Medical research in Västmanland

Is there any?

Andreas Rosenblad

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)

<table>
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<tr>
<th>University</th>
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<td>Uppsala</td>
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<td>KI</td>
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<tr>
<td>Lund</td>
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<tr>
<td>Linköping</td>
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<td>4.3</td>
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## 23 Ph.D. students (2014)

<table>
<thead>
<tr>
<th>Occupation</th>
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<tbody>
<tr>
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<tr>
<td>Pharmacist</td>
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<td>4.3</td>
</tr>
<tr>
<td>Physiotherapist</td>
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<td>4.3</td>
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<tr>
<td>Public health scientist</td>
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<td>4.3</td>
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<tr>
<td>Social worker (<em>socionom</em>)</td>
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<td>4.3</td>
</tr>
<tr>
<td>Statistician</td>
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</tbody>
</table>
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
"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

DOI 10.1007/s10654-012-9713-7

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

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

Emelie Condén,1 Andreas Rosenblad,1 Lisa Ekselius2 and Cecilia Åslund1

1Centre for Clinical Research, Uppsala University, Västmanland County Hospital, Västerås, Sweden
2Department of Neuroscience, Uppsala University, Sweden
Hospital employees’ theoretical knowledge on what to do in an in-hospital cardiac arrest

Marie-Louise Södersved Kallestedt, Andreas Rosenblad, Jerzy Leppert, Johan Herlitz, Mats Enlund
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
A high energy intake from dietary fat among middle-aged and older adults is associated with increased risk of malnutrition 10 years later

Lisa Söderström¹,²*, Andreas Rosenblad¹, Eva T. Adolfsson¹, Alicja Wolk³, Niclas Håkansson³ and Leif Bergkvist¹

¹Centre for Clinical Research, Uppsala University, County Council of Västmanland, Västmanland County Hospital, 721 89 Västerås, Sweden
²Department of Public Health and Caring Sciences: Clinical Nutrition and Metabolism, Uppsala Science Park, Uppsala University, 751 85 Uppsala, Sweden
³Division of Nutritional Epidemiology, Institute of Environmental Medicine, Karolinska Institutet, 171 77 Stockholm, Sweden


Original article

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

Lisa Söderström²,³*, Andreas Rosenblad¹,², Eva Thors Adolfsson¹,³,³, Anja Saletti¹,², Leif Bergkvist¹,³,³

¹Centre for Clinical Research, Uppsala University, County Council of Västmanland, Västmanland County Hospital, 721 89 Västerås, Sweden
²Department of Public Health and Caring Sciences, Clinical Nutrition and Metabolism, Uppsala Science Park, Uppsala University, 751 85 Uppsala, Sweden
³Department of Surgery, Västmanland County Hospital, 721 89 Västerås, Sweden
Long-term follow-up of a randomized study of support group intervention in women with primary breast cancer

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

a Department of Oncology, Västmanland County Hospital, Västerås, Sweden
b Immune and Gene Therapy Laboratory, Cancer Center Karolinska, Karolinska University Hospital, Solna, Sweden
c Centre for Clinical Research, Uppsala University, Västmanland County Hospital, Västerås, Sweden
d Karolinska Institutet, Stockholm, Stockholm, Sweden
e Department of Surgery, Västmanland County Hospital, Västerås, Sweden

Acta Oncologica, 2013; 52: 38–47

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 BJÖRNEKLETT1,3, ANDREAS ROSENBLAD3, CHRISTINA LINDEMALM2, MARJA-LEENA OJUTKANGAS3, HENRY LETOCHA1, PETER STRANG4 & LEIF BERGKVIST3,5

1Department of Oncology, Västmanland’s County Hospital, Västerås, Sweden, 2Immune and Gene Therapy Laboratory, Cancer Center Karolinska, Karolinska University Hospital, Solna, Sweden, 3Centre for Clinical Research, Uppsala University, Västmanland’s County Hospital, Västerås, Sweden, 4Karolinska Institute, SSH Stockholm, Sweden, and 5Department of Surgery, Västmanland’s County Hospital, Västerås Sweden
A radiofrequency vs topical steroid treatment of chronic nasal obstruction: A prospective randomized study of 84 cases

SHEMAL CELIKER¹, ANDREAS ROSENBLAD² & BO WILHELMSSON¹

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

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

Eva Thors Adolfssohn, Andreas Rosenblad, Karin Wikblad

Department of Medical Sciences, Faculty of Medicine, Uppsala University, Uppsala, Sweden
Centre for Clinical Research, Uppsala University, Central Hospital, Västerås, Sweden


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, ANDREAS ROSENBLAD, TONY WIKLUND, HALINA BENNSTRÖM & JERZY LEPPERT

Centre for Clinical Research Västmanland – Uppsala University, Sweden, Center for Family Medicine, Department of Neurobiology, Caring Sciences and Society, Karolinska Institutet, Sweden, Department of Public Health and Caring Sciences. Family and Preventive Medicine, Uppsala University, Sweden, Centre for Asylum and Integration Health, Sweden
The association between perceived relationship discord at childbirth and parental postpartum depressive symptoms: a comparison of mothers and fathers in Sweden

BIRGITTA KERSTIS\textsuperscript{1}, GABRIELLA ENGSTRÖM\textsuperscript{2}, KRISTINA SUNDQUIST\textsuperscript{3}, MARGARETA WIDARSSON\textsuperscript{1} & ANDREAS ROSENBLAD\textsuperscript{1}

\textsuperscript{1}Centre for Clinical Research, Uppsala University, Central Hospital, Västerås, Sweden, \textsuperscript{2}School of Health, Care and Social Welfare, Mälardalen University, Eskilstuna, Sweden, and \textsuperscript{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...

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!

Contact: andreas.rosenblad@ltv.se