

Sayer Al-Azzam

B.Sc. | M.Sc. | PharmD | BCPS



Professor
Clinical Pharmacy

Biography

Prof. Sayer Al-Azzam holds the position of a full professor in the department of clinical pharmacy at Jordan university of science and technology (JUST). His academic journey includes obtaining a BSc degree in pharmacy and an MSc in clinical pharmacy from JUST in 1995-1999 and 1999-2001, respectively. He further earned a Doctor of Pharmacy degree in 2001-2003 and completed a clinical pharmacy fellowship at the university of Iowa, USA, in 2005. Notably, Al-Azzam has been recognized as a board-certified pharmacotherapy specialist by the American pharmacist's association since 2010.

In terms of leadership roles, prof. Al-Azzam served as the chairman of the clinical pharmacy department at just from 2006 to 2008 and later at king Abdullah university hospital from 2009 to 2014. His academic influence extended to being a visiting professor at Queens university at Belfast, UK, from 2015 onward. Following this, he assumed administrative positions, first as the vice dean at just from 2017 to 2018, and subsequently as the dean at the faculty of pharmacy at Yarmouk university from 2018 to 2019. Eventually, he returned to just as the dean of the school of pharmacy, holding the position from 2019 to 2023.

During his tenure as the dean, the faculty of pharmacy at just achieved a significant milestone by securing its inaugural position in the QS world university ranking (301-350 rank). Prof. Al-Azzam's commitment to academic excellence is evident not only through this achievement but also in his impressive publication record. He has authored 182 publications, garnered 2,460 citations, and holds an h-index of 24. Additionally, he was recognized among the 'world's top 2% scientists' in Stanford university's 2023 ranking.

Prof. Sayer Al-Azzam has made significant contributions to pharmacy education and research in Jordan. He actively participates in key committees, including the PharmD and BSc in Pharmacy National Competencies Committee. Since 2023, he has served as the Director of the Graduate Studies Committee at the Jordan Medical Council, influencing the future of pharmacy education and research. His expertise extends globally, providing review services for various organizations, universities, and scientific journals. With over 30 graduate students under his supervision and numerous examination contributions across universities, Prof. Al-Azzam has played a pivotal role in shaping the next generation of pharmacy professionals.

Contacts

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[Research Gate](#)

[Google scholar](#)

EDUCATION

Post-Doctoral Fellowship in Clinical Pharmacokinetics

University of Iowa, USA (2004)

Doctor of Pharmacy

University of Iowa, USA (2001-2003)

M.Sc. Clinical Pharmacy

Jordan University of Science and Technology (JUST), Irbid, Jordan (1999-2001)

Graduated first in class of 2001

B.Sc. Pharmacy

Jordan University of Science and Technology (JUST), Irbid, Jordan (1995-1999)

Graduated third in class of 1995

PROFESSIONAL EXPERIENCE

- Professor, Department of Clinical Pharmacy, JUST (2015 - Present)
- Visiting Professor and Research Fellow, Queen's University Belfast (QUB) (2014 – 2017)
- Fellow, Research Capacity for Public Health in the Mediterranean (RESCAP-MED) Fellowship Programme, Trinity Centre for Health Sciences, Dublin, Ireland (2014)
- Board Certified Pharmacotherapy Specialist, American Pharmacist Association (2010 – Present)
- Associate Professor, Department of Clinical Pharmacy, JUST (2010 – 2015)
- Assistant Professor, Department of Clinical Pharmacy, JUST (2005 – 2010)

RECOGNITION, HONORS AND AWARDS

- Globally recognized and featured in the PLoS study by Stanford University of the top 2% most cited scientists in the world (2023).
- Ranked 2nd for Pharmaceutical Sciences at Jordan University of Science and Technology and 7th in Jordan in the AD (Alper-Doger) Scientific Index for scientists (2023).
- Established the reference value for measuring aspirin resistance, a milestone adopted by Roche Company, Switzerland (2014).
- Awarded Best Poster for "Factors that Contribute to Clopidogrel Resistance in Cardiovascular Disease Patients: Environmental and Genetic Approach" at the first funded research conference by the Deanship of Research, JUST, Irbid, Jordan (2012).
- Received a scholarship from Jordan University of Science & Technology to pursue Doctor of Pharmacy and fellowship in clinical pharmacy from the University of Iowa, USA (2003).

ADMINISTRATIVE EXPERIENCE

Member, Jerash University Board of Trustees

(2022 - Present)

Responsibilities:

- Strategic leadership through providing visionary direction and implementing initiatives to enhance academic quality, innovation, and financial sustainability.
- Ensuring effective governance, transparency, and risk management, contributing to the university's ethical and operational integrity.
- Fostering collaborative relationships with diverse stakeholders to support the university's mission, enhance its reputation, and promote student success.

Dean

Faculty of Pharmacy, JUST

2019- 2023

Achievements:

- Spearheaded inclusion of Faculty of Pharmacy in QS World University Rankings, securing position within 301-350 rank.
- Ensured continuous accreditation of pharmacy programs by ACPE International for four consecutive years.
- Pioneered incorporation of pharmacy programs into Jordanian National Qualifications Framework, setting precedent in Jordan.
- Established four specialized simulation laboratories for pharmacy practice, enhancing hands-on skills.
- Implemented robust course quality assurance system for pharmacy and PharmD programs.
- Established three new master's programs to address emerging trends in pharmaceutical education namely M.Sc Of Biomedical Ethics, M.Sc. of Pharmacoeconomics, M.Sc. of Pharmacology and Experimental Therapeutics.
- Developed cutting-edge curricula for B.Sc. Pharmacy, Pharm. D, and Clinical Pharmacy M.Sc. programs.
- Transformed Master's tracks into comprehensive programs to enhance academic offerings.
- Designed new curriculum for PhD program in pharmaceutical sciences.
- Successfully rehabilitated the museum at School of Pharmacy through external funding.
- Cultivated international research collaborations within pharmaceutical industry.
- Renovated two seminar rooms with external funding, providing modern learning environments.
- Established comprehensive database for graduates, stakeholders, and pharmacy employees.
- Established and activated multiple college committees to address academic and administrative needs.
- Improved strategic planning process through implementation of automated tools and systems.
- Spearheaded initiation of Research Committee for BSc Pharmacy students, organizing training workshops.
- Implemented automated systems to streamline the process of determining course equivalencies.
- Spearheaded introduction of Interprofessional Education (IPE) activities, coordinating workshops.
- Revamped pharmaceutical research course for PharmD students, establishing partnerships with research centers.
- Coordinated successful alumni gathering for networking and community-building.
- Implemented course quality assurance system to evaluate effectiveness and track student progress.
- Formulated guidelines and updated curriculum for student training in community pharmacies and clinical courses.
- Founded "Ibdaa" initiative to cultivate culture of creativity and excellence among students.
- Managed and supervised a comprehensive array of over 100 activities, encompassing workshops, seminars, medical awareness days, high-profile employer meetings, and professional development sessions.

Dean

Faculty of Pharmacy, Yarmouk university (YU)

2018- 2019

Achievements:

- Founded the faculty of pharmacy, expanding academic offerings and enriching educational opportunities.
- Initiation of YU's first Institutional Review Board (IRB), promoting ethical research practices and regulatory compliance.

