

Risk Factors for *Trichomonas vaginalis* Infection among Affected Women with One of the Sexually Transmitted Infections: A Case-Cohort Study

*Sadegh Kargarian Marvasti*¹, *Nematolah Rahimi*², *Sima Afrashteh*^{3*}, *GholamReza Rafie*⁴, *Maryam Aslani*⁵

1 Msc of Epidemiology, Isfahan University of Medical Sciences, Isfahan, Iran

2 Msc of Medical Microbiology, Health Center of Fereydunshahr, Isfahan, Iran

3 Msc of Epidemiology, Bushehr University of Medical Sciences, Bushehr, Iran.

4 Bsc of public health, Isfahan University of Medical Sciences, Fereydunshahr health center, Isfahan, Iran

5 Midwifery expert Bsc, Health Center of Fereydunshahr, Isfahan, Iran.

* sima.afrashte3@gmail.com

Abstract

Background and objectives: *Trichomonas vaginalis* is the most common non-viral sexual infection (a protozoan parasite) that affects 276 million people in the world, annually, and it's transmitted in adults by sexual contacts without condom. The aim of this study was to determine of risk factors for the incidence of Trichomoniasis in affected women with one of the sexually transmitted infections in a 2-years period.

Materials and methods: In this case cohort study, 547 syndromic cases of trichomoniasis screened by census method, 38 etiologic patients were identified and selected as cases. The control group were 3-times the cases using simple random sampling. The statistical analysis was performed with a total sample size of 152 people using univariate ($P < 0.20$) and multivariate logistic regression model ($P < 0.05$). Direct smear using Hematoxylin-Eosin staining method was used for laboratory diagnosis.

Results: The prevalence of syndromic and etiologic trichomoniasis in affected women with one of the sexually transmitted infections was 48.9% and 3.4%, respectively. The "age of the patient" ($P = 0.001$, OR = 1.08, 95% CI = 1.03-1.14) and "education level" ($P = 0.003$, OR = 0.29, 95% CI = 0.13-0.64) were considered as risk factor and Protective agent in the incidence of trichomoniasis infection, respectively.

Conclusion: The findings of this study indicate a high prevalence of infection in patients with clinical symptoms. Level of education Reduction and increasing age of the patient are the most important factors in increasing the risk of infection, and it is necessary to reinforcement the regular prevention and screening programs at aged 25-44 years.

Keywords: Sexually transmitted infections, Trichomoniasis, Case-cohort study, Logistic regression analysis

Seroprevalence of Brucellosis among Industrial and Semi-industrial Dairy Cows under Brucellosis Testing and Slaughter Operations of Veterinary Organization of Iran-2018 1397

Alireza Bahonar^{1}, Akram Bahrainipour², Abbas Rahimi Foroshani³, Samad LotfollahZadeh⁴, Karim Amiri⁵, Seyed Bahman Naghibi⁶*

1- Professor of Epidemiology, Faculty of Veterinary Medicine, University of Tehran, Iran

2- PhD student of Epidemiology, Faculty of Veterinary Medicine, University of Tehran, Iran

3- Professor of Biostatistics, Faculty of Health, Tehran University Medical Sciences, Tehran, Iran

4- Associate Professor of Internal Medicine in Large Animals, Faculty of Veterinary Medicine, University of Tehran, Iran

5- Deputy of Bureau Health and Management of Animal Diseases, Veterinary Organization of Iran

6- Director General's Bureau Health and Management of Animal Diseases, Veterinary Organization of Iran

*abahonar@ut.ac.ir

Abstract

Background and objectives: Brucellosis is one of the most important zoonotic diseases. Control and prevention of disease in animals in addition to preventing economic losses to the animal industry, it can prevent human disease and its losses. The present survey was carried out to determine the contamination status of industrial and semi-industrial dairy cows under the cover of Veterinary Brucellosis Testing and Slaughter Operations in 1397

Materials and methods: This is a descriptive survey and the required information was obtained from the Veterinary Organization of Iran in 1397. Cows with positive results for Rose bengal and Wright and 2-mercaptoethanol tests were used sequentially recorded as positive sera and in this survey, the farm with at least one seropositive cow was considered positive for brucellosis.

Results: In this survey, the percentage of contamination (Seropositive) in herd level in dairy cows covered by brucellosis testing and slaughter operations was 3.94% and individual level was 1.70 per thousand. The highest percentage of contamination in herd level and individual level was 14.29% and 8.39 per thousand respectively in breeding complexes. Most of the contamination at individual level was 18.03 per thousand in Yazd province.

Conclusion: According to the results of this survey, there is an essential need to pay more attention to management systems of breeding complexes and their problems

Keywords: Brucellosis, Cow, Industrial and semi-industrial dairy cows

Assessment the Genotypes of Carbapenem Resistant *Acinetobacter baumannii* Isolates Carrying *oxa23* Recovered from Clinical Specimens in Selected Hospitals of Tehran

Masoumeh Douraghi^{*1}, Morteza Karami-Zarandi¹, Amir Aliramezani¹, Sedighe Ghourchian¹, Mohammad Rahbar²

1-Division of Microbiology, Department of Pathobiology, School of Public Health, Tehran University of Medical Sciences, Tehran, Iran.

