

***Significance of the FERG Results for
Food Policy and Public Health in
Iran and Asia***

MB ROKNI- PhD

Member of Parasitic Task Force-FERG

Department of Medical Parasitology and Mycology,
School of Public Health, Tehran University of Medical
Sciences, Tehran, Iran
roknimoh@tums.ac.ir



Facts

Outbreak of shigellosis in two provinces in Iran 2015

During March 2015, overall 8969 people were
infected

2260 people were hospitalized

6709 cases were outpatients

The outbreak was monitored in 10 days

The agent was found as vegetables infected with
swage during watering

Much more outbreaks originated from *Salmonella* spp., *Entamoeba histolytica*, *E. coli*, *Staphylococcus aureus* etc. have been reported in Iran so far.

**FERG
impact ?**

For the first time in Iran, the Vice-Chancellor for Education of the Ministry of Health decided to manage educational curriculum and future programing based on the burden of disease.

Saudi Arabia

31 foodborne illness outbreaks comprising of 251 cases, were reported.

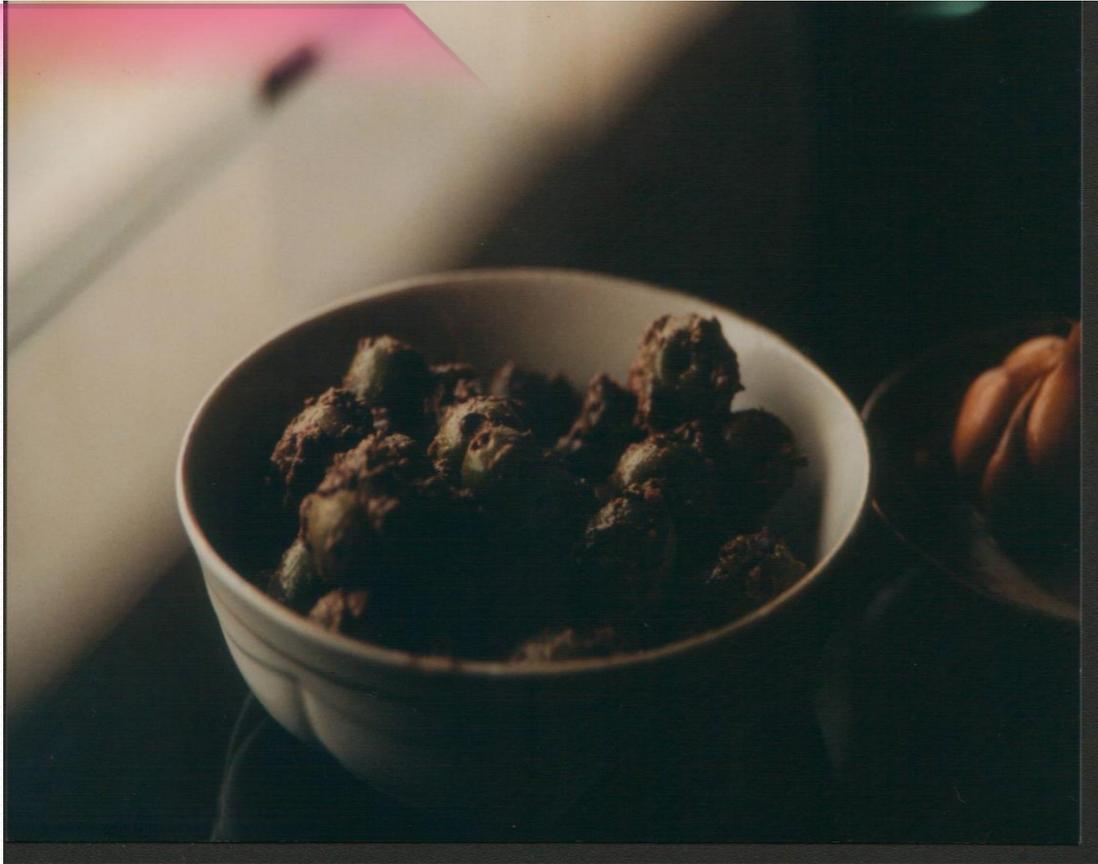
**Due to *Salmonella* spp, followed by *Staphylococcus aureus*.
Sources: Commercially prepared foods (68.9%).
Meat and Middle Eastern meat sandwich**