Vice Dean

Faculty of Pharmacy, JUST	2017 – 2018
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Achievements:

- Established of Collaborations with Ulster University and orchestrated successful partnerships between Jordanian universities and Ulster University (UK), particularly focusing on the development of PhD programs.
- Spearheaded the signing of a pivotal MOU between JUST and Ulster University in 2017, fostering academic cooperation and exchange.
- Actively explored and pursued collaboration opportunities with Ulster University in 2018, aiming to further strengthen academic ties and collaborative research endeavors.
- Organized and facilitated an instructional workshop in 2017, featuring an esteemed expert from Ulster University. The workshop emphasized the importance of adopting international standards in educational assessment practices.
- Implemented Objective Structured Clinical Examination (OSCE) that led the successful integration of OSCE into the school's curriculum, representing a significant advancement in educational methodologies

Chairman

Department of Clinical Pharmacy, King Abdullah University Hospital (KAUH)	2009 – 2014
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Achievements:

- Marked a historic milestone with the introduction of Jordan's first Clinical Pharmacy Department and Drug Information Center. This achievement was honored with the prestigious Prince El-Hassan Excellence Award in 2011, recognizing its exceptional implementation of model Clinical Pharmacy Services at the university hospital in 2008.
- Played a pivotal role in the development of the Clinical Pharmacist job description in Jordan, ensuring alignment with industry standards and organizational requirements, thus enhancing the quality and effectiveness of pharmaceutical care delivery.
- Pioneered the launch of the first specialized drug information website representing a groundbreaking endeavor in pharmaceutical information dissemination.
- Founded and meticulously supervised the patient counseling center, overseeing its growth and development into a vital resource for patient education and support.
- Initiated and facilitated the activation of pharmacovigilance reporting at KAUH, enhancing medication safety and regulatory compliance within the healthcare institution.
- Pioneered the establishment and continuous evolution of specialized diabetes clinics, providing essential healthcare services and improving patient outcomes.

Chairman

Department of Clinical Pharmacy, JUST	2006 – 2008
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Achievements:

- Coordinated Experiential Training for Doctor of Pharmacy (PharmD)
- Updated curricula for B.Sc. Pharmacy and Pharm. D programs.

PARTNERSHIPS AND COLLABORATIONS

- **Director/ International Clinical Practice Research Unit (ICPRU), University of Huddersfield:**

The ICPRU aims to encourage and facilitate multidisciplinary collaborations between healthcare professionals and researchers in the Middle East Area and the United Kingdom. To enable the multidisciplinary research community to attain excellence, the ICPRU:

- Established a group of experts in clinical specialties to work towards generating high-quality research and work with other global research groups.
- Conducting relevant clinical and research training
- Designing and implementing collaborative clinical practice research projects
- Providing joint webinars and conferences
- Creating opportunities for conducting research in a global community

More than 15 publications have resulted from this collaborative work, showcasing the productivity and impact of our research efforts.

- Facilitated mutual collaboration agreement between Faculty of Pharmacy at JUST and College of Pharmacy at University of Bradford.
- Fostered collaborations between Jordanian universities and University of Huddersfield for undergraduate and post-graduate programs.
- Formulated Memorandum of Understanding (MoU) between JUST and EMPHNET to foster collaboration.

ADVANCING HEALTH POLICY AND ACADEMIC EXCELLENCE

Lead project for Improving Undergraduate Professional Education and Training about Antimicrobial Resistance in collaboration with WHO 2023-Ongoing

- Collaboration initiatives between JUST medical colleges and the World Health Organization (WHO) to assess levels of awareness and understanding about antibiotics and antibiotic resistance, including community surveys, campaigns, and curriculum assessment. I am leading this collaboration aiming to develop specific topics and modules focusing on AMR and addressing its potential causes, consequences, and preventive measures, an in-depth examination of AMR teaching patterns and relevant curricula among JUST's medical, pharmacy, public health, nursing, and agriculture faculties to ensure similarity and coherence in their topics.

Pioneering Leadership: Shaping Clinical Pharmacy Residency Standards in Jordan 2023-Ongoing

- Led the development of regulations for clinical pharmacy residency programs in Jordan, marking a historic milestone in the country's healthcare landscape. These regulations paved the way for the nationwide implementation of residency programs, contributing to the advancement and standardization of clinical pharmacy practices.

Multidisciplinary Consensus Statement: Management of Dyslipidemia in Jordan 2023

- Developed Jordanian multidisciplinary consensus statement on the management of dyslipidemia that was adopted as a scientific reference paper by Jordanian Medical Association

Analysis and Utility of Population-Level Antimicrobial Consumption Data in Jordan [JFDA/WHO] 2020

- Developed a report on Analysis and Utility of Population-Level Antimicrobial Consumption Data in Jordan in collaboration with the Jordan Food and Drug Administration (JFDA) and the World Health Organization (WHO). The report provided critical insights into antimicrobial consumption patterns in Jordan, guiding evidence-based policies and interventions to optimize prescribing practices and combat antimicrobial resistance. Its findings informed stakeholders, fostering collaborative efforts towards effective antimicrobial stewardship and improved patient outcomes.

Assessing Medication Cost-Effectiveness and Accessibility in Jordan 2020

- Played a pivotal role as a member of a committee convened by the Minister of Health in Jordan, evaluating medication cost effectiveness and accessibility nationwide. I actively contributed to

investigate and assess the cost-effectiveness and accessibility of medications within the local healthcare system, thereby demonstrating commitment to healthcare policy advocacy and analysis at a national level.

Scientific Research Funds, Ministry of Higher Education and Scientific Research, Amman, Jordan 2009

- Provided review and research evaluation services contributing to the advancement of scientific research initiatives.

Participation in Wikipedia Study by Oxford University and Epic 2012

- Engaged in a comprehensive Wikipedia study conducted by Oxford University and Epic, a prominent e-learning company in the UK. Conducted detailed assessments of selected articles related to academic expertise and research, contributing to the development of rigorous assessment methodologies for Wikipedia content quality evaluation.
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TEACHING EXPERIENCE

Courses Offered for B.Sc. in Pharmacy, Pharm D, M.Sc Of Biomedical Ethics and MSc Clinical Pharmacy Students:

B.Sc. in pharmacy and Pharm D

- Therapeutics
- Drug Information and Resources
- Pharmacology
- Clinical Training
- Case Studies in Therapeutic Drug Monitoring
- Clinical Pharmacokinetics

Postgraduate

- Research Methodology
- Advanced Therapeutics
- Clinical Training
- Clinical trials and ethics in pharmacy
- Seminar

ACADEMIC SUPERVISION

Main Advisor

1. **Akram Alnusairi** (MSc in Clinical Pharmacy, 2021) - “Evaluating the Potential Effect of Edaravone on Learning and Memory Impairment in Streptozotocin-Induced Diabetic Rats”
2. **Tala Shoqairat** (MSc in Clinical Pharmacy, 2020) - “Polypharmacy patients' attitudes towards deprescribing and adherence”
3. **Ola Al-Azzam** (MSc in Clinical Pharmacy, 2019) - “Association between Comorbidity and Polypharmacy among Elderly Patients in Jordan: A Nation-wide Population-based Study”
4. **Sherafel Almotairi** (MSc in Clinical Pharmacy, 2018) - “Knowledge And Awareness Of Pharmacists And Patients About Proper Use Of Isotretinoin”
5. **Lana Rababah** (MSc in Clinical Pharmacy, 2018) - “Evaluation of Health Literacy among Jordanian Population”
6. **Arwa Ahmad Al-Berkdar** (MSc in Clinical Pharmacy, 2013) - “Evaluation of Vitamin B12 Effects on DNA Damage Induced by Hydrochlorothiazide”
7. **Jaafar Abu Abeeleh** (MSc in Clinical Pharmacy, 2011) - “Effects of Simvastatin Therapy on Selected Novel Markers in Type 2 Diabetic Patients”

