**General PhD degree**

Name: Zheer Kejlberg Al-Mashhadi ***Pharmacological risk factors for fracture in type 2 diabetes mellitus***

Title: MD, PhD Date: May 19–Jul 22 (degree awarded 25 Sep 2023)

Authorisation ID: 0CPL8 Institution: Aarhus University (AU) & Steno

Diabetes Center Aarhus (SDCA)

Advisor: Prof. Søren Gregersen, consultant, PhD

Discipline: Pharmacoepidemiology

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GitHub: https://github.com/zheer-kejlberg Period: Feb 12–Jan 18

ORCID: 0000-0003-1201-199X Institution: Dept. of Clinical Medicine, Aarhus University

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| **Clinical work** |
| Apr 24–… **Senior House Officer General medicine,** Lægehuset Marselisv. Læge Karen Kjær Larsen  Nov 23–Mar 24 **Part-time locum Regional Psychiatry, Viborg**, Central Denmark Region  Jul 23–Oct 23 **Senior House Officer, pt. 2 Dept. of Endocrinology and Internal Medicine,** AUH  May 23–Jun 23Research leave*2 months’ leave to finish PhD thesis*  Aug 22–Apr 23 **Senior House Officer, pt. 1 Dept. of Endocrinology and Internal Medicine,** AUH  May 19–Mar 21 **Part-time locum AUH Psychiatry,** Central Denmark Region  Nov 18–Apr 19 **House Officer** (”KBU”) **Dept. of Psychosis (S7),** AUH Psychiatry  May 18–Oct 18 **House Officer** (”KBU”) **Dept. of Endocrinology and Internal Medicine,** AUH  Feb 18–Apr 18 **House Officer** (”pre-KBU”) **Dept. of Endocrinology and Internal Medicine,** AUH  Aug 16–Dec 16 **Student internship** **Dept. of Cardiology,** Aalborg University Hospital  **Course participation**  Nov 19 **Basal Metabolism and Molecular Mechanisms in Diabetes** (2.30 ECTS), Danish Diabetes Academy  Apr 16 **Akutte invasive procedurer**,SATS Aarhus  Apr 16 **Emergency medicine, level 2**, OAMS (Oslo Akuttmedisinske Studentforening), Oslo, Norge  Sep 15 **Diving Medicine Summer School,** Dive with Doctors, Dahab, Egypten  Sep 14 **SATS Katastrofekursus,** SATS Aarhus |
| **Communication** |
| 2020–2022 **Q&A forum:** **300+ questions answered** (Facebook page ”Ask a doctor about coronavirus”)  Award **Best Flash Talk**, PhD Day 2020, Health, AU  **Teaching**  Oct 18 3 hours, **Communication in medicine** (medical and nursing students), Student associations: PUST & SATS, AU  Sep 17 3 hours, **Crisis communication in medicine** (medical students), Student association: SATS, AU  **Presentations**  Sep 22 **Pharmacological risk factors for fracture in type 2 diabetes mellitus**,Thursday Meeting, Dept. of Endocrinology  Jun 22 **Pharmacological risk factors for fracture in type 2 diabetes mellitus**,Clinical conference, SDCA  Mar 22 **Undertaking a PhD**,Steno Thursdays, SDCA  Dec 21 **The insulin suppression test as an alternative to HIEC for measuring insulin sensitivity**,META lab meeting, SDCA  Feb 20 **Measuring insulin sensitivity: the insulin suppression test and HIEC**,Thursday Meeting, Dept. of Endocrinology  Jan 20 **Diabetic bone disease**,Reaven-lab, Stanford Cardiovascular Medicine, CA, USA  **Course participation**  Jun 21 2.60 ECTS , **Advanced Course in Written English**,Health, AU  Feb 20 2.80 ECTS , **Research Presenter – Educational Informatics**,Health, AU  Feb 20 2.70 ECTS , **Principium – PhD students as teachers and learners**, Health, AU |
| **Collaboration** |
| May 20–Sep 21 **Board member, The PhD association**, Health, AU  Oct 15–Oct 17 **Board member, SATS Aarhus** (Students’ Anaesthesiologic and Traumatological Society)  Oct 15, 16 & 17 **Course organiser** for **SATS Catastrophe Course** x 3, SATS Aarhus  Maj 16 **Junior Organiser**, EMS2016 conference, Emergency Medical Services, The Capital Region of Denmark and TrygFonden |
