

MediPIET Summary report of work activities

Yousef Mosleh

Palestine, Cohort 4 (2021)

Background

1. About MediPIET

The Mediterranean and Black Sea Programme for Intervention Epidemiology Training (MediPIET) aims to enhance health security in the Mediterranean and the Black Sea region by supporting capacity building for prevention and control of natural or man-made threats to health posed by communicable diseases. It is a competency-based in-service two-year fellowship during which selected fellows conduct projects and field investigations at a MediPIET Training Site in their home country and attend MediPIET modules.

Since mid-2021, MediPIET is implemented by ECDC as a part of the [EU Initiative on Health Security](#). You can find more information about the programme at: <https://www.ecdc.europa.eu/en/training-and-tools/training-programmes/fellowships/medi Piet>

2. Pre-fellowship short biography

Dr. Yousef Mosleh obtained holds a Bachelor's degree in Medicine and General Surgery in 2017 from October 6 University in Cairo, Egypt. He completed his medical internship in 2018 at the Palestinian Medical Complex in Ramallah. Since November 2018, he has been working in the Preventive Medicine Department at the Ministry of Health. In early 2021, he assumed the position of Head of the International Health Regulations (IHR) Department at the Ramallah Primary Health Care Directorate. During the COVID-19 pandemic, Dr. Mosleh played a key leadership role in coordinating surveillance field teams. His work focuses on communicable disease control, outbreak investigation, and both active and passive disease surveillance, with regular reporting to the IHR National Focal Point.

Fellowship

On September 2021, Yousef started his MediPIET fellowship at the Preventive Medicine Department – Ministry of Health, Ramallah, Palestine. This report summarises the work performed during the fellowship.

National supervisor: Dr. Daa Hjaia

Scientific coordinators: Kostas Danis (2021–2024), Pawel Stefanoff (2024–2025)

Fellowship projects

3. Surveillance

High incidence of human Brucellosis in West Bank, Palestine 2010–2020

Introduction: Brucellosis is an important public health concern in Palestine. We aimed to describe human brucellosis cases in the West Bank over a decade (2010–2020) to guide tailored prevention and control efforts.

Methods: A comprehensive passive surveillance system for brucellosis was in place in Palestine, using the WHO case definition for confirmed human cases. We included all reported cases of human brucellosis in the West Bank during 2010–2020 and calculated incidence using the mid-year census population estimates as the denominator. We used linear regression to describe trends.

Results: During 2010 to 2020, 6,085 cases of human brucellosis were reported in the West Bank with an increasing trend until 2015 ($p < 0.005$). The mean annual incidence was 11 cases/100 000 population. Incidence was lowest in 2012 at 3.6 cases/100 000, reached its peak in 2015 at 21/100 000, and remained high in the following five years. Males accounted for 58% of cases. The median age was 22 years (interquartile range 13–37 years); the highest incidence was observed in the 10–19 age group (355/100 000; 30% of cases) and in Hebron Governorate (62/100 000). 40% of cases were diagnosed between April and June, indicating a seasonal pattern. Consumption of homemade unpasteurised milk and milk products (sour cream and white cheese) was reported in 75% of cases and 43% had direct contact with animals (sheep, goats, and cattle); all animals were unvaccinated.

Conclusions: The high incidence of human brucellosis in the West Bank, particularly in certain geographic areas and population groups, underscores the need for targeted prevention and control strategies. We recommend a multi-sectoral approach to strengthen surveillance, enhance vaccination programs for animals, reduce consumption of unpasteurised milk and milk products, and increase public awareness of the disease and its risk factors.

Role and outputs: Principal Investigator. Yousef obtained the data from the Preventive Medicine Department with the support of his supervisor. He obtained ethical approval from the Ministry of Health Scientific Board, analysed the data and drafted the manuscript. He prepared an abstract that was accepted for oral presentation at the 8th EMPHNET Regional Conference.

Supervisor: Dr. Diaa Hjaija

Status: Completed

4. Outbreaks

Scabies outbreak among inmates at a correction and rehabilitation centre in Ramallah, Palestine, April–July 2022

Introduction: In May 2022, a sharp increase in pruritic rashes among inmates at a correctional facility in Ramallah signalled a potential scabies outbreak. The Preventive Medicine Department at the Ministry of Health started an investigation to confirm the outbreak, characterise its extent, and implement control measures.