8. **Rania Jammal** (MSc in Clinical Pharmacy, 2011) - "Effect of Dietary Related Plasma Trace Elements Concentration on Anticoagulation Response to Warfarin"
9. **Ola Al-Azzah** (MSc in Clinical Pharmacy, 2011) - "The Role of Type II deiodinase Polymorphisms in Clinical Management of Hypothyroid Patients Treated with Levothyroxine"
10. **Deniz Tawalbeh** (MSc in Clinical Pharmacy, 2011) - "Factors Associated with Aspirin Resistance in Premedicated with Aspirin"
11. **Mohamad Nuseir** (MSc in Clinical Pharmacy, 2011) - "Clinical and Genetic Variants Related to clopidogrel Resistance"
12. **Mais Ghanma** (MSc in Clinical Pharmacy, 2010) - "The Role of Genetic Polymorphism of Leptin Receptor on Clinical Outcomes of Oral Hypoglycemic Agents in Patients with Type2 Diabetes"
13. **Raya Al Zayadeen** (MSc in Clinical Pharmacy, 2010) - "Effect of Statins on the Leptin-to-Adiponectin Ratio in Type II diabetic Patients"
14. **Shayma'a Arif** (MSc in Forensic Science and Toxicology, 2008) - "The Effect of different levels of Vitamin C on the Hepatotoxicity of Isoniazid, the Antiuberculosis Drug: A Biochemical and Histopathological Study"
15. **Mohammad W. Jaradat** (MSc in Forensic Science and Toxicology, 2008) - "The Nephroprotective Effects of Pioglitazone and Glibenclamide Against Gentamicin-Induced Nephrotoxicity in Rats: A Comparative Study"
16. **Laila Al-Hambouth** (MSc in Clinical Pharmacy, 2008) - "Correlation Between Vitamin B12 Levels and Quality of Life Among Healthy University Students in Jordan"

Co-advisor

1. **Dania Rahhal** (MSc in Clinical Pharmacy, 2022) – "Prediction of Acute Kidney Injury for Hospitalized Patients Using Artificial Intelligence Approaches: A Retrospective Study from Jordan"
2. **Noor Gharaibeh** (MSc in Clinical Pharmacy, 2020) – "Evaluation of the Effect of Parabens on P-glycoprotein Activity: A Pharmacokinetic Study"
3. **Reham Yafawi** (MSc in Clinical Pharmacy, 2019) – "An Exploratory Study of Mothers` Perceptions and Experiences of Cesarean Section Delivery in Jordan"
4. **Rawan Albadaineh** (MSc in Clinical Pharmacy, 2019) – "Awareness and perception of thromboembolism and thromboprophylaxis among hospitalized patients in Jordan: a cross-sectional study"
5. **Mohammad Alqawasmeh** (MSc in Applied Biological Sciences, 2013) – "Evaluation of DNA Damage Induced by Phosphodiesterase Type 5 Inhibitors (Pde5-Is): Sildenafil, Tadalafil, And Vardenafil"
6. **Fatima Enaya** (MSc in Medical Laboratory Sciences, 2013) – "Evaluation of DNA Damage Induced by Norcantharidin in Human Cultured Lymphocytes"
7. **Wisam Abdawi** (MSc in Clinical Pharmacy, 2012) – "Effect of Leptin Gene Methylation on Colorectal Cancer Chemoresistance"
8. **Hassan Al-Agedi** (MSc in Clinical Pharmacy, 2012) – "Public Awareness and Views Regarding Children Vaccination in Jordan"
9. **Banan Awawdeh** (MSc in Public Health, 2012) – "Compliance with Safe Handling Guidelines During Antineoplastic Drug Preparations and Administration in Jordanian Hospital"
10. **Noor Alaa Aldein** (MSc in Clinical Pharmacy, 2011) – "Evaluation of Vitamin B12 Effects on DNA Damage Induced by Pioglitazone"
11. **Murad Tashtoosh** (MSc in Clinical Pharmacy, 2011) – "Study the Effect of Pioglitazone and/or Metformin on Dementia Induced by Chronic Administration of L- Methionine"
12. **Ala' Mahmoud al-Bdour** (MSc in Applied Biological Sciences, 2010) – "Warfarin Dosing and VKORC1 Haplotypes in Jordanian Patients"
13. **Baraa algharaibeh** (MSc in Clinical Pharmacy, 2010) – "Correlation between Granzyme B Gene Polymorphisms and Clinical Outcomes in Patients With colorectal cancer"
14. **Suha Wehaibi** (MSc in Medical Laboratory Sciences, 2010) – "Association of Adiponectin and Leptin Gene Polymorphisms with Hypertension in Type 2 Diabetic Patients"
15. **Banan Ali Habib** Allah (MSc in Nutrition and Food Science, 2008) – "Factors Affecting Vitamin B12 Deficiency Among College Students"

16. **Saddam Rawashdeh** (MSc in Public Health, 2007) – “Evaluating Irrational Household Drug Use in Irbid Governorate 2007”

Supervisor

1. **Zienab Alhashimi**, PhD student, University of Huddersfield (2023-present)
2. **Danah Karasneh**, PhD student, University of Huddersfield (2024-present)
3. **Nadia Syafhan** (PhD in Clinical Pharmacy, 2017)

Internal examiner

I have served as the internal examiner for more than 20 student committees across various faculties at JUST including:

- Pharmacy
- Medicine
- Information Technology
- Applied Medical Sciences

External examiner

I have fulfilled the role of an external examiner for several esteemed universities, including:

- University of Jordan, Amman, Jordan
- Yarmouk University, Irbid, Jordan
- Qatar University, Doha, Qatar

MEMBERSHIPS

- Registered pharmacist in Jordan, and active member of the Jordanian Association of Pharmacy, Amman, Jordan (1999-Present).
- Engaged as a member of the Clinical and Practice Research Group at the School of Pharmacy, Queen’s University Belfast, (2014 to 2017)
- Currently serving as a member of the eHealth Development Association in Jordan (2019-present).
- Actively participating as a member of the Society for Faculty Members of JUST, Irbid, Jordan (2018-present).
- Engaged as a member of the Arabic Pharmacy Board contributing to advancements in the field (2019-present).