2-Department of Microbiology, Reference Health Laboratories, Ministry of Health, Tehran, Iran

* mdouraghi@tums.ac.ir

Abstract

Background and objective: The first imipenem-resistant *A. baumannii* emerged shortly after the introduction and therapeutic use of carbapenems, particularly imipenem. The resistance to imipenem in this strain was found to be associated with *oxa23* which is the most widespread gene conferring resistance to carbapenems. Because of the wide distribution of *oxa23* in Iranian isolates, identifying the genotypes of endemic or circulating isolates in hospitals is of prime importance. This study aimed to identify the genotypes of carbapenem resistant *A. baumannii* isolates carrying *oxa23* recovered from clinical specimens in selected hospitals of Tehran.

Materials and methods. A set of 92 *A. baumannii* isolates was collected and identified. Antibiotic susceptibility testing was performed by disk diffusion. A multiplex PCR was done for screening *oxa23*, *oxa24* and *oxa58* genes. The genetic pattern of the isolates was identified by Pulsed Field Gel Electrophoresis (PFGE) using *ApaI* enzyme.

Results. Of the 92 isolates, 81 (88%) harbored *oxa23*. In the current study, 72 distinct pulsotypes were identified and of them 61 pulsotypes contained only one isolate while in the remaining 11 pulsotypes, two or more isolates were clustered.

Conclusion. This study showed the polyclonal distribution of the carbapenem resistant *A. baumannii* isolates carrying *oxa23* in selected hospitals. Some of the isolates carrying *oxa23* were detected for several months in target hospitals.

Keywords. *Acinetobacter baumannii*, carbapenem resistance, *oxa23*, Pulsed-Field Gel Electrophoresis

Phenotypic and Genotypic Characterization of Biofilm Formation among *Staphylococcus aureus* Strains Isolated from Patients with Urinary Tract Infection in a Hospital in Isfahan during 2016

Atefeh Karimi¹, Fateh Rahimi^{1}*

1-Department of Microbiology, Faculty of Biological Science and Technology, University of Isfahan, Iran

*f.rahimi@sci.ui.ac.ir

Abstract

Background and objective: *Staphylococcus aureus* is one of the most common causes of a variety of infections in humans, such as urinary tract infection; which is due to its ability to form biofilm in different parts of the urinary tract. In this study we characterized the phenotypic and genotypic analysis of biofilm formation among *S. aureus* strains isolated from urinary tract infections in Isfahan.

Materials and methods: During 2016, a total of 96 *S. aureus* strains were collected from a referral hospital in Isfahan and were identified at the species level using specific primers. The ability of strains to form biofilm was measured using phenotypic qualitative Congo-red agar and quantitative microtiter plate assays. The different genes involved in biofilm formation were detected by the specific primers.

Results: All isolates were confirmed as *S. aureus* using the PCR test. The results of Congo-red agar test revealed that 5% and 72% of the strains were able to produce black and dark red colonies, respectively. Moreover, in microtiter plate assay, 72% of the strains were biofilm positive. The frequency of *icaA*, *icaD*, *clfA*, *fnbA* and *cna* genes among biofilm producing strains were 84, 86, 75, 61 and 43%, respectively.

Conclusion: The results of this study indicating the high prevalence of biofilms producing *S. aureus* strains in the desired hospital. Moreover, our findings revealed the importance of genotypic method for identification of biofilm positive strains compared to phenotypic methods.

Keywords: *Staphylococcus aureus*, urinary tract infection, Biofilm, Congo-red agar, microtiter plate, *ica* locus

Economic Burden Associated with Cutaneous Leishmaniasis in Qom province, central Iran using Activity Based Costing. 2018

Abedin Saghafipour^{1d}, Hadi Hamidi Parsa², Reza Fouladifard³

1. Assistant Professor, Department of Public Health, Faculty of Health, Qom University of Medical Sciences, Qom, Iran.

2. Assistance of management development and resources, Qom University of Medical Sciences, Qom, Iran.

3. Assistant Professor, Research Center for Environmental Pollutants, Qom University of Medical Sciences, Qom, Iran.

*abed.saghafi@yahoo.com

Abstract

Background and objective: Cutaneous leishmaniasis (CL) as a common disease in many tropical and subtropical countries has adverse economic consequences for patients and health care system. Some rural areas of Qom are considered as active foci of disease. This study was performed in order to evaluation of economic burden associated with CL in Qom, central Iran using Activity Based Costing.

Materials and methods: In a cross-sectional study, data of 207 patients with CL based on laboratory diagnosis in the year 2018 were used to estimate the economic burden of the disease. Charts, frequency tables, and the financial softwares (Azarakhsh and Roozamad) in Excel were used to costs analysis.

