolfsson, Andreas Rosenblad*

Centre for Clinical Research, Uppsala University, Central Hospital, 721 89 Västerås, Sweden

- Nutrition

British Journal of Nutrition (2015), **114**, 915–923
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doi:10.1017/S0007114515002317

A high energy intake from dietary fat among middle-aged and older adults is associated with increased risk of malnutrition 10 years later

Lisa Söderström^{1,2,*}, Andreas Rosenblad¹, Eva T. Adolfsson¹, Alicja Wolk³, Niclas Håkansson³ and Leif Bergkvist¹

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Clinical Nutrition 33 (2014) 354–359



Contents lists available at SciVerse ScienceDirect

Clinical Nutrition

journal homepage: <http://www.elsevier.com/locate/clnu>



Original article

Nutritional status predicts preterm death in older people: A prospective cohort study

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^c*Department of Surgery, Västmanland County Hospital, 721 89 Västerås, Sweden*



- Oncology

Journal of Psychosomatic Research 74 (2013) 346–353



Contents lists available at SciVerse ScienceDirect

Journal of Psychosomatic Research



Long-term follow-up of a randomized study of support group intervention in women with primary breast cancer

Helena Granstam Björneklett ^{a,c,*}, Andreas Rosenblad ^c, Christina Lindemalm ^b, Marja-Leena Ojutkangas ^c, Henry Letocha ^a, Peter Strang ^d, Leif Bergkvist ^{c,e}

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^e Department of Surgery, Västmanland County Hospital, Västerås, Sweden

Acta Oncologica, 2013; 52: 38–47

informa
healthcare

ORIGINAL ARTICLE

A randomized controlled trial of support group intervention after breast cancer treatment: Results on sick leave, health care utilization and health economy

HELENA GRANSTAM BJÖRNEKLETT^{1,3}, ANDREAS ROSENBLAD³,
CHRISTINA LINDEMALM², MARJA-LEENA OJUTKANGAS³,
HENRY LETOCHA¹, PETER STRANG⁴ & LEIF BERGKVIST^{3,5}

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- Otorhinolaryngology

Acta Oto-Laryngologica, 2011; 131: 79–83

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healthcare

ORIGINAL ARTICLE

A radiofrequency vs topical steroid treatment of chronic nasal obstruction: A prospective randomized study of 84 cases

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¹ENT-Head-Neck Surgery, Central Hospital, Vasteras and ²Uppsala University, Centre for Clinical Research, Central Hospital, Vasteras, Sweden

- Public health

PRIMARY CARE DIABETES 4 (2010) 91–97



Contents lists available at ScienceDirect

Primary Care Diabetes

journal homepage: <http://www.elsevier.com/locate/pcd>



Original research

The Swedish National Survey of the Quality and Organization of Diabetes Care in Primary Healthcare—Swed-QOP

Eva Thors Adolfsson^{a,b,*}, Andreas Rosenblad^b, Karin Wikblad^a

^a Department of Medical Sciences, Faculty of Medicine, Uppsala University, Uppsala, Sweden

^b Centre for Clinical Research, Uppsala University, Central Hospital, Västerås, Sweden

Scandinavian Journal of Public Health, 2014; 42: 734–742

ORIGINAL ARTICLE

A case-control study of self-reported health, quality-of-life and general functioning among recent immigrants and age- and sex-matched Swedish-born controls

MONICA LÖFVANDER^{1,2,3}, ANDREAS ROSENBLAD¹, TONY WIKLUND¹, HALINA BENNSTRÖM⁴ & JERZY LEPPERT¹

¹Centre for Clinical Research Västmanland – Uppsala University, Sweden, ²Center for Family Medicine, Department of Neurobiology, Caring Sciences and Society, Karolinska Institutet, Sweden, ³Department of Public Health and Caring Sciences, Family and Preventive Medicine, Uppsala University, Sweden, and ⁴Centre for Asylum and Integration Health, Sweden



- Sexual and reproductive health

Upsala Journal of Medical Sciences. 2012; 117: 430–438

informa
healthcare

ORIGINAL ARTICLE

The association between perceived relationship discord at childbirth and parental postpartum depressive symptoms: a comparison of mothers and fathers in Sweden

BIRGITTA KERSTIS¹, GABRIELLA ENGSTRÖM², KRISTINA SUNDQUIST³,
MARGARETA WIDARSSON¹ & ANDREAS ROSENBLAD¹

¹*Centre for Clinical Research, Uppsala University, Central Hospital, Västerås, Sweden,* ²*School of Health, Care and Social Welfare, Mälardalen University, Eskilstuna, Sweden,* and ³*Primary Health Care Research, Clinical Research Centre, Lund University, Malmö, Sweden*

And sometimes one has to act proactively and write a Letter to the Editor in order to protect a Ph.D. student...

Journal of Nutrition in Gerontology and Geriatrics, 32:258–260, 2013

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ISSN: 2155-1197 print/2155-1200 online

DOI: 10.1080/21551197.2013.810532



Letters to the Editor

Evaluating the Predictive Abilities of Nutritional Screening Tools in Relation to Health Outcomes: Concerns About the Statistical Approach

Thanks for your attention!

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