COMMITTEES & COUNCIL MEMBERSHIP

INTERNATIONAL

- Global Burden of Disease Collaborator Network, Member (2022 – Present)
- University of California San Diego, Fogarty NIH Research Ethics Program in Jordan, Mentor (2014 – Present)

NATIONAL

Jordan Food and Drugs Administration (JFDA)

- Drug-related Decision Appeals Committee, Member (2023 – Present)
- Clinical Studies Oversight Committee and Site Inspection, Member (2019 – 2023)

Ministry of Health

- National Efforts in Combating Antimicrobial Resistance Research Committee, Member (2022 – Present)
- Jordanian Pharmaceutical Pricing Review Committee, Member (2019)

Jordan Medical Council

- Graduate Studies Committee, Chair (2023 – Present)

Jordan Pharmacists Association (JPA)

- Jordan Pharmaceutical Board Establishment Committee, Member (2012 – Present)
- Scientific committee for the 16th Jordanian Pharmaceutical Conference “Pharmacy Profession in the Bicentennial: A Future Vision”, Chair (2023)
- Pharmaceutical Forces Project Support Advisory Committee, Member (2019)
- Scientific Affairs Committee, Member (2011)
- Clinical Pharmacy Development Committee, Member (2011)

Royal Medical Services

- Clinical Pharmacy Examination Committee, Examiner (2012 – Present)

Higher Council for Education Accreditation and Quality Assurance

- Quality Assurance On-Site Evaluation Committee for Faculty of Pharmacy at Petra Private University, Member (2022)
- Quality Assurance On-Site Evaluation Committee for Faculty of Pharmacy at Amman Private University, Member (2019)
- Joint Pharmacy Program Accreditation Review Committee: University of Middle East and University of Strathclyde Partnership, Member (2019)
- Quality Assurance Review Committee for School of Pharmacy at Amman Al-Ahliya University, Member (2019)
- Pharmacy Competencies and Learning Outcomes Review and Enhancement Committee, Member (2019)
- Pharm D Program Accreditation Committee, Member (2011)
- Jordan Food and Drugs Administration (JFDA), Drug-related Decision Appeals Committee, Member (2023 – Present)
- JFDA, Clinical Studies Oversight Committee and Site Inspection, Member (2019 – 2023)
- Jordan Medical Council, Graduate Studies Committee, Member (2023 – Present)
- Ministry of Health, National Efforts in Combating Antimicrobial Resistance Research Committee, Member (2022 – Present)

Jerash University

- Graduates Studies council, Member (2021-present)

JUST

- Appealing Council, Member (2017-2018, 2023 – Present)
- Pharmaceutical Research Center Council, Member (2019 – 2023)
- University Council, Member (2009 – 2010, 2021-2022)

Faculty of Pharmacy /JUST

Director

- Faculty’s Council (2019 – 2023)
- Graduate Studies Committee (2019 – 2023)
- Community Service Committee (2013 – 2014)
- Scientific and Continuous Education Committee (2012 – 2013)

- Community Pharmacy Training Implementation and Follow-up Committee (2012)
- Community Pharmacy Training Curriculum Development Committee (2012)
- Patient Counselling Simulation/Role-Play Supervision Committee (2011 - 2012)
- Community Pharmacy Training Committee (2011 – 2012)
- Clinical Pharmacy and Pharmacy Practice Committee (2010 – 2011)
- Library Committee (2008 – 2009)
- Clinical Pharmacy Services and Department Establishing Committee at KAUH (2009)

Member

- Faculty Council (2017 - 2018, 2005 – 2010)
- Graduate Studies Committee (2017 - 2018, 2006 – 2014)
- Scientific Research Committee (2017 - 2018, 2006 – 2014)
- Curriculum Committee (2017 - 2018, 2006 – 2008)
- The Appointment and Promotion Committee (2017 – 2018)
- Students' Academic Conduct (2013 – 2014)
- Clinical Pharmacy and Pharmacy Practice Committee (2008 – 2014)
- Scientific and Continuous Education Committee (2009 – 2013)
- Social Committee (2005 – 2010)
- Library Committee (2005 – 2006)
- Conferences and Scientific Days' Committee (2005 – 2006)

Department of Clinical Pharmacy/JUST

Served as Head, Member of many department-level committees across my career path.

YARMUK UNIVERSITY

Director

- Faculty's Council (2018 – 2019)
- Research Committee (2018 – 2019)

Member

- Dean's Council (2018 – 2019)
- Appointment and Promotion Committee (2018 – 2019)
- The Committee for the Implementation of the First Institutional Review Board (2018 – 2019)
- Accreditation and Quality Assurance Center (2018 – 2019)

KAUH

Director

- Drug Information Web Site (2013 – 2014)
- Clinical Pharmacy Newsletter (2012 – 2014)

Member

- Drug and Therapeutics Committee (2010 – 2014)
- Institutional Review Board (IRB) (2011 – 2014)
- Unit Dose System Committee (2011 – 2014)
- Medication Management and Use Committee (2012 – 2014)
- Pain Clinic Establishing Committee (2012 – 2014)

- Medical Board (2009 – 2012)

PRESENTATIONS AND WORKSHOPS (given)

- 31st Arab pharmacists' union scientific conference 'New trend in pharmacy toward development health care', Cairo, Egypt, 2022. Pharmacists' Key Roles During COVID-19 Pandemic.
- Scientific day the first, Faculty of Pharmacy, Jadara University. Telehealth and healthcare (2019).
- 15th Jordanian Pharmaceutical Conference. Amman, Jordan. The Role of Clinical Pharmacist in Ambulatory Clinics (2014).
- 6th Pharmacy Scientific Day, JUST, Irbid, Jordan. Clinical Pharmacy at KAUH (2013).
- 14th Pharmacy Conference, JPA, Amman, Jordan. New Technologies For Managing Diabetes Mellitus (2012).
- Clinical pharmacy at KAUH, Jordan Hospital, Amman, Jordan (2012)
- Workshop, Clinical Pharmacy and Pharmaceutical Care, JPA, Irbid, Jordan (2012)
- Workshop, Clinical cases in diabetes management, JPA, Amman, Jordan.
- 5th Conference on Scientific Research in Jordan, Amman, Jordan. Clinical and genetic variants related to clopidogrel resistance (2011).
- 2nd Scientific Day of Jordan Pharmaceutical Association, Alzarga-Jordan. Clinical cases in treatment of type 2 diabetes (2011).
- Clinical pharmacy at KAUH, JPA, Amman, Jordan (2011)
- 5th International Pharmacy Conference. Muscat, Oman. Pharmacy Practice, Passion, Performance and opportunities (2010).
- Scientific day of Faculty of Pharmacy, Jordan University, Amman-Jordan. Clinical pharmacy practice and education at JUST (2010).
- Workshop, Clinical pharmacy, Consultative Center for Science and Technology, JUST (2010).
- Workshop, Clinical pharmacy, Consultative Center for Science and Technology, JUST (2010).
- Workshop, Diabetes, JPA, Irbid, Jordan (2010).
- Importance of patient counseling, 5th scientific day of Jordan Pharmaceutical Association, Irbid-Jordan. (2009).
- Workshop, Drug Information Resources, JPA, Amman, Jordan (2009).
- Workshop, Cardiovascular diseases: pathophysiology and treatment, JPA, Irbid, Jordan (2009).
- Drug information resources, International Conference on Pharmacy Education and Practice (Pharmacy to PharmD), Damascus, Syria. (2007).
- Workshop New trends in treating hypertension, Diabetes and heart diseases, JPA, Irbid, Jordan (2007).
- Role of Clinical Pharmacy in Hospitals, Jordan Pharmaceutical Association and Private Hospitals Association, Amman, Jordan (2006).
- Pain Theory and Management, as part of Maxi Course in Jordan, American Academy of Implant Dentistry, JUST (2006).
- Clinical cases in diabetes management, JPA, Amman, Jordan (2006).
- Clinical Pharmacy and Pharmaceutical Care, JPA, Irbid, Jordan (2006).
- Clinical pharmacy at KAUH, JPA, Amman, Jordan (2006).
- Workshop, Drug Information Resources, JPA, Amman, Jordan (2006).
- Workshop, Drug Information Resources, Consultative Center for Science and Technology, JUST (2006).
- Workshop, Diabetes, JPA, Irbid, Jordan (2006).

