

In The Name of God

Curriculum Vitae (CV)

Date: 2021-May-25

A. Personal Details

First Name: Arshid

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Majored in: Medical Bacteriology

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B. Academic Educations

BSc in Medical Laboratory Sciences, Faculty of Para-Medicine, Kashan University of Medical Sciences, Kashan, Iran, 2011

MSc in Medical Microbiology, Faculty of Medicine, Shiraz University of Medical Sciences, Shiraz, Iran, 2013.

Title of thesis: Prevalence of exotoxin A, S and U genes among clinical isolates of *Pseudomonas aeruginosa* obtained from hospitalized and outpatients in Shiraz Educational Hospitals in 2012

PhD in Medical Bacteriology, Faculty of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran, 2017.

Title of thesis: Construction of EsxS/HspX fusion protein of *Mycobacterium tuberculosis* and ISCOMATRIX and PLUSCOM nanoadjuvants and evaluation of their immunogenicity after intranasal and subcutaneous administration in mice.

C. Honors and Awards

- Shiraz University of Medical Sciences top student award and statuette, 2012.
- Talented student honor in MSc and PhD courses.

D. Teaching Experience

The Clinical Microbiology and Bacteriology (theoretical and practical) to different students including: BSc in Medical Laboratory Sciences, BSc in Nutrition Sciences, BSc in Public Health, BSc in Environmental Health Engineering, BSc in Anesthesia and Surgical Technician's students since 2017 till now.

E. Publications

Published Articles:

1. **Yousefi-Avarvand A**, Meshkat Z, Khademi F, Tafaghodi M. Immunogenicity of HspX/EsxS fusion protein of Mycobacterium tuberculosis along with ISCOMATRIX and PLUSCOM nano-adjuvants after subcutaneous administration in animal model. *Microbial Pathogenesis*. 2021;15
2. **Yousefi-Avarvand A**, Vaez H, Tafaghodi M, Sahebkar AH, Arzanlou M, Khademi F. Antibiotic resistance of *Helicobacter pylori* in Iranian children: a systematic review and meta-analysis. *Microbial Drug Resistance*. 2018;24(7):980-6.
3. **Yousefi-Avarvand A**, Khashei R, Ebrahim-Saraie HS, Emami A, Zomorodian K, Motamedifar M. The frequency of exotoxin A and exoenzymes S and U genes among clinical isolates of *Pseudomonas aeruginosa* in Shiraz, Iran. *International journal of molecular and cellular medicine*. 2015;4(3):167.
4. **Yousefi-Avarvand A**, Tafaghodi M, Soleimanpour S, Khademi F. HspX protein as a candidate vaccine against Mycobacterium tuberculosis: an overview. *Frontiers in Biology*. 2018;13(4):293-6.
5. **Yousefi-Avarvand A**, Khademi F, Tafaghodi M, Ahmadipour Z, Moradi B, Meshkat Z. The roles of latency-associated antigens in tuberculosis vaccines. *Indian Journal of Tuberculosis*. 2019;66(4):487-91.
6. **Yousefi-Avarvand A**, Halaji M, Zare D, Ha-Sannejad-Bibalan M, Sedigh Ebrahim-Saraie H. Prevalence of Invasive *Streptococcus pneumoniae* Infections among Iranian Children: A Systematic Review and Meta-Analysis. *Iran J Public Health*. 2019;48(4).
7. **Yousefi-Avarvand A**, Derakhshan M, Meshkat Z, Tafaghodi M, Ghazvini K, et al. Mycobacterium tuberculosis HspX/EsxS fusion protein: gene cloning, protein expression, and purification in *Escherichia coli*. *Reports of Biochemistry & Molecular Biology*. 2017;6(1):15.
8. Moghimian-Boroujeni B, Ghandali MV, Saki N, Ekrami A, **Yousefi-Avarvand A**. Mini review Salmonella: A problem in patients with sickle cell anemia. *Gene Reports*. 2021:101118.
9. Khademi F, Derakhshan M, **Yousefi-Avarvand A**, Tafaghodi M, Soleimanpour S. Multi-stage subunit vaccines against Mycobacterium tuberculosis: an alternative to the BCG vaccine or a BCG-prime boost? Expert review of vaccines. 2018;17(1):31-44.
10. **Yousefi Avarvand A**, Khademi F, Ghazvini K, Nakhzari Moghadam M, Meshkat Z. Colonization rate of *Streptococcus agalactiae* in pregnant women in Iran: a systematic review. *The Iranian Journal of Obstetrics, Gynecology and Infertility*. 2017;19(40):45-54.
11. Pezeshki SMS, Saki N, Ghandali MV, Ekrami A, **Avarvand AY**. Effect of *Helicobacter Pylori* eradication on patients with ITP: a meta-analysis of studies conducted in the Middle East. *Blood research*. 2021;56(1):38-43.
12. Khademi F, Derakhshan M, **Yousefi-Avarvand A**, Tafaghodi M. Potential of polymeric particles as future vaccine delivery systems/adjuvants for parenteral and non-parenteral immunization against tuberculosis: A systematic review. *Iranian journal of basic medical sciences*. 2018 Feb;21(2):116.
13. Hasannehad Bibalan M, **Yousefi Avarvand A**, Malekzadegan Y, Sabeti H, Amini ME, Sedigh Ebrahim-Saraie H. Prevalence of *Clostridium difficile* in foods and animals as a potential sources of community-associated infection: A systematic review and meta-analysis. *Gen Reports*.
14. Khademi F, **Yousefi-Avarvand A**, Derakhshan M, Abbaspour MR, Sadri K, Tafaghodi M. Formulation and optimization of a new cationic lipid-modified PLGA nanoparticle as delivery system for Mycobacterium tuberculosis HspX/EsxS fusion protein: An experimental design. *Iranian journal of pharmaceutical research: IJPR*. 2019;18(1):446.

