MEENA M. ABDUL-HUSSAIN, PhD

Lecturer in Clinical Biochemistry

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PROFESSIONAL PROFILE

Lecturer in clinical biochemistry with a PhD from the College of Medicine, Al-Nahrain University, teaching experience in medical and laboratory sciences since 2017, and hands-on diagnostic experience as director of a private clinical laboratory in Baghdad. My research focuses on endocrine and metabolic biomarkers, including prolactin and macroprolactinemia, thyroid function, vitamin D, insulin resistance, and ferritin. I also work on tumour biomarkers, genetic red-cell disorders, and the use of digital tools to support sustainable clinical laboratories. I aim to publish clinically useful laboratory research in international peer-reviewed journals and to contribute to peer review in my field.

EDUCATION

PhD in Clinical Biochemistry 2017
College of Medicine, Al-Nahrain University, Baghdad, Iraq

MSc in Biochemistry 2013
College of Medicine, Al-Nahrain University, Baghdad, Iraq

BSc in Chemistry 2009
College of Science, Al-Nahrain University, Baghdad, Iraq

ACADEMIC EXPERIENCE

Lecturer in Clinical Biochemistry 2023 – Present
Department of Chemistry and Biochemistry, College of Medicine, Mustansiriyah University, Baghdad

- Teach clinical biochemistry to medical students, including theory and practical sessions.
- Deliver practical lectures on diagnostic tests such as HbA1c and the oral glucose tolerance test (OGTT), using case-based and interactive methods.
- Lead and co-author clinical biochemistry research projects with colleagues in the department.

Lecturer (PhD) 2020 – 2021
Institute of Medical Technology – Al-Mansour, Middle Technical University, Baghdad

- Taught biochemistry courses to medical and health sciences students.

Teaching Staff Member 2017 – 2019
Department of Medical Laboratory Techniques, Dijlah University College, Baghdad

- Taught biochemistry and clinical chemistry courses to medical laboratory students.

CLINICAL LABORATORY EXPERIENCE

Laboratory Director [Year] – Present
Dr. Meena Mohammed laboratory, Baghdad — private clinical laboratory

- Direct a main diagnostic laboratory specialized in clinical chemistry, hormone assays, and specialized tests.
- Supervise daily testing, internal quality control, and the review and reporting of patient results.
- Provide interpretation of biochemical and endocrine results for referring physicians.

RESEARCH INTERESTS

- Endocrine biomarkers: prolactin, macroprolactinemia, thyroid function, and cortisol
- Metabolic disorders: vitamin D deficiency, obesity, and insulin resistance
- Iron metabolism and the diagnostic value of ferritin
- Tumour and reproductive biomarkers: microRNAs, CA-125, and β-hCG
- Genetic and enzyme-related red-cell disorders: G6PD deficiency and hereditary spherocytosis
- Digital transformation, artificial intelligence, and sustainability in clinical laboratories

PUBLICATIONS

Peer-reviewed journal articles

1. Abdulhassn ML, Mohammed MQ, **Abdul-Hussain MM**. Decoding hereditary spherocytosis: unveiling the genes as a potential causative agent [Review]. Iraqi Journal of Hematology. Published online ahead of print. doi:10.4103/ijh.ijh_134_25.
2. Yassin AH, Mohammad SS, **Abdul-Hussain MM**. Glucose-6-phosphate dehydrogenase (G6PD) deficiency: insights into the genetic basis and potential therapeutic strategies [Review]. Iraqi Journal of Bioscience and Biomedical. Published online 31 December 2025.
3. **Abdulhussain MM**, Hasan NA, Hussain AG. Interrelation of the circulating and tissue microRNA-21 with tissue PDCD4 expression and the invasiveness of Iraqi female breast tumors. Indian Journal of Clinical Biochemistry. 2019;34(1):26–38. doi:10.1007/s12291-017-0710-1. (Scopus-indexed)
4. Al-Mzaien KA, **Abdul-Hussein MM**, Hussein JI, Abdul-Qadir A, Abdul-Rahman S, Sami HA. Lead exposure and liver function parameters in Iraqi workers. American Journal of Biological and Environmental Statistics. 2019;5(3). doi:10.11648/j.ajbes.20190503.12.
5. Habash NK, **Abdul-Hussain MM**, Jasim KM, Khazaal AL. Oxytocin level and depression risk in elderly Iraqi population. Indian Journal of Public Health Research & Development. 2019:2341–4. doi:10.5958/0976-5506.2019.03207.8.
6. **Abdulhussain MM**, Habash NK, Alramahy MM, Shamkhi NM. Association of cortisol with severity and duration of depression in male and female. Annals of Tropical Medicine and Public Health. 2019;22(4). doi:10.36295/ASRO.2019.220410.
7. **Abdulhussain MM**, Hasan NA, Hussain AG. The inverse correlation of microRNA-21 and microRNA-155 with the tissue inhibitor of metalloproteinase 3 may foster the invasiveness of breast cancer. International Journal for Research in Health Sciences. 2017.
8. **Abdul-Hussein MM**, Abdul-Rasheed OF, Al-Moayed HAQ. Receiver operator characteristics and diagnostic value of CA-125, progesterone, estradiol and β-hCG in the prediction of ectopic and abortive intrauterine gestations. Al-Kufa University Journal for Biology. 2013;5(1).
9. Al-Moayed HAQ, Abdul-Rasheed OF, **Abdul-Hussein MM**. The values of CA-125, progesterone, β-hCG and estradiol in the early prediction of ectopic pregnancy. Oman Medical Journal. 2012;27(2):124–8. PMCID: PMC3321330. (Scopus-indexed)

Conference proceedings

10. Swadi H, Swadi N, **Abdul-Hussain MM**, Subhi O. Using walnut peel as a natural dye with natural wool fibers. In: Full Text Book of Minar Congress 9; 2023. doi:10.47832/minarcongress9-23.

Manuscripts under review

11. **Abdul-Hussain MM**, et al. Biochemical interplay between vitamin D deficiency, subclinical hypothyroidism, and insulin resistance in obese women: a cross-sectional study. Under review, Endocrine.
12. **Abdul-Hussain MM**, et al. The rate of macroprolactinemia among hyperprolactinemic patients at the National Diabetes Center in Baghdad: clinical characteristics, post-PEG prolactin, and pituitary MRI findings. Under review, Journal of Endocrinological Investigation.
13. **Abdul-Hussain MM**, et al. Ferritin beyond iron storage: diagnostic relevance in metabolic, inflammatory, and genetic disorders in clinical biochemistry. Under review.
14. **Abdul-Hussain MM**, Al-Ani RH, Naji TS, Akram RS, Al-Shamari KA. Artificial intelligence and digital transformation in clinical chemistry: toward sustainable and environmentally responsible laboratories. Under review.

LABORATORY AND TECHNICAL SKILLS

- **Instruments:** Roche Cobas e411 (immunoassay) and Roche Cobas c111 (clinical chemistry)
- **Laboratory methods:** hormone assays, PEG precipitation for macroprolactin, and interpretation of biochemical and endocrine test results
- **Research methods:** cross-sectional study design, clinical data collection and management
- **Statistics:** jamovi and SPSS
- **Scientific writing:** original articles and narrative reviews for international peer-reviewed journals
- **Languages:** Arabic (native); English (professional working proficiency)