CONFERENCES AND SCIENTIFIC MEETINGS

- Chair, the fifth International Faculty of Pharmacy Conference, Multidisciplinary Pharmaceutical Research, Irbid, Jordan. June 7-8 2023.
- JFDA 3rd international conference on pharmaceuticals ‘The royal vision for achieving drug security’, Amman, Jordan (2023).
- 31th Arab pharmacists union scientific conference ‘New trend in pharmacy toward development health care’, Cairo, Egypt, 2022.
- The 2nd Pharmacy scientific day. The way towards advancing pharmacy profession. Jadara University. Irbid. Jordan. (2019)
- 1st FIP Regional Conference, “Envisioning the future together: Transforming pharmacy for better primary health care”. Amman, Jordan (2019).
- The 17th International Jordanian Oncology Conference. Amman (2019).
- The 2nd Pharmacy scientific day. The way towards advancing pharmacy profession. Jadara University. Irbid. Jordan (2018).
- Scientific day the first, Faculty of Pharmacy, Jadara University. Telehealth and healthcare (2019)
- The 4th International conference on research ethics in Jordan, Irbid, Jordan (2019)
- 1st FIP Regional Conference, “Envisioning the future together: Transforming pharmacy for better primary health care”. Amman, Jordan (2019)
- The 17th International Jordanian Oncology Conference. Amman (2019)
- The Second International conference for Marketing Halal Medicines and Pharmaceutical Preparations, Princess Sumaya University for Technology, Amman, Jordan, (2018)
- The 3rd International Conference on Ethics in Jordan: Publication and Authorship. Irbid, Jordan (2018).
- The 2nd International Conference on Ethics in Jordan: Clinical Trials. Irbid, Jordan (2017)
- The 3rd International Conference on Ethics in Jordan: Publication and Authorship. Irbid, Jordan (2018)
- ASU Pharmacy Fourth Conference. Recent Trends in Postgraduate Research. IBRO-MENA advanced School in Neurodegenerative Disorders: Translation into Clinical Neurology, Irbid, JUST (2017)
- International pharmacy conference Challenges vs Opportunities. The 2nd International Conference on Ethics in Jordan: Clinical Trials. JUST, Jordan (2017).
- 15th Jordanian Pharmaceutical Conference. Amman, Jordan. “The Role of Clinical Pharmacist in Ambulatory Clinics” (2014),
- 7th Pharmaceutical Scientific Day. New Prospects in Pharmaceutical care. Dead Sea, Jordan (2012)
- 1st Funded Research Conference Deanship of Research, JUST (2012)
- 14th Pharmacy Conference, JPA, Amman, Jordan. New Technologies for Managing Diabetes Mellitus (2012)
- 6th International Conference of The Royal Medical Services. Dead Sea, Jordan (2012)
- 6th Pharmacy Scientific Day, JUST, Irbid, Jordan. Clinical Pharmacy at KAUH (2013)
- 11th Congress of the European Association for Clinical Pharmacology and Therapeutics, Geneva, Switzerland. (2013)
- Dubai International Pharmaceuticals and Technologies Conference and Exhibition, Dubai-UAE. (2014)
- 15th Jordanian Pharmaceutical Conference. Amman, Jordan. (2014)
- Director, 1st Conference in clinical pharmacy, KAUH, Irbid, Jordan (2011)
- 5th Conference on Scientific Research in Jordan, Amman, Jordan. (2011)
- 2nd Scientific Day of Jordan Pharmaceutical Association, Alzarga-Jordan. (2011)
- Pharmacy Education: Perspective of Career Market. Scientific day of the University of Jordan. Amman, Jordan (2011)

- 5th International Pharmacy Conference. Muscat, Oman. “Pharmacy Practice, Passion, Performance and opportunities” (2010).
- Princess Basma Teaching Hospital, The 1st International Medical and Dental Conference. Irbid-Jordan (2010).
- Scientific day of Faculty of Pharmacy, Jordan University, Amman-Jordan. Recent Advances in Pharmaceutical Research in Jordan. “Clinical pharmacy practice and education at JUST” (2010).
- 5th scientific day of Jordan Pharmaceutical Association, Irbid-Jordan. (2009)
- Dubai International Pharmaceuticals and Technologies Conference and Exhibition, Dubai-UAE (2009)
- International Conference on Pharmacy Education and Practice (Pharmacy to Pharm.D), Damascus, Syria. (2007)
- 8th Congress of the European Association for Clinical Pharmacology and Therapeutics, Amsterdam, the Netherlands. (2007)
- Jordan International Pharmaceutical Conference, Amman, Jordan (2006)

CONTINUOUS PROFESSIONAL DEVELOPMENT COURSES/WORKSHOPS:

I have successfully completed the following training courses:

- E-learning and WebCT: offered by the Consultative Center for Science and Technology at the Jordan University of Science and Technology (Jul.10-13, 2006)
- The National Strategy for the rationalization of health Expenditure on Medications, Ministry of health, Amman, Jordan. (Nov. 20, 2011)
- Assessment and Management of Acute and Chronic Pain, Faculty of nursing, JUST, Irbid, Jordan. (Nov. 24, 2011)
- Clinical Investigation Training Program (CITP), at the Jordan Food and Drug Administration (JFDA), Amman, Jordan. (Dec. 2011)
- Informed Consent for research in Adults: Legal and Ethical Issues in Consent at QUB, Belfast, UK. (May 2015)
- Introduction to SPSS at QUB, Belfast, UK (April 2016)
- Using Technology to Enhance Online Learning, at QUB, Belfast, UK. (March 2016)

COMMUNITY SERVICES

Leadership in Awareness: Orchestrating Impactful Initiatives as Dean (2019-2023)

During my tenure as dean (2019-2023), I oversaw and managed a wide range of over 70 awareness activities. This involved careful planning, coordination, and supervision to ensure each initiative aligned with our goals. I provided hands-on guidance and monitoring to ensure effectiveness and relevance, fostering a culture of knowledge-sharing and engagement within the community.

visit the faculty Facebook page for the faculty of pharmacy at JUST for more details.

"The Proper Use of Antibiotics" Campaign (2007)

Led and contributed significantly to university-wide awareness initiative focusing on responsible antibiotic usage. Through workshops and interactive sessions, raised awareness about adherence to prescribed regimens and consequences of antibiotic resistance. Impact: Promoted public health consciousness within the university and contributed to broader efforts in combating antibiotic resistance.

Diabetes-Care Program Development and Collaboration (2018-Present)

Played a pivotal role in developing over 50 diabetes-care programs in collaboration with Learning About Diabetes, Inc., focusing on simplifying and translating crucial information into Arabic for improved accessibility. Contributed to the mission of providing clear, concise, and effective diabetes education

materials to individuals with diabetes and healthcare professionals, now available on the organization's website.

Initiative Founder: 'Diabetes and Life' (2018-Present)

Founded the initiative entitled 'Diabetes and Life', directed towards diabetic patients with the aim of increasing awareness about diabetes by publishing a wide range of educational materials in Arabic language covering any relevant topic of interest to this group of patients.

