

Farimah Shamsi, Ph.D.

Biostatistics | Curriculum vitae



Dept of Biostatistics and Epidemiology, Shahid Sadoughi University of Medical Sciences, Iran
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🌐 farimah shamsi • 📄 Farimah-Shamsi

SUMMARY OF QUALIFICATION

- Assistant Professor of Biostatistics more than 4 years (more than 5 years experience in teaching Biostatistics, Applied statistical methods, Linear models in statistics, Survival analysis, Fundamentals of statistical genetics and Research methods).
- Passionate research scientist with over 11 years of experience in both theoretical and clinical applied statistics.
- Special expertise in design, data analysis, interpretation and preparing manuscript of cancer studies (population based and observational studies), survival studies (observational and clinical trials) and longitudinal studies (observational and clinical trials).
- Experienced with R (RStudio), python, SPSS and STATA; and familiar with SAS.
- Familiar with PLINK, and Bioconductor to analysis TCGA and TCIA data.
- Familiar with Genome Wide Association studies-GWAS (linkage analysis and fine-mapping (Bayes factor and hierarchical Bayes to define causal variants), GWAS+eQTL (Colocalization Analysis to nominate likely target genes, Mendelian Randomization).
- Interested in computational statistics, high-dimensional and genomics computational methods.

EDUCATION

- **Ph.D. in Biostatistics** [Feb 2015–Sep 2019]
Department of Biostatistics, School of Allied Medical Sciences, Shahid Beheshti University of Medical Sciences, Tehran, Iran

Ph.D. Dissertation

Title: *Bayesian Approach for Cure Models with a Change-point based on Covariate Threshold; Application in Breast Cancer Patients*

Supervisor: Associate Prof. Ahmad Reza Baghestani

Description: In this dissertation, Bayesian technique was used for detection of a change-point in a continuous variable in mixture cure models in survival data. Different simulation scenarios were used for evaluation of the accuracy of proposed method. In addition it was used in real data set of breast cancer patients.

- **M.Sc. in Biostatistics** [Sep 2009–Jul 2012]
Department of Biostatistics and Epidemiology, Kerman University of Medical Sciences, Kerman, Iran

Master Thesis

Title: *Comparison of Statistical Methods in Testing of Hardy-Weinberg Equilibrium in Case-control Genetic Association Studies*

Supervisor: Prof. Abbas Bahrampour

Description: In this thesis, new modification of Chan-Chatterjee test, Wald test and Likelihood ratio test were used for evaluation of Hardy-Weinberg Equilibrium rule in MTHFR C677T SNP in women with recurrent abortion through a case-control study. In this study, different models based on recessive, dominant and multiplicative type were tested.

- **B.Sc. in Statistics** [Sep 2001–Jul 2006]
Department of Statistics, Faculty of Mathematical Sciences, Ferdowsi University of Mashhad, Mashhad, Iran

RESEARCH EXPERIENCES

- **Hematology and Oncology Research Center, Shahid Sadoughi Hospital** [Jan 2020–present]
Shahid Sadoughi University of Medical Sciences, Yazd, Iran
- Collaborate with many of researchers via designing studies and statistical analysis of data from cancer studies and statistical analysis of data from randomized clinical trial studies
- **Center of Healthcare Data Modeling, School of Public Health** [Jan 2020–present]
Shahid Sadoughi University of Medical Sciences, Yazd, Iran
Researched the various methods for prediction in high dimensional data in cancer studies
- The Bayesian method for parameters estimation in survival data with cure fraction
- The statistical learning methods for prediction in high dimensional data and statistical genetic methods
- **Shahid Sadoughi Hospital, Research and develop Center** [Aug 2015–present]
Shahid Sadoughi University of Medical Sciences, Yazd, Iran
Collaborate with researchers from different fields in clinical studies and enhancing the knowledge of researcher through various workshops
- designing different clinical studies, data analysis and development of manuscripts and abstracts including case-control, cohort, longitudinal, diagnostic, and randomized clinical trial studies
- workshops in application of categorical data analysis, multivariate data analysis, logistic regression analysis, linear regression and mixed effect models

TEACHING EXPERIENCE

- **Assistant Professor of Biostatistics** [Spring 2020–present]
Biostatistics, Survival Analysis, Linear Models, Bayesian Methods in Survival Analysis, Application of statistical methods in Medical Sciences (genetics, hematology, and immunology), Research Methods in Medical Research
Department of Biostatistics and Epidemiology, School of Public Health, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.
- **Instructor (part-time)** [Fall 2012–Spring 2015]
Basic Biostatistics, Statistical analysis and interpretation of Data, Application of Statistical Software, Research Methodology
Department of Biostatistics and Epidemiology, School of Public Health, Shahid Sadoughi University of