| **Organisation and administration** |
| May 24–… Performed **quality improvement project** on uric acid arthritis, Lægehuset Marselis  Nov 22–Apr 23 **Clinical supervisor** for house officer (“KBU-læge”)  Jan 21–Jan 23 **Early clinical rotation organiser** (2nd semester medical students), Dept. of Endocrinology, AUH  Feb 20–Feb 22 **Member** of the **PhD committee** and the **subcommittee for credits and waivers**, The Graduate School of Health, Health, AU  Nov 19–May 22 **Thursday meeting planner** (weekly scientific meetings), Dept. of Endocrinology, AUH  Jan 19–Apr 19 **Holiday shift planner**, junior physicians, AUH Psychiatry |
| **Health advocacy** |
| Co-author Two chapters in the book **”Kvalitet og patientsikkerhed under covid-19”** (Quality and patient safety during covid-19)  Published by the Danish Society for Patient Safety.  Sep 20 Recipient of the **Patient Safety Award 2020** along with the other contributors on “Ask a doctor about coronavirus”.  Awarded by the Danish Society for Patient Safety.  Feb 18 **Instructor: Basic CPR** (6 hours), Salling Group  Mar 16 **First aid provider** (8,5 hours), Rally Midtjylland |
| **Research and academia** |
| Publications **First authorships**: 4 **Co-authorships**: 8  Google Scholar **Citations**: 178 **H-index**: 8 **I10-index**: 8  Scopus **Citations**: 128 **H-index**: 8  **Positions**  Feb 25—… **Postdoc**, Steno Diabetes Center Aarhus, part-time (40%)  Prediction of type 2 diabetes and medication responses  May 19–Jul 22 **PhD student**, Steno Diabetes Center Aarhus and Aarhus University  **Miscellaneous roles**  May 21–Jul 22 **Co-investigator, Step-10**, Novo Nordisk  Efficacy and safety of once-weekly semaglutide 2.4 mg versus placebo in people with obesity and prediabetes  May 19–Jul 22 **Co-investigator, The SOUL Trial**, Novo Nordisk  Semaglutide Cardiovascular Outcomes Trial in Patients with Type 2 Diabetes Mellitus  Novo Nordisk  Feb 17–Jun 17 **Clinical Research Assistant**, NeuRescue ApS  **Current collaborations and projects**  #1 **Constitutional chromosomal abnormalities and adverse outcomes of COVID-19: a nationwide study**,  Collaboration: Dept. of Clinical Epidemiology, Dept. of Clinical Genetics & Dept. of Endocrinology, Aarhus University Hospital  #2 **Metcercise**, randomised controlled trial on the effects of exercise on bone health in type 2 diabetes  Collaboration: Steno Diabetes Center Aarhus & Steno Diabetes Center North Denmark (SDCN)  #3 **HEADWISE**, national stepped-wedge cluster-RCT comparing different algorithms for cerebral CT after mild head trauma.  Collaboration: Dept. of Radiology, Aarhus University Hospital, “Vælg Klogt”, and the HEADWISE consortium  **Research stays**  Jan 20 **Stanford Cardiovascular Medicine**, CA, USA  2 week personal training in the insulin suppression test with Dr. Fahim Abbasi og Dr. Joshua Knowles, Reaven-lab.  Nov 21 **Steno Diabetes Center North Denmark**, Aalborg, DK  4 week research stay with Prof. Peter Vestergaard  **Conference presentations**  Sep 22 **Short oral presentation**, **EASD** (European Association for the Study of Diabetes), Stockholm, Sweden  “Fracture risk in treatment with GLP-1RA compared to DPP-4i”  Jun 22 **Oral presentation**, **DES** (Dansk Society for Endocrinology) conference 2022, Kolding, Denmark  ”SGLT2 inhibitor treatment does not increase risk of osteoporotic fractures compared to GLP-1 receptor agonists”  May 22 **Oral presentation**, **ECE** (European Congress of Endocrinology), Milano, Italy  “SGLT2 inhibitor treatment does not increase risk of osteoporotic fractures compared to GLP-1 receptor agonists”  