Methods: We defined a case as any inmate or staff member who developed generalised itching with a papular rash between 27 April and 15 July 2022. We actively searched for cases through systematic clinical examination of all inmates by the team dermatologist and interviews with inmates and facility staff. Environmental assessment included structured observation of dormitories, mattresses, laundry facilities, and inmate mixing during yard time. We compiled a line list, plotted an epidemic curve, and calculated attack rates by dormitory. Control measures included mass treatment with benzoyl benzoate and environmental disinfection.

Results: A total of 55 confirmed scabies cases were identified among inmates. The overall attack rate (AR) was 21% (54/264). All cases were clustered on the first floor (AR=33%, 54/166), with no cases detected among inmates on the second floor (AR=0%, 0/98), one case was identified among staff (AR=4%, 1/25). Within the first floor, Dormitory 9 was the hotspot, with an AR of 100% (15/15). Environmental inspection revealed overcrowding in first-floor dormitories, which forced prolonged close contact among inmates. The facility's laundry capabilities were critically insufficient, operating without high-temperature washes or proper disinfectants, allowing mites to persist on fabrics. Mattresses were aged, soiled, and had not been deep cleaned in over a year. Implementation of mass treatment with 25% benzoyl benzoate, case isolation, and disinfection of all linens on 8 May 2022 resulted in rapid outbreak control, with the last case onset reported on 1 July 2022.

Conclusions: The outbreak was linked to overcrowding, insufficient laundry hygiene, and shared bedding. Immediate interventions included mass treatment with benzoyl benzoate, environmental disinfection, isolation of cases, and thorough washing of linens successfully contained the outbreak, with no new cases reported after 1 July 2022. The investigation underscores the importance of early detection, prompt intervention, and addressing environmental factors in controlling scabies in correctional settings. Recommendations include improving facility sanitation, implementing routine screening, and reducing dormitory overcrowding to prevent future outbreaks.

Role and outputs: Principal Investigator. Yousef was leading the outbreak investigation. His tasks included case detection, data collection, coordinating communication with prison health staff, implementation of immediate control

measures, and guiding the deployment of treatment. He drafted the investigation report, formulated recommendations, and communicated the findings to the Ministry of Health and relevant authorities.

Supervisor: Dr. Daa Hjaija

Status: Completed

5. Research

Knowledge, Attitude, and Practices of paediatricians in the West Bank, Palestine, regarding COVID-19 vaccination among children younger than 12 years: a cross-sectional study, 2023

Introduction: Paediatricians' recommendations influence parental decision to vaccinate their children. On 19 Jan 2022, the World Health Organization authorised Pfizer-BioNTech COVID-19 vaccine (BNT162b2), under Emergency Use Listing for children under 12 years, as a measure to mitigate disease spread and direct protection of children with underlying conditions. We assessed knowledge, attitudes, and practices (KAP) of Palestinian paediatricians regarding COVID-19 vaccination for children under 12 years and identified factors affecting support for vaccination.

Methods: In October–November 2023, we surveyed paediatricians across the West Bank using structured telephone interviews. We collected data on sociodemographic characteristics, and KAP regarding COVID-19 vaccination and calculated KAP scores from 8, 9, and 9 items respectively, with total scores categorised as poor/moderate/good. We performed bivariable and multivariable analyses to identify factors associated with paediatricians supporting COVID-19 vaccination for children under 12 years.

Results: Of the 367 eligible paediatricians, 323 (88%) responded; the median age was 51 years (range: 28–70); 27% supported COVID-19 vaccination for children. Mean scores for knowledge (range 0–8), attitude (0–9), and practice (0–9) were 3.0 ± 2.1 , 3.9 ± 2.4 , and 4.0 ± 1.7 , respectively. The mean overall KAP score (0–26) was 11 ± 4.8 . Safety and efficacy concerns, lack of long-term data, were the main reasons for hesitancy. Higher knowledge scores ($PR=1.8$, 95%CI: 1.3–2.5, $p=0.001$) and positive attitudes ($PR=1.6$, 95%CI: 1.1–2.3, $p=0.01$) were significantly associated with paediatricians' vaccination support. After adjustment for other factors, participants with regular continuing medical education attendance ($aPR=1.4$, 95%CI: 1.0–2.6, $p=0.045$), trusting WHO recommendations ($aPR=3.1$, 95%CI: 1.4–7.8, $p=0.047$), having a positive attitude score ($aPR=1.3$, 95%CI: 0.4–4.4, $p=0.041$), and good total KAP score ($aPR=1.1$, 95%CI: 1.0–1.2, $p=0.044$) supported COVID-19 vaccination for children.

