Cohort Studies in LMIC/LRC/LRS Settings: A Middle-Eastern Experience

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2008-2021: a brief history

- 2008 Porto Alegre, Brazil : World Congress o Epidemiology organized by International Epidemiological Association (IEA)
  - IEA Middle East-North Africa regional meeting
  - Meeting theme: how to conduct large prospective cohort studies in the region
- 2021: Examples of such studies
  - Golestan Cohort study: 50,000 participants, >12 years of follow-up
  - PERSIAN cohort: >200,000 participants, 3 years of follow-up

Golestan Cohort Study

- Recruited in 2004-2008
- 50,045 adults (40-75 years old), 80% rural
- Baseline: lifestyle questionnaires, blood, urine, hair and nails
- Years 5 and 10: Repeat questionnaire, urine and blood collection on ~11,000 participants
- Ongoing active follow-up of all participants (**Loss-to-follow-up: ~400**)

Clinical trial within the Golestan Cohort

Effectiveness of polypill for primary and secondary prevention of cardiovascular diseases (PolyIran): a pragmatic, cluster-randomised trial

Gholamreza Roshandel, Masoud Khoshnia*, Hossein Poustchi*, Karla Hemming, Farin Kamangar, Abdolsamad Gharavi, Mohammad Reza Ostovaneh, Alireza Nateghi, Masoud Majed, Behrooz Navabakhsh, Shahin Merat, Akram Pourshams, Mahdi Nalini, Fatemeh Malekzadeh, Masoumeh Sadeghi, Noushin Mohammadifard, Nizal Sarrafzadegan, Mohammad Naemi-Tabiei, Abdolreza Fazel, Paul Brennan, Arash Etemadi, Paolo Boffetta, Neil Thomas, Tom Marshall, Kar Keung Cheng, Reza Malekzadeh*

Lancet 2019; 394: 672–83

American Journal of Epidemiology

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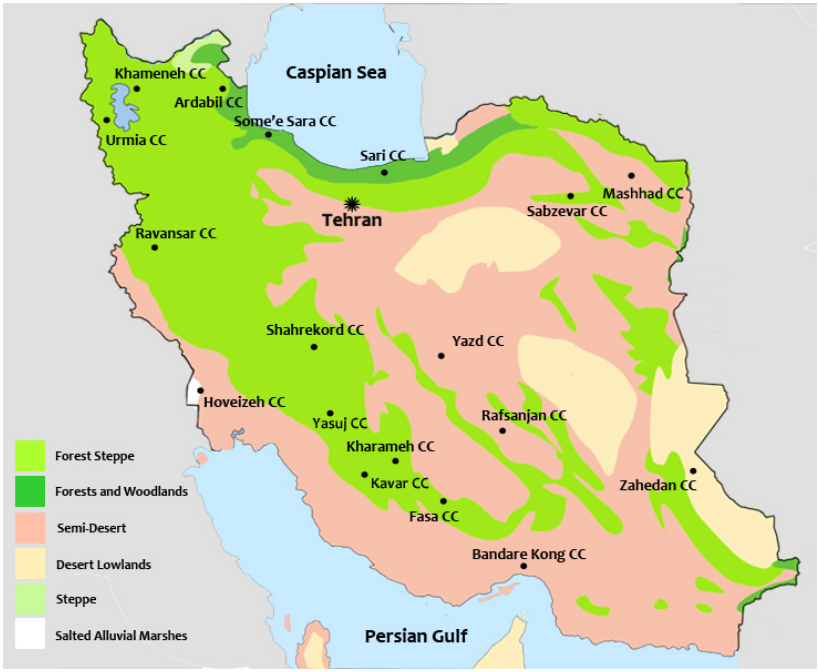
November 14, 2017

Study Design

Prospective Epidemiological Research Studies in Iran (the PERSIAN Cohort Study): Rationale, Objectives, and Design



Achievements

- >160 publications
- Building Collaboration

Lessons learnt

- It is possible to do meaningful research in LMICs
- Novel exposures, new populations
- Hidden resources: human, material etc.

Carcinogenicity of opium consumption

In September, 2020, a Working Group of 16 scientists from ten countries met remotely at the invitation of the International Agency for Research on Cancer (IARC) to finalise their evaluation of the carcinogenicity of opium consumption. This assessment illicitly in approximately 50 countries worldwide, and global production has increased during the past decade.[3] Over 80% of the world's illicit opium comes from Afghanistan. Of the total opium produced, 15–20% is used raw or minimally processed; the rest is at least 6 months. The prospective cohort design minimises concerns regarding selection bias and reverse causation. The detailed assessment of demographic, socioeconomic, and lifestyle factors addressed concerns regarding major potential

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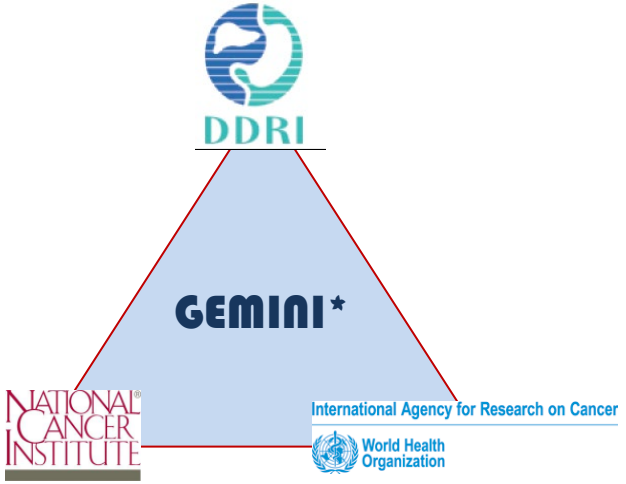
For more on the **IARC Monographs** see http://monographs.iarc.who.int/

Keys to success

- Help the people: Provide clinical care 1st, do research 2nd
- Use the health system infrastructure
- Build and staff a permanent field station
- Find the right PI/colleagues (smart/motivated/connected/honest)
- Build collaboration
- Training and exchange
  - Involve the collaborators
- Avoid politics!



* GEMINI: Gastro-esophageal malignancies in north of Iran

Challenges

- Follow-up in rural areas (nothing helps like your local health worker)
- Biobanking- shipping: how I learned to split the samples!
- Database management
- Funding

How IHCC can help

- Collaborative projects investing in high-tech
  - exclusive club of –omics
  - Example: IHCC-Nightingale metabolomics study
- Training opportunities/exchange programs

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OLYMPUS


SONY
PENTAX