Fasciolosis

Country	No. of cases	Age (range years)
Iran	Two big outbreak in Iran: 10000 cases each of which in 1989 and 1999	
Iraq	18	25-82
Pakistan	35	<30
Saudi Arabia	7	-
Kuwait	1	-
Vietnam	52 provinces	-

In China, Thailand, Korea, Japan, Malaysia, Singapore, Laos, Cambodia, Philippines and India

Proceeded olive



**67% of *Fasciola metacercaria* were alive
after 14 days**

Delar



- *Mentha pulegium* Khlivash
- and *Mentha piperita* Bineh
- Salt (w/w)
- pH= 5

47% of *Fasciola metacercaria*
were alive after 48 days

48 days after treatment with Delar

Fasciolosis and chewing khat (*Catha edulis*)



Neglected Tropical Diseases

Mary Ann McDowell
Sima Rafati *Editors*

Neglected Tropical Diseases – Middle East and North Africa

Fasciolosis in the MENA Region

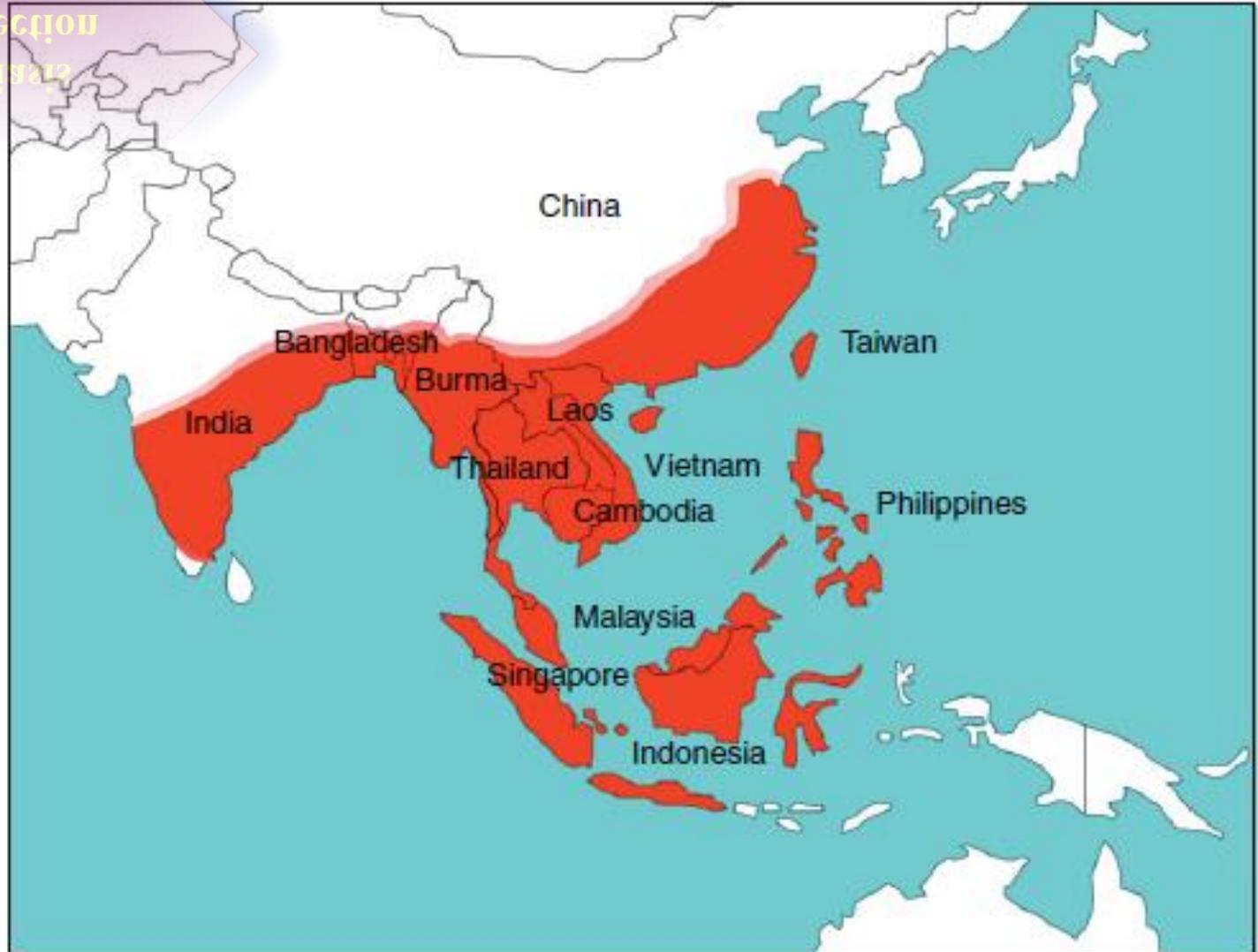
**Mohammad Bagher Rokni, Wael M. Loffy, Kayhan Ashrafi,
and K. Darwin Murrell**