SELECTED PEER-REVIEWED PUBLICATIONS

Published/Accepted

1. T Fallah Tafti, H Fallahzadeh, Jafari Nedooshan, P Bastani, Y Ghelmani, **F Shamsi**. Evaluation of Factors Related to Short-Term and Long-Term Distant Metastasis Free survival in Patients with Early-stage of Breast Cancer by Semiparametric Mixture Cure Model. 2023
2. **F Shamsi**, M Karimi, Z Nafei, E Akbarian. Survival and Mortality of Hospitalized Children with COVID-19: A Referral Center in Yazd, Iran. Canadian Journal of Infectious Diseases and Medical Microbiology, 2023.
3. Y Ghelmani, T Fallah Tafti, **F Shamsi**. The Effect of Age-Threshold on COVID-19 Patients Cure Rate: A Historical Cohort Study. Journal of Kerman University of Medical Sciences, 2023.
4. Fallah B, Nasiriani K, Adham M, Fallah Faragheh A, Fathi F, **F Shamsi**. The Relationship between Caregiver Burden and Spiritual Intelligence in Caregivers of Breast Cancer Patients. Journal of Kerman University of Medical Sciences, 2023.
5. F Abbasi, R Davar, **F Shamsi**, S Dashti. Insulin-like growth factor-1 on cycle day 2 and assisted reproductive techniques outcome. International Journal of Reproductive Biomedicine, 2023.
6. A Hashemi, M Zangeneh, E Sheikhpour, F Ghanizadeh, **F Shamsi**, B Fallah, L Kazemy, The effect of erythropoietin on blood parameters in thalassemia intermedia patients. Iranian Journal of Pediatric Hematology Oncology, 2022.
7. M Dehghanian, G Yarahmadi, RS Sandoughsaz, **F Shamsi**, M Y Vahidi Mehrjardi. Evaluation of Rap1GAP and EPAC1 Gene Expression in Endometriosis Disease. Advanced Biomedical Research, 2022.
8. A Dehghan, H Soleimani Salehabadi, A Jamshidi, Z Kamali, M Mali, S T Faezi, A Baghdadi, S Alesaeidi, F Sahraei, N Azizi, S Zand, S S Yasini, M Namazi, A Daya, R Nazemian, **F Shamsi**, M Nejadhosseini, F Davatchi. Epidemiology of musculoskeletal symptoms, rheumatologic disorders, and disability in the Zoroastrian population in Yazd, Iran: a WHO-ILAR COPCORD study (stage 1). BMC Rheumatology, 2021.
9. M Padidarani, M Mirzaei, **F Shamsi**, S M Kalantar, M H Sheikhha. Investigating the rs2237892 and rs231362 Polymorphisms of KCNQ1 Gene Associations with Type 2 Diabetes in an Iranian Population (Yazd Province). Iranian journal of diabetes and obesity, 2021.
10. **F Shamsi**, Baghestani AR, Binesh F. Bayesian approach for cure models with a change-point based on covariate threshold: Application to breast cancer data. Journal of Biopharmaceutical statistics, 2020.
11. **F Shamsi**, A R Baghestani, A Akhavan, P Bastani. The role of age on distant recurrence after breast conservative therapy vs. modified radical mastectomy among Iranian breast patients with early stage of breast cancer. World Cancer Research Journal, 2020.
12. M Karimi Zarchi, L Allahqoli, R Sadat Tabatabai, **F Shamsi**, L Allahqoli, L Zanbagh, S.M.A Hashemipour, L Mettler. Long-term outcome of endometrial ablation therapy with Cavaterm Thermal Balloon in patients with abnormal uterine bleeding. Journal of the Turkish German Gynecological Association, 2020.
13. A Dehghani Firoozabadi, R Dehghani Firouzabadi, M Eftekhari, AS Tabatabaei Bafghi, **F Shamsi**. Maternal and neonatal outcomes among pregnant women with different polycystic ovary syndrome phenotypes: A cross-sectional study, 2020.
14. M Karimi Zarchi, L Allahqoli, R Sadat Tabatabai, **F Shamsi**, N Hashemian Asl. The Recurrence and 5-Year Survival Rates in Patients with Borderline Ovarian Tumors in Yazd from 2006 to 2016. Journal of Obstetrics, Gynecology and Cancer Research, 2019.
15. M Moieni, R Soleimanizad, A Ghadiri-Anari, MR Manaviat, **F Shamsi**, M Rahimian. The Intra-Ocular Pressure of Type 2 Diabetic Patients Comparison in Diabetic Retinopathy Grades. Iranian Journal of Diabetes and Obesity, 2016.