Conclusions: Support for COVID-19 vaccination among Palestinian paediatricians was low, strongly influenced by their knowledge, attitudes, and trust in health authorities. The revised WHO recommendations from November 2023 decreasing the priority of vaccinating healthy children could influence the opinion of paediatricians. However, the low support for COVID-19 vaccinations could affect the performance of other vaccinations and should be carefully addressed through targeted education.

Role and outputs: Principal Investigator. Yousef wrote the research protocol, developed the questionnaire and informed consent form, and submitted the study to the ethical committee, obtaining approval. He trained the interviewers, assisted in conducting interviews, and validated and cleaned the collected data. He analysed the data in R. He drafted a manuscript and submitted to a peer-reviewed journal.

Supervisor: Dr. Daa Hjaija

Status: Completed

6. Scientific communication

Conference presentations

Mosleh Y, Danis K, Hjaija D. High incidence of human Brucellosis in West Bank, Palestine 2010–2020. MediPIET Scientific Event, 23 November 2023; Barcelona, Spain.

Mosleh Y, Danis K, Hjaija D. High incidence of human Brucellosis in West Bank, Palestine 2010–2020. Eight EMPHNET Regional Conference. 15–18 September 2024; Amman, Jordan.

Publications and outputs

Mosleh Y, Danis K, Stefanoff P, Hjaija D. Knowledge, Attitude, and Practices of paediatricians in the West Bank, Palestine, regarding COVID-19 vaccination among children younger than 12 years: a cross-sectional study, 2023. Submitted to Vaccines in October 2025.

7. Teaching activities

Teaching session for healthcare workers on the importance of Surveillance in Public Health, December 2022

Yousef organised a 60-minute teaching session on 30 December 2022 at the Primary Health Care Directorate in Ramallah, Palestine. The session targeted heads of divisions, nurses, and infection control officers from both public and private hospitals. The session covered the definition and types of surveillance, highlighting its importance in early disease detection and role in prevention and control. A pre-quiz conducted through SLIDO assessed participants' baseline knowledge, followed by a post-quiz to evaluate knowledge gained and ensure that the learning objectives were achieved. Post-quiz results showed that all participants were able to identify and correct their initial misconceptions, demonstrating a successful learning outcome. This activity strengthened Yousef's ability to deliver engaging, effective face-to-face training and further enhanced his teaching and communication skills.

8. Other activities

1. Responsible for COVID-19 surveillance and contact tracing in my district.
2. Head of field COVID-19 surveillance teams.
3. Head of COVID-19 quarantine and triage centres in my district.
4. Participated in decision-making and adapting recommendations during the early COVID-19 pandemic.
5. Prepared daily communication reports on COVID-19 in my district.
6. Participated in TV and radio interviews to discuss COVID-19 updates, vaccination campaigns, and the role of healthcare workers.
7. Conducted fieldwork during various outbreaks.
8. Member of the Health Emergencies Committee, STI Committee, and One Health Committee at the Palestinian Ministry of Health.
9. Training of Trainers (TOT) on TB SOPs and DR-TB management, Amman, Jordan.
10. Attended Pandemic Management for Health Care Professionals, Singapore, July 2023.
11. Attended EMPHNET 8th Regional Conference, Amman, Jordan, September 2023.
12. Attended ESCAIDE 2021 (online), 2022 (Stockholm, Sweden), and 2023 (Barcelona, Spain).
13. Participated in communication activities related to COVID-19 vaccination.
14. Facilitated a three-hour teaching session on the AFP & Polio Surveillance in Ramallah, Palestine, on January 2023.
15. Facilitated a three-hour teaching session on revised TB & HIV Screening and Treatment Protocols in Ramallah, Palestine on August 2023.
16. Facilitated a one-hour teaching session on West Nile Virus and Human Rabies in Ramallah, Palestine on September 2023.
17. Facilitated a two-hour teaching session on sexually transmitted infections (STI's) in Jericho, Palestine on October 2023.
18. Facilitated a four-hour teaching session on International Health Regulations (IHR-2005) in Ramallah, Palestine on