iceberg. Considering that there is gross underreporting of the issue of fasciolosis in the region, following points should be regarded on setting stage for monitoring the disease and establishing the priorities of the research:

- Calculation of the Disability Adjusted Life Years DALYs for this disease in the region

Fasciolopsiasis
0-92.9% infection

0-92.9% infection
Fasciolopsiasis



Freshwater food plants
carrying metacercariae of
Fasciolopsis buski

water caltrop



water spinach

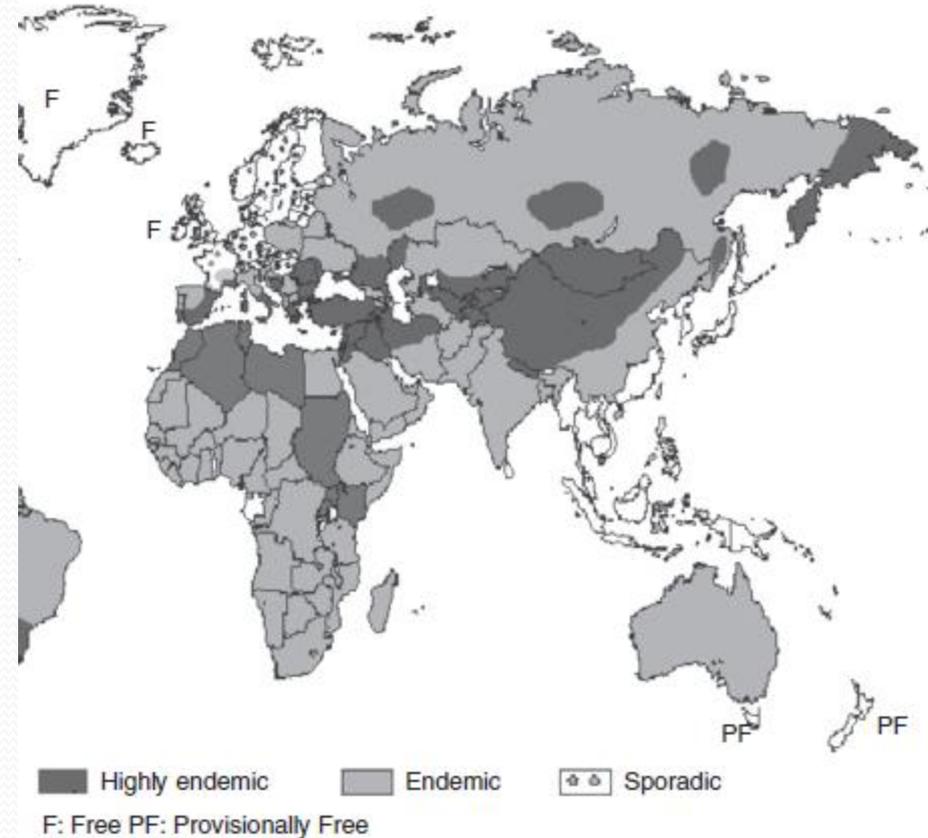


Echinococcosis

In Iran, 1% of all surgeries is related to CE

In China: 380,000 cases with ~50 million are at risk of infection.