"الصيدلة معنا أظلى" Campaign (2011 - 2014)

Played a key role in faculty-led initiative at JUST to raise awareness about the Clinical Pharmacist's role in patient care through lectures, workshops, and open discussions for Pharmacy and PharmD students.

Co-founder: Doctor of Pharmacy Volunteer Campaign (2011-Present)

Co-founded the Doctor of Pharmacy: Towards Optimal Pharmaceutical Care Volunteers Campaign in Jordan, aimed at promoting optimal pharmaceutical care through volunteer efforts and educational initiatives.

Community Medical and Awareness Events Coordinator (2011-present)

Participated in and co-organized over 60 Free Medical and Awareness days as part of the Doctor of Pharmacy: Towards Optimal Pharmaceutical Care Volunteers Campaign in Jordan. These events aimed to provide free medical services and raise awareness about healthcare issues in local communities.

Writing Articles about Diabetes at "Alghad" Newspaper (2012 - 2014)

Contributed regular articles in Arabic language to "Alghad" newspaper, focusing on diabetes education and awareness.

"Consult Your Pharmacist" Awareness Campaign (18-24 March 2012)

Organized university-level campaign where graduating PharmD students offered pharmaceutical care advice at specialized booths on campus, addressing issues such as diabetes care, smoking cessation, and hypertension management.

"Consult Your Pharmacist: Toward Better Pharmaceutical Care" (26-28 April 2012)

Represented faculty in raising awareness about the Clinical Pharmacist's role in patient care at the 14th Jordanian Pharmacy Conference through a booth exhibition.

Pharmaceutical Counseling Day (23 June 2012)

Organized and provided free pharmaceutical counseling and clinical pharmacy services at Arabella Mall, Irbid, Jordan.

Participation in Free Medical Days at Various High Schools (December 2012 - May 2013)

Contributed to free medical days at Hartha High School, Elzamal High School, and Alhusun Technical High School, providing healthcare services and education.

Participation in Free Medical Week at Asarih Primary Health Care Center (May 2013)

Engaged in a week-long initiative providing healthcare services and raising health awareness at Asarih primary health care center, Irbid, Jordan.

Health Awareness Campaign on World Diabetes Day at KAUH (14 November 2013)

Organized and participated in a health awareness campaign at King Abdullah University Hospital on World Diabetes Day.

Awareness Cancer Campaign Day (May 2014)

Coordinated university-level awareness campaign on cancer awareness, emphasizing prevention and early detection strategies.

RESEARCH INTEREST

My research interests revolve around addressing major health challenges, particularly antibiotic resistance, within the field of clinical pharmacy and pharmacoepidemiology. Specifically, I focus on examining patterns of antibiotic usage and resistance to implement stewardship interventions aimed at combating antimicrobial resistance and reducing healthcare-associated infections.

Specific research interests

- Pharmacoepidemiologic studies examining antibiotic utilization patterns, resistance mechanisms, and the impact of stewardship interventions.
- Evaluation of interventions to improve antibiotic prescribing practices, minimize antimicrobial resistance, and reduce healthcare-associated infections.
- Exploration of disparities in antibiotic use and resistance across different patient populations and healthcare settings.
- Assessment of real-world effectiveness and safety of medications.
- Investigation of medication utilization patterns and treatment outcomes, with a focus on optimizing therapy regimens and enhancing patient care

RESEARCH REVIEW SERVICES

Contributed as a reviewer for the following scientific journals:

- Jordan Pharmaceutical Journal
- Saudi Medical Journal
- International Journal of Cardiology
- Journal of Infection and Public Health
- Human and Experimental Toxicology
- Pharmaceutical Biology
- International Journal of Pharmacy and Pharmacology
- Journal of Infections in Developing Countries
- Pharmacy
- Cardiovascular Diabetology

FUNDED RESEARCH

TOTAL: 282,060\$

All as the principal investigator (PI)

1. **Developing a Model for Rationale Drug Use in Jordan (2012):** Authored by Sayer Al-Azzam (PI), with Karem Alzoubi, Salah Abu Ruz, and Qais Alefan as Co-Is. Sponsored by The Scientific Research Support Funds, **Ministry of Higher Education and Scientific Research**, Amman, Jordan. **Funding: \$174,000.**
2. Correlation between Vitamin B12 Levels and Quality of Life among Healthy University Students in Jordan (2008): **\$14,200.**
3. The Role of Genetic Polymorphism of Leptin Receptor on Clinical Outcomes of Metformin in Patients with Type 2 Diabetes (2008): **\$13,460.**
4. Clinical and Genetic Variants related to Clopidogrel Resistance (2009): **\$14,200.**
5. Effect of Statins on the Leptin-to-Adiponectin Ratio in Type II Diabetic Patients (2008): **\$14,200.**
6. Effects of Simvastatin Therapy on Selected Novel Adipocytokines in Type 2 Diabetic Patients (2009): **\$11,650.**
7. Factors Associated with Aspirin Resistance in Patients Premedicated with Aspirin (2009): **\$11,350.**
8. The Role of Type II Deiodinase Polymorphisms in Clinical Management of Hypothyroid Patients treated with Levothyroxine (2009): **\$12,050.**
9. Implications of Gene Polymorphism in the Cytochrome P450 in Clopidogrel Resistance (2012): **\$13,200.**

10. Evaluation of Vitamin B12 Effects on DNA Damage Induced by Hydrochlorothiazide (2012): \$7,100.
11. Effect of Dietary Related Plasma Trace Elements Concentration on Anticoagulation Response to Warfarin (2008): \$11,000.
12. Long-term Effects of COVID-19 in Jordanian Population: A Prospective Cohort Study (2021): \$11,900.
13. Evaluating the Potential Effect of Edaravone on Learning and Memory Impairment in Streptozotocin-Induced Diabetic Rats (2020): \$9,000.
14. Prescription Trends in Outpatient Hospital Pharmacy in Jordan (2014): \$4,000.
15. Pharmacist's Role in the Prevention of Medication Errors in Outpatient Pharmacy (2013): \$6,800.
16. The Nephroprotective Effects of Oral Hypoglycemic Agents against Gentamicin-Induced Nephrotoxicity in Rats: A Comparative Study (2007): \$5,250.
17. The Metabolic Effects of Combination of Enalapril and Oral Hypoglycemic Agents in Streptozotocin-Induced Diabetic Rat (2007): \$5,700.
18. Analysis and Utility of Population-level Antimicrobial Consumption Data in Jordan (2020): \$5,100.
19. The Pharmacovigilance Awareness Project: Pharmacists, Pharmacy Students, and Patients' Intentions, Attitudes, and Knowledge toward Adverse Drug Events Reporting (2018): \$5,100.
20. Polypharmacy Patients' Attitudes towards Deprescribing and Adherence (2017): \$900.
21. Association between Comorbidity and Polypharmacy among Elderly Patients in Jordan: A Nationwide Population-based Study (2017): \$700.
22. Evaluation of Health Literacy among Jordanian Population (2017): \$600.
23. Predictors of Morbidity and Mortality in Chronic Kidney Disease Patients (2018): \$5,400.
24. Prevalence of Metabolic Syndrome and Its Components among Patients Receiving Various Psychiatric Medications: A Cross-sectional Study (2018): \$3,000.
25. Healthcare Workers and Students' Knowledge, Attitudes and Behaviors on Antibiotics, Antibiotic Use and Antibiotic Resistance (2021): \$3,100.
26. The Identification of Specific Antibiotic Use Threshold to Control Methicillin-Resistant *Staphylococcus Aureus* (MRSA) and Carbapenem-Resistant *Acinetobacter Baumannii* (CRAb) Incidence Rates in Hospitals (2020): \$3,800.
27. The Media Role in Risk Communication: How It Helps in Improving the Knowledge, Preventive Practices and Preparedness of Healthcare Workers and General Public for the New Emergent 2019-nCoV Pandemic (2020): \$4,000.
28. The Impact of Diabetes Mellitus on the Outcomes of COVID-19 in Hospitalized Patients (2022): \$3,400.
29. Machine Learning-Based Prediction of the Risk of Hypoglycemia among Hospitalized Patients (2023): \$4,000.
30. Early Prediction of In-Hospital Mortality for ICU Patients (2023): \$4,200.
31. Measuring the Effectiveness of The Pharmacovigilance Training Program Targeted Healthcare Professionals in Jordan (2023): \$4,200.