15. Yousefi-Avarvand A, Vaez H, Sahebkar A, Khademi F. A systematic review and meta-analysis on the epidemiology of antibiotic resistance of *Vibrio cholerae* in Iran. *Annali di Igiene, Medicina Preventiva e di Comunità*. 2019;31(3):279-90.
16. Khademi F, Derakhshan M, Yousefi-Avarvand A, Najafi A, Tafaghodi M. A novel antigen of *Mycobacterium tuberculosis* and MPLA adjuvant co-entrapped into PLGA: DDA hybrid nanoparticles stimulates mucosal and systemic immunity. *Microbial pathogenesis*. 2018;125:507-13.
17. Khademi F, Yousefi-Avarvand A, Derakhshan M, Najafi A, Tafaghodi M. Enhancing immunogenicity of novel multistage subunit vaccine of *Mycobacterium tuberculosis* using PLGA: DDA hybrid nanoparticles and MPLA: Subcutaneous administration. *Iranian Journal of Basic Medical Sciences*. 2019;22(8):893.
18. Vaez H, Sahebkar A, Mohammadi A, Arzanlou M, Yousefi-Avarvand A, Khademi F. Diversity of Toll-like Receptor Genes and *Helicobacter Pylori* Infections: A Meta-Analysis Study. *International Journal of Medical Laboratory*. 2020.
19. Khodaverdi S, Jafari A, Movahedzadeh F, Madani F, Yousefi-Avarvand A, Falahatkar S. Evaluating Inhibitory Effects of Paclitaxel and Vitamin D3 Loaded Poly Lactic Glycolic Acid Co-Delivery Nanoparticles on the Breast Cancer Cell Line. *Advanced Pharmaceutical Bulletin*. 2019;10(1):30-8.
20. Yousefi-Avarvand A, Derakhshan M, Tafaghodi M. Immunogenicity of ESX Family Antigens of *Mycobacterium Tuberculosis*: An Overview. *Austin Clinical Microbiology*. 2016;1(2):1-5.
21. Akrami S, Abouali R, Olapour MM, Abady RHL, Yazdaninejad H, Yousefi-Avarvand A. Bacterial etiology and antibiotic susceptibility pattern of female patients with urinary tract infection referred to Imam Khomeini Hospital, Ahvaz, Iran, 2019. *J Curr Biomed Rep*. 2020;1(1):23-6.
22. Khademi F, Taheri R-A, Yousefi-Avarvand A, Vaez H, Momtazi-Borojeni AA, Soleimanpour S. Are chitosan natural polymers suitable as adjuvant/delivery system for anti-tuberculosis vaccines? *Microbial pathogenesis*. 2018;121:218-23.
23. Vaez H, Sahebkar A, Pourfarzi F, Yousefi-Avarvand A, Khademi F. Prevalence of antibiotic resistance of *Haemophilus Influenzae* in Iran-a meta-analysis. *Iranian Journal of Otorhinolaryngology*. 2019;31(107):349.
24. Yousefi-Avarvand A, Sahebkar A, Mohammadi-Ghalehbin B, Arzanlou M, Peeridogaheh H. Drug resistance of clinical and environmental isolates of *Brucella* species in Iran: a meta-analysis. *Reviews in Medical Microbiology*. 2018;29(4):166-72.
25. Motamedifar M, Hashemizadeh Z, Haghghati G, Yousefi-Avarvand A, Sedigh H. Evaluation of antibacterial effects of aqueous and alcoholic extracts of *Cuminum Cyminum* L. Seeds on some pathogenic bacteria. 2015.
26. Yousefi-Avarvand A, Derakhshan M, Vaez H, Sadeghi R. Middle east *Mycobacterium tuberculosis* antibiotic resistance: a systematic review and meta-analysis. *Infection, Epidemiology and Microbiology*. 2017;3(1):25-35.
27. Yousefi-Avarvand A, meshkat Z, khademi f. Investigation of Antibiotic resistance profiles of Enterococci isolated from different clinical specimens in Qaem hospital, Mashhad. 2017.
28. Khademi F, Yousefi-Avarvand A, Sahebkar A, Ghanbari F, Vaez H. Bacterial co-infections in HIV/AIDS-positive subjects: A systematic review and meta-analysis. *Folia medica*. 2018;60(3):339-50.
29. Khademi F, Yousefi-Avarvand A, Karami P, Ghazvini K, Ghanbari F. Prevalence and Antimicrobial Susceptibility Patterns of Bacteria Isolated from Different Clinical Infections in Hamadan, Iran. 2016.
30. Yousefi-Avarvand A, Vaez H, Khademi F. Cholera Outbreak in Yemen: A Regional or a Global Health Crisis. *Int J Infect*. 2018;5(2).
31. Ali Shamsazar, Khademi F, Yousefi-Avarvand A. Antibiotic Resistance Pattern of *Klebsiella Pneumoniae* from Patients in Qaem Teaching Hospital, Mashhad University of Medical Sciences. *Human and Environment*. 2020;52(2):83-89.