Case reported in nearly all countries of the region



Burden of cystic echinococcosis in Iran

- The overall annual cost of CE in Iran was estimated at US\$232.3 million including both direct and indirect costs.
- **The cost associated with human CE was estimated at US\$ 93.39 million**
- The annual cost associated with CE in livestock was estimated at US\$132 million.
- **The cost per surgical human case was estimated at US\$ 1,539.**
- CE has a considerable economic impact on Iran, with the cost of the disease approximated at 0.03% of the country's gross domestic product.



Sheep sellers and hydatid cyst





Carrot juice and
Ice cream and
echinococcosis



Trichinellosis

**in Asia (China, Laos, Myanmar, Thailand, and Vietnam),
Vietnam: with 5 outbreaks and 8 deaths in total.**

Thailand: 0.9-9%.

China: more than 500 outbreaks and 241 deaths.

Japan: case report

India: an outbreak of 42 cases

Iran: A Case report of 4 members of a family

Problem of imported meat

Taeniasis/cysticercosis

- ❖ **Viet Nam: *Taenia* of 0.5-12% and cysticercosis of 5-7% in more than 50 provinces**
- ❖ **China: cysticercosis in 29 provinces with 7 million cases.**
- ❖ **Thailand: *Taenia* of 0.6-5.9% and cysticercosis of 4%.**
- ❖ **Japan: Cysticercosis 446 cases up to 2004.**
- ❖ **Philippines: *Taenia* of 0.56-10.26% and case reported cysticercosis.**
- ❖ **Indonesia: *Taenia* of 8-9% and case reported cysticercosis.**
- ❖ **Bangladesh: case reported *Taenia*.**
- ❖ **Nepal: *Taenia* of 43% and case reported for cysticercosis.**
- ❖ **India: *Taenia* of 5.3-18.6% and cysticercosis of 15.1%.**

Toxoplasmosis

Toxoplasmosis

Paul R Torgerson paper

China: 7.9% in 15 provinces

India: 10.8-51.8%

Thailand: 2.6%.

Srilanka: 27.5%.

Japan: 1.8-5.6%.

Malaysia: 10-50%.

Nepal: 45.6%.

Opisthorchiasis

Thailand: prevalence of 15.7%.

Lao PDR: prevalence of 37-86%.

Cambodia: some cases reported.

Vietnam: prevalence of 1.4-37.9% in 9/64 provinces in the south.

Malaysia, a case reported.

India, no cases reported as of yet.

Clonorchiasis

- ❖ **China: 15 million cases in 27 provinces.**
- ❖ **Korea: 2 million cases with a prevalence of 1.4-21.0%.**
- ❖ **Japan, the prevalence of it was 1.0-54.2% (1960); 10.9-66% (1961), and now has almost disappeared.**
- ❖ **Vietnam: 19.5% (0.2-40%) in 15/64 provinces in the north of the country.**
- ❖ **Taiwan: 10-20%.**
- ❖ **India: A very few case reports.**

Paragonimiasis

China: prevalence of 4.1-5.1% in 24 provinces

Vietnam, prevalence of it was 0.5-15% in 10/64 provinces.

Thailand, case reported in 23/68 provinces.

Japan, case reported with over 200 cases.

Philippines, prevalence of it was 27.2-40% in some areas.

India, endemic to North Eastern states.

Miscellaneous

Capillariasis: in Philippines, Japan, Thailand, Taiwan, Indonesia and India

Anisakiasis: 15,000 to 20,000 total cases

Sparganosis: in Japan, Vietnam and India

Angiostrongyliasis : In China: 160 cases in outbreaks

Hookworm disease : 0.1%- 85%

Toxocariasis: 0.3%-33%

Trichuriasis: 0.5%-89%

Ascariasis: 0.1%- 95%

Giardiasis: 1%- 10%

Amoebiasis: 1- 58%

diphyllobothriasis: 12-100 cases per year

Cryptosporidiosis, Gnathostomiasis, Echinostomiasis, etc.

Non-communicable diseases are now the leading causes of premature death and disability in the Middle East

Between 1990 and 2010, healthy years lost from causes like ischemic heart disease, depression, and diabetes increased at least 40% in the region.

Conclusion

Undoubtedly FERG outputs and outcomes are of great importance to improve the policy makers' vision, to amend the direction of surveillance, etc.....
But....the main problem in the region is something else !!!





Memory