SCOPUS PREVIEW

Publications: 182; **Citations:** 2,460; **h-index:** 24; **ORCID:** <https://orcid.org/0000-0002-3414-7970>

PUBLICATIONS

1. Rawashdeh M., Alzoubi K.H., Muflih S., **Al-azzam S.**, Halboup A.M. Community pharmacists' attitudes, prior experience, and perceived barriers to informatics: A cross-sectional study from a developing country. (2024) *Informatics in Medicine Unlocked*, 46, art. no. 101473. DOI: 10.1016/j.imu.2024.101473
2. Rashidi M.-M. et.al. Mortality and disability-adjusted life years in North Africa and Middle East attributed to kidney dysfunction: a systematic analysis for the Global Burden of Disease Study 2019. (2024) *Clinical Kidney Journal*, 17 (1), art. no. sfad279. DOI: 10.1093/ckj/sfad279

3. **Al-Azzam, S.**, Kharaba, Z., Altawalbeh, S. M., Alkwarit, A., Salmeh, N. A., Alfoteih, Y., Araydah, M., Karasneh, R., & Aldeyab, M. A. (2024). Health literacy, knowledge, household disposal, and misuse practices of antibiotics among UAE residents: A nationwide cross-sectional study. *Expert Review of Anti-Infective Therapy*, 22(3-Jan), 103–113. [DOI: 10.1080/14787210.2023.2284878]
4. Al-Azayzih, A., Al-Qerem, W., **Al-Azzam, S.**, Muflih, S., Al-Husein, B. A., Kharaba, Z., Kanaan, R. J., & Rahhal, D. (2024). Prevalence of medication associated with QTc prolongation used among critically ill patients. *Vascular Health and Risk Management*, 20, 27–37. [DOI: 10.2147/VHRM.S438899]
5. Jarab, A. S., Al-Qerem, W., Alzoubi, K. H., Alqudah, S., Heshmeh, S. R. A., Mukattash, T., **Al-Azzam, S.**, Naser, Y. A., & Alkhatatbeh, M. (2024). Prevalence of proteinuria and its associated factors in hypertensive diabetic patients. **European Review for Medical and Pharmacological Sciences*, 28*(1), 155–162. [DOI: 10.26355/eurrev_202401_34901]
6. GBD Collaborators. (2023). Global, regional, and national burden of allergic disorders and their risk factors in 204 countries and territories, from 1990 to 2019: A systematic analysis for the Global Burden of Disease Study 2019. *Allergy: European Journal of Allergy and Clinical Immunology*, 78(8), 2232–2254. [DOI: 10.1111/all.15807]
7. Alenazi, T. A., Shaman, M. S. B., Suliman, D. M., Alanazi, T. A., Altawalbeh, S. M., Alshareef, H., Lahreche, D. I., **Al-Azzam, S.**, Araydah, M., Karasneh, R., Rebahi, F., Alharbi, M. H., & Aldeyab, M. A. (2023). The impact of multidrug-resistant *Acinetobacter baumannii* infection in critically ill patients with or without COVID-19 infection. *Healthcare (Switzerland)*, 11(4), 487. [DOI: 10.3390/healthcare11040487]
8. Arabyat, R. M., Nusair, M. B., **Al-Azzam, S. I.**, Amawi, H. A., & El-Hajji, F. D. (2023). Willingness to pay for COVID-19 vaccines: Applying the health belief model. *Research in Social and Administrative Pharmacy*, 19(1), 95–101. DOI: 10.1016/j.sapharm.2022.09.003
9. Muflih, S. M., **Al-Azzam, S.**, Karasneh, R. A., Bleidt, B. A., Conway, B. R., & Bond, S. E. (2023). Public knowledge of antibiotics, self-medication, and household disposal practices in Jordan. *Expert Review of Anti-Infective Therapy*, 21(4), 477–487. DOI: 10.1080/14787210.2023.2182770
10. Abu-Ajaleh, S., Darwish Elhajji, F., Al-Bsoul, S., Abu Farha, R., Al-Hammouri, F., Amer, A., ... & Aldeyab, M. A. (2023). An Evaluation of the Impact of Increasing the Awareness of the WHO Access, Watch, and Reserve (AWaRe) Antibiotics Classification on Knowledge, Attitudes, and Hospital Antibiotic Prescribing Practices. *Antibiotics*, 12(6), 951. DOI: 10.3390/antibiotics12060951
11. Mhaidat, N. M., **Al-Azzam, S.**, Banat, H. A., Jaber, J. M., Araydah, M., ... & Aldeyab, M. A. (2023). Reporting Antimicrobial-Related Adverse Drug Events in Jordan: An Analysis from the VigiBase Database. *Antibiotics*, 12(3), 624. DOI: 10.3390/antibiotics12030624
12. Jarab, A. S., **Al-Azzam, S. I.**, Al-Mutairi, S., Abu Heshmeh, S., Mukattash, T. L., ... & Aburuz, S. (2023). Community pharmacists' knowledge and awareness about isotretinoin therapy and its dispensing practice in Jordan. *Heliyon*, 9(11), e22354. DOI: 10.1016/j.heliyon.2023.e22354
13. Al Mousa, E., **Al-Azzam, S.**, Araydah, M., Karasneh, R., Ghnaimat, M., ... & Hammoudeh, A. J. (2023). A Jordanian Multidisciplinary Consensus Statement on the Management of Dyslipidemia. *Journal of Clinical Medicine*, 12(13), 4312. DOI: 10.3390/jcm12134312
14. Karasneh, R., Al Sharie, S., **Al-Azzam, S.**, Altawalbeh, S. M., Khassawneh, B., ... & Aldeyab, M. A. (2023). Reported long-term effects of COVID-19 patients after hospital discharge in Jordan. *Medicine (United States)*, 102(38), E34633. DOI: 10.1097/MD.00000000000034633