16. SM Shiryazdi, Z Ghodrati-pour, SA Shiryazdi, S Yassini, M Abouie-Jahromi, H Fallahzadeh, **F Shamsi**. Independent and joint effects of serum 25-hydroxvitamin D and calcium on breast cancer ratio in an Iran population: a cross-sectional study. *Nigerian medical journal: journal of the Nigeria Medical Association*, 2015.
17. M Ordooei, M Akbarzadeh, R Soleimanizad, **F Shamsi**, R Masoumi Dehshiri. The effect of iron supplement on children with euthyroid goiter: a randomized placebo-controlled clinical trial. *Iranian Journal of Pediatric Hematology Oncology*, 2014.
18. Shabani M, Binesh F, Behniafard N, Nasiri F, **F Shamsi**. Clinicopathologic characteristics and survival of patients with bone metastasis in Yazd, Iran: a cross-sectional retrospective study. *Medicine*, 2014.
19. M. Karimi-Zarchi, M. Ghane Ezabadi, S. Hekmatimoghaddam, M. Mortazavizade, S. Taghipour, M. Vahidfar, H. Vahedian, M. Forat, **F Shamsi**, A. Miratashi-Yazdi. Cancer in pregnancy: a 10-year experience in shahid sadoughi hospital, yazd, iran. *Int J Biomed Sci*, 2013.
20. **F Shamsi**, A Bahrapour, N Ghasemi, A A Haghdoost. Comparison of Statistical Methods in Testing of Hardy-Weinberg Equilibrium in Case-Control Genetic Association Studies. *Jp Journal of Biostatistics*, 2013.

In Submission

1. Early prediction of type 2 diabetes mellitus using statistical learning-based Algorithms in Shahedieh Cohort Study.
2. Using Statistical-Learning Algorithms to Predict of COVID-19 Severity and Mortality in Children.

RESEARCH GRANTS

- **COVID-19 Research Grant** [2020–2021]
Funded 50,000,000 IRR, Research Committee of Shahid Sadoughi University of Medical Sciences.

CONFERENCES

Oral Present

1. **Farimah Shamsi**, Gafour Yarahmadi, Nasrin Ghasemi, Mehdi Kalantar, Reyhaneh Sadat Sandoughsaz, Ali Bakhshi, Parisa Rezanejad-Asl. Prediction of Recurrent Pregnancy Loss in Couples Using Machine-Learning. 10th National and 3rd International Iranian Congress of Epidemiology. 2023

Poster

1. **Farimah Shamsi**, Mehran Karimi, Zahra Nafei, Elaheh Akbarian. Comparison of Data Mining Methods for Survival Analysis of High-dimensional Data for Children with COVID-19. 1st International Congress of Artificial Intelligence in Medical Sciences (AIMS 2023)

RELEVANT SKILLS

Relevant Coursework

- Theory of Probability and Statistics, Statistical Inference I/II, Bayesian Inference.
- Linear Models in Statistics, Multivariate Data Analysis, Mixed Effect Models, Categorical Data Analysis, Survival Data Analysis, Longitudinal Data Analysis, fundamentals of Statistical Genetics.
- Applied Statistics in Epidemiology, Clinical Trials: Methods and Practice.

Technical skills

- **Data Analysis and Interpretation:** Linear regression, Multivariate models, Survival, longitudinal, Categorical, Population genetics in clinical researches.
- **Programming-code available on GitHub:** R/RStudio software (Experienced user), SPSS (Experienced user), Python (Upper intermediate), STATA (Upper intermediate), SAS (Familiar).

- **Biology Meets Programming:** Bioinformatics for Beginners by UC San Diego
- **Genome Wide Association Studies:** GWAS statistical analysis (Familiar).
(linkage analysis and fine-mapping, Heritability and mixed models), Mendelian Randomization.
- **Data Science:** R environment (Experienced), SPSS/ STATA environment (Experienced), Python environment (Upper intermediate), Linux environment (Familiar).
(Data Science: Zero to Hero, an online comprehensive course offered by AIR Center, under certification of Iran University of Science and Technology, Apr 2022- Jun 2022)
- **Omics Data Analysis:** Genomics and Metabolomics (Familiar).
(Omics Data Analysis and Personalized Medicine, Summer School of Smart Medical University of Iran, Jul 2022- Aug 2022)
- **Genome Wide Association studies:** GWAS design and data analysis (Familiar).
(From genome-wide association studies (GWAS) to Function, 6th Sardinia International Summer School, Jun 2017)

PROFESSIONAL MEMBERSHIP

- **Iranian Journal of Pediatric Hematology Oncology (ISI Journal)** [2020–present]
Statistical Reviewer
- **International Journal of Reproductive Biomedicine (ISI Journal)** [2020–present]
Statistical Reviewer