Under Review Articles:

1. Assessment of immunogenicity of HspX EsxS fusion protein of *Mycobacterium tuberculosis* along with ISCOMATRIX and PlusCOM nanoadjuvants after intranasal delivery in mice
2. Risk of type III secretion systems in burn patients with *Pseudomonas aeruginosa* wound infection: A systematic review and meta-analysis.
3. Preparation and characterization of chitosan nanoparticles coated with alginate loaded with PPE17 protein of TB and evaluation of protective immunity after intranasal and subcutaneous immunization in mice.
4. The assessment of naproxen effect on IFN- γ , IL-1, IL-6, TGF β and TNF- α levels in COVID-19 patients.

Research Projects Underway

1. investigation of effect of extracts derived from *Lactobacillus fermentum*, *Lactobacillus plantarum*, *Lactobacillus casei*, *Pseudomonas aeruginosa*, *pneumoniae Streptococcus* and *Klebsiella pneumoniae* on viability, unfolded protein response and autophagy in U266B1 multiple myeloma cell
2. Evaluation of relative frequency of *exoU* and *exoS* genes and integron classes (1.2.3) in *Pseudomonas*.
3. Clinical characteristics and antibiotic susceptibility of *Shigella* and *Escherchia coli* isolated from children with Acute infectious diarrhea admitted to teaching hospitals in ahvaz 2020-21
4. Investigation of the amount of biofilm formation by using microtiterplate and Congo Red Agar method and its relationship with antibiotic resistance in *Pseudomonas aeruginosa* strains isolated from burn
5. Prevalence and antibiotic resistance of nasal carriers of *Staphylococcus aureus* in nurses of Imam Khomeini Hospital in Ahvaz in 2020.
6. Identification and determination the percentage of antibiotic resistance of pneumococci isolated from hospitalized and outpatient's children referred to Ahvaz educational hospitals in 2019.

F. National and International Congresses, Conferences and Seminars (Presenting Posters and Speeches)

1. The first international congress of medical bacteriology in Tabriz, poster, 2011
2. Sixth International Congress of Laboratory and Clinic in Tehran, poster, 2012
3. 7th International Congress of Clinical Microbiology in Shiraz, poster, 2013
4. 12th International Congress of Iranian Immunology and Allergy in Tehran, poster, 2014
5. 8th Conference on the Role of Herbal Medicines and Natural Products in Tehran, speech, 2019
6. Annual Congress of Medical Students, poster, 2019
7. Weekly conference of Ahwaz University of Medical Sciences, School of Allied Medical Sciences, speech, 2019.
8. 15th International Congress of Iranian Immunology and Allergy in Ahvaz, speech, 2021

G. Professional Skills and Techniques

- Bacteriological conventional diagnostic tests
- DNA, RNA extraction
- PCR
- SDS-PAGE
- Western blotting
- Cell culture
- ELISA

- General method of constructing lipid nanoparticles
- Gel electrophoresis
- Working with General software: Microsoft Office, EndNote, Sigma Plot, GraphPad InStat, GraphPad Prism, SPSS and etc.

H. Workshop

- The " safety and protection training in biomedical laboratories" workshop, Shiraz, Iran, 2010, (3days)
- Theoretical and practical aspects of "determining antibiotic resistance" Workshop, Tabriz, Iran, 2011 (1day).
- the "Scopus" workshop, Mashhad, Iran,2014, (1day)
- the principles of "Cloning" workshop, Mashhad, Iran, 2014, (2days)
- the "Web of sciences" workshop, Mashhad, Iran,2015, (1day)
- the "Endnote" workshop, Mashhad, Iran, 2015, (1day)
- the theoretical and practical aspects of "Real Time PCR" workshop, Mashhad, Iran, 2016, (3days)
- the "proposal designing" workshop, Ahvaz, Iran, 2018, (1day)
- the "teaching methods and skills" workshop, Ahvaz, Iran, 2018, (1day)
- the "curriculum planning and educational design" workshop, Ahvaz, Iran, 2019, (1day)
- the "logbook" workshop, Ahvaz, Iran, 2019, (1day)

I. Research Interests

Pseudomonas aeruginosa, Helicobacter pylori (epidemiology, antibiotic resistance)

Mycobacterium Tuberculosis (development of new vaccines)

J. Other activities

- Member of the Editorial Board of the "**Journal of Current Biomedical Reports**"
- Head of **Educational Development Center (EDO)**, School of Allied Medical Sciences, since 2019

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