15. Jarab, A. S., Al-Qerem, W. A., Hamam, H., Heshmeh, S. A., **Al-Azzam, S.**, ... & Alefishat, E. A. (2023). Glycemic control and its associated factors among diabetic heart failure outpatients at two major hospitals in Jordan. *PLoS ONE*, 18(10-Oct), e0285142. DOI: 10.1371/journal.pone.0285142
16. Kharaba, Z., Alfoteih, Y., Alzoubi, K. H., **Al-Azzam, S.**, Al-Azayzih, A., ... & Jirjees, F. (2023). Lessons Learned from the Pandemic in the UAE: Children COVID-19 Vaccine Hesitancy and Its Impact on the Choice of Distance versus Face-to-Face Learning Modalities: An In-Depth Analysis of a National Study. *Vaccines*, 11(10), 1598. DOI: 10.3390/vaccines11101598
17. Aldeyab, M. A., Crowe, W., Karasneh, R. A., Patterson, L., Sartaj, M., ... & Scott, M. (2023). The impact of the COVID-19 pandemic on antibiotic consumption and prevalence of pathogens in primary and secondary healthcare settings in Northern Ireland. *British Journal of Clinical Pharmacology*, 89(9), 2851–2866. DOI: 10.1111/bcp.15778
18. Abuhammad, S., Alzoubi, K. H., **Al-Azzam, S.**, Alshogran, O., Mehrass, A.-A., ... & Abu Alrub, S. (2023). Stigma towards Chronically Ill Patients among Healthcare Workers Caring for COVID-19 Patients during the Outbreak in Jordan. *Nursing Forum*, 39(5), 926–932. DOI: 10.1155/2023/2254275
19. Al-Azzam, N., **Al-Azzam, S.**, Khassawneh, B., Araydah, M., & Aldeyab, M. A. (2023). Factors contributing to poor COVID-19 outcomes in diabetic patients: Findings from a single-center cohort study. *PLoS ONE*, 18(8-Aug), e0290946. DOI: 10.1371/journal.pone.0290946
20. Amawi, H., Arabyat, R. M., **Al-Azzam, S.**, AlZu'bi, T., U'wais, H. T., ... & Nusair, M. B. (2023). The Length of Hospital Stay of Patients with Venous Thromboembolism: A Cross-Sectional Study from Jordan. *Medicina (Lithuania)*, 59(4), 727. DOI: 10.3390/medicina59040727
21. Al-Azzam, N., Khassawneh, B., **Al-Azzam, S.**, Karasneh, R. A., & Aldeyab, M. A. (2023). Acid-base imbalance as a risk factor for mortality among COVID-19 hospitalized patients. *Bioscience Reports*, 43(3), BSR20222362. DOI: 10.1042/BSR20222362
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23. Almomani, E. Y., Almomani, H. Y., **Al-Azzam, S.**, Qablan, A., & Al-Momany, A. (2023). The rising burden of chronic kidney diseases in patients with diabetes. *Beni-Suef University Journal of Basic and Applied Sciences*, 12(1), 88. DOI: 10.1186/s43088-023-00428-y
24. Karasneh, R. A., Khassawneh, B. Y., **Al-Azzam, S.**, Al-Mistarehi, A.-H., Lattyak, W. J., ... & Aldeyab, M. A. (2022). Risk Factors Associated with Mortality in COVID-19 Hospitalized Patients: Data from the Middle East. *International Journal of Clinical Practice*, 2022, 9617319. DOI: 10.1155/2022/9617319
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26. Omeish, H., Najadat, A., **Al-Azzam, S.**, Tarabin, N., Abu Hameed, A., ... & Aldeyab, M. A. (2022). Reported COVID-19 vaccines side effects among Jordanian population: a cross sectional study. *Human Vaccines and Immunotherapeutics*, 18(1), 1981086. DOI: 10.1080/21645515.2021.1981086

27. Alrob OA, Sankaralingam S, **Alazzam S**, Nusairat B, Qattoum M, Nusair MB. Obesity Paradox among Heart Failure with Reduced Ejection Fraction Patients: A Retrospective Cohort Study. *Medicina* (Kaunas). 2022 Dec 28;59(1):60. doi: 10.3390/medicina59010060. PMID: 36676684; PMCID: PMC9865794.
28. AlQudah M.M., Otair M.A., Alqudah M.A.Y., **AlAzzam S.I.**, Alqudah S.A. Prediction of hidden patterns in rheumatoid arthritis patients records using data mining. (2023) *Multimedia Tools and Applications*, 82 (1), pp. 369 - 388. DOI: 10.1007/s11042-022-13331-y
29. Alqudah M.A.Y., Al-Nosairy A., Alzoubi K.H., Kahbour O.F., Alazzam S.I. Edaravone prevents memory impairment in diabetic rats: Role of oxidative stress. (2022) *Informatics in Medicine Unlocked*, 33, art. no. 101096. DOI: 10.1016/j.imu.2022.101096
30. Yassin, A., Al-Mistarehi, A.-H., El-Salem, K., Karasneh, R. A., **Al-Azzam, S.**, ... & Soudah, O. (2022). Prevalence Estimates and Risk Factors of Anxiety among Healthcare Workers in Jordan over One Year of the COVID-19 Pandemic: A Cross-Sectional Study. *International Journal of Environmental Research and Public Health*, 19(5), 2615. DOI: 10.3390/ijerph19052615
31. Al-Taani, G. M., Karasneh, R. A., **Al-Azzam, S.**, Bin Shaman, M., Jirjees, F., ... & Aldeyab, M. A. (2022). Knowledge, Attitude, and Behavior about Antimicrobial Use and Resistance among Medical, Nursing and Pharmacy Students in Jordan: A Cross Sectional Study. *Antibiotics*, 11(11), 1559. DOI: 10.3390/antibiotics11111559
32. Nusair, M. B., Arabyat, R., Khasawneh, R., **Al-Azzam, S.**, Nusair, A. T., & Alhayek, M. Y. (2022). Assessment of the relationship between COVID-19 risk perception and vaccine acceptance: a cross-sectional study in Jordan. *Human Vaccines and Immunotherapeutics*, 18(1), 2017734. DOI: 10.1080/21645515.2021.2017734
33. Khasawneh, R. A., Nusair, M. B., Arabyat, R. M., Karasneh, R., & **Al-Azzam, S.** (2022). The Association between e-Health Literacy and Willingness to Deprescribe among Patients with Chronic Diseases: A Cross-Sectional Study from Jordan. *Telemedicine and e-Health*, 28(7), 1001–1008. DOI: 10.1089/tmj.2021.0331
34. Abuhammad, S., Alzoubi, K. H., **Al-Azzam, S.**, Alshogran, O. Y., Ikhrewish, R. E., ... & Suliman, M. M. (2022). Stigma toward healthcare providers from patients during COVID-19 era in Jordan. *Public Health Nursing*, 39(5), 926–932. DOI: 10.1111/phn.13071
35. Nusair, M. B., Khasawneh, R., **Al-Azzam, S.**, Al-Shuqairat, T., Khair, Z. M., & Arabyat, R. (2022). Attitudes towards adherence and deprescribing among polypharmacy patients: A cross-sectional study. *Journal of Pharmaceutical Health Services Research*, 13(3), 180–190. DOI: 10.1093/jphsr/rmac028
36. Arabyat, R. M., Qawasmeh, B. R., **Al-Azzam, S. I.**, Nusair, M. B., & Alzoubi, K. H. (2022). Faculty Members' Perceptions and Attitudes Towards Anti-Plagiarism Detection Tools: Applying the Theory of Planned Behavior. *Journal of Empirical Research on Human Research Ethics*, 17(3), 275–283. DOI: 10.1177/15562646221078655
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40. Al-Obaidi, H., Jirjees, F., **Al-Azzam, S.**, et al. (2022). Telecare Service Use in Northern Ireland: Exploratory Retrospective Cohort Study. *JMIR Formative Research*, 6(5), e22899. DOI: 10.2196/22899
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