May 22 **Oral presentation**, **SSSD** (Scandinavian Society for the Study of Diabetes), Reykjavik, Iceland  “Fracture risk in treatment with GLP-1 RA compared to DPP4-I”  **Other scientific meetings**  Dec 22 **Oral presentation**, The Dept. of Endocrinology & SDCA symposium  “Systemic glucocorticoid use increases fracture risk independently of type 2 diabetes mellitus”  Jun 22 **Poster**, Steno Research Retreat  “SGLT2-I treatment is not associated with an increased risk of osteoporotic fractures when compared to GLP-1 RA”  Nov 21 **Oral presentation**, SDCA-SDCN research symposium  “Diabetic bone disease”  Jan 21 **Online poster**, PhD Day 2021, Health, AU  “SGLT2-inhibitors and fracture risk”  Jan 20 **Flash talk**, PhD Day 2020, Health, AU  “Diabetic bone disease”  **Teaching**  (active teaching hours stated)  13h 30m **Clinical teaching** (medical students, 2nd semester), Dept. of Endocrinology, AUH  42h 30m **Simulation: Emergency medicine week** (medical students, 12th semester), Health, AU  03h 00m **Lecture: Basic diabetology** (molecular medicine students, 9th semester), Health, AU  92h 00m **Instructor: Basic CPR** (medical students, 2nd semester), Health, AU  29h 45m **Simulation: Emergency medicine and communication** (medical students), SATS Catastrophe Course & The FAM Day  26h 45m **Teaching and simulation: Emergency medicine** (medical students), SATS Aarhus  35h 00m **Practical training: venous access, arterial blood gas, ultrasound/eFAST** (medical students), FADL, SATS Aarhus  03h 00m **Practical training: Thoracostomy on pigs** (medical students), SATS Aarhus  **Peer reviewer**  Journals Frontiers in Endocrinology  Basic & Clinical Pharmacology & Toxicology  Scientific Reports  **R-udvikler**  R-packagehttps://github.com/zheer-kejlberg/**Z.gtsummary.addons**  Open-source R-package to add SMD-values and to mask microdata in baseline tables developed using {gtsummary}  R-packagehttps://github.com/zheer-kejlberg/**publistR**  An R-package to easily create structured and formatted publication lists  **Course participation**  May 22 3.10 ECTS , **Causal Inference in Health Science**, Health, AU  Mar 22 2.00 ECTS , **Which Covariates to Adjust for: An introduction to causal directed acyclic graphs**, Health, AU  Mar 22 3.10 ECTS , **Introduction to Machine Learning in Health Sciences**, Health, AU  Oct 21 5.00 ECTS , **Stanford Medical Statistics Certificate**, Stanford Online  Oct 20 4.70 ECTS , **Applying Clinical Epidemiological Methods and Danish databases to study chronic disease**, Health, AU  Sep 19 3.00 ECTS , **Responsible Conduct of Research**, Health, AU  Sep 19 1.40 ECTS , **Data Management and Stata**, Health, AU  May 19 **GCP: Good Clinical Practice,** Brookwood Academy  Jan 16–Jun 16 5.00 ECTS , **Clinical Epidemiology** (elective course, 9th semester), Health, AU  **Additional conference participation**  Mar 17 **NAMS** (Norsk Akutmedicinsk Studenterforum), NTNU, Trondheim, Norge  Apr 17 **Prehospital Medicine Against the Elements**, St. Bartholomew’s Hospital, London, UK  May 16 **EMS2016** (Emergency Medical Services), Emergency Medical Services and TrygFonden, Copenhagen, DK |
| **Miscellaneous** |
| Languages Danish, English, Arabic (Iraqi), Kurdish (Sorani)  Software Languages: R (level: high), Python (intermediate), Matlab (beginner), STATA (beginner)  IDE: RStudio, Spyder.  Version Control: Git + GitHub.  Package and environment management: Homebrev, conda, pip  Memberships Danish Medical Association and Junior Doctors’ Association  Danish Society for Endocrinology and The Society for Young Endocrinologists  Dansk Society for Pharmacoepidemiology |