Results: The incidence of CL in Qom province was 16.02 per 100,000 people (207/1,292,000). Economic burden of the disease was estimated at 4,265,246,799 rials (85,387\$). The average direct cost paid for each person with CL was 10,631,250 rials (212\$) and indirect costs (overhead) for each person was about 9,653,807 rials (193\$), the governmental cost per patient 20,285,057 rials (405\$), direct out of pocket payments for each patient was around 320,000 rials (7\$) and the total costs was estimated at 20,605,057 rials (412\$) per patient.

Conclusions: Direct and indirect costs associated with diagnosis and treatment of CL disease may have a great impact on patients and health care system. So, it seems more cost effective to take preventive measures.

Keywords: Leishmaniasis, Economic burden, Health care services, Qom, Iran

Camel Milk Antioxidant Activity in Rats Infected with *Shigella dysenteriae*

Mahnoosh Fatemi¹, Fereshte Ghandehari^{2*}, Marzieh Limoochi²

1 - Department of Biology, Falavarjan Branch, Islamic Azad University, Isfahan, Iran

2 - Department of Microbiology, Falavarjan Branch, Islamic Azad University, Isfahan, Iran

*ghandehari@iaufala.ac.ir

Abstract

Background and objective: *Shigella* infections lead to secretion of pre-inflammatory cytokines which lead to release of Reactive oxygen species. These radicals induce oxidative stress by peroxidation of lipids and DNA. Antioxidant compounds can reduce injuries resulting from bacterial infections. Camel milk play an important role in reducing oxidative stress. Therefore, protective effects of camel milk against *Shigella dysenteriae* were evaluated in rats.

Materials and methods: Rats (120± 20g) were divided into 5 groups. Group infected with *Shigella dysenteriae* (1.5×10⁸ CFU/ML), Group infected with *Shigella dysenteriae* and treated by 33ml/kg of camel milk, Group infected with *Shigella dysenteriae* and treated by 5mg/kg of Sefixim antibiotic, group treated by of camel milk, group infusive control. After finishing treatment period, the animals were anaesthetized and their tissues from intestine, liver and spleen were separated and the activity level of enzymes, superoxide dismutase and catalase, was evaluated in these tissues.

Results: In this text, the activity level of superoxide dismutase and catalase decreased in the tissues infected with *Shigella dysenteriae*. This decrease was raised up to a normal level following. Treatment by camel milk or antibiotic and camel milk

Conclusion: These results indicate that camel milk capable reduce of dysfunction in the liver, spleen, intestine and the synergistic effect with antibiotics and can be used to treat shigellosis, strengthen the immune system and antioxidant .

Key words: Camel milk, Shigellosis, Oxidative stress, Antioxidant, Rat.

Epidemiologic Feature of Scorpion Envenomation in Aghajari County, Southwestern Iran. 2016-17

Hamid Kassiri^{1*}, Iman Khodkar², Niusha Kasiri³, Ali Safari-Asl³, Masoud Lotfi⁵

1-Associate Professor, Department of Medical Entomology , School of Health, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran

2- Ph.D. Candidate of Medical Parasitology, Student Research Committee, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran

3- General Medical Student, Student Research Committee, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran

4- B. Sc of Medical Entomology, Health Center of Aghajri, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran

5- B. Sc of Public Health, Abdanan Health Center, Ilam University of Medical Sciences, Ilam, Iran

*Hamid.Kassiri@yahoo.com

Abstract

Background and objective: About, 1230000 scorpion envenomation happen in the world each year, while the number of deaths is approximately 3250. Nearly named 2000 species of scorpions are found in the globe. Of these, 30 species have medical significance. Yearly, about 50000 people are stung by various species of scorpions in Iran. The aim of this study was to describe the epidemiological features of stings by scorpions in Aghajri County during 2016 and 2017 years, southwestern Iran.

Materials and methods: In this cross- sectional study, only definite scorpion stings where the scorpion was collected were included. We obtained demographic-epidemiologic data by interview and filling a questionnaire. The data were analyzed by SPSS software version 20, using descriptive - analytical statistics such as frequency, percentage, Chi-square and t tests.

Results: In total, 280 cases were recorded during 2016 and 2017. The majority cases were men (52.8%). The most stung limbs were feet and hands, with 46.1% and 34.6%, respectively. The most frequent patients were in the age groups 10-24 (25%) and 25-34 (24.3%) years old. Nearly 52.5% stung cases were from rural areas. All patients (100%), had been admitted to emergency department less than 1.5 hour after scorpion sting. Most cases of scorpion stings occurred during summer (40.7%) and spring (29.3%), while August (16.4%) and June (15%) were the months with highest rates. All patients during the study were treated with anti-venom serum.

Conclusion: The highest rate of cases were reported in rural areas and 10-24 years old age group, therefore, training programs should be considered for preventing scorpion sting in the above mentioned areas and age group.

Keywords: Scorpion sting, Epidemiology, Demography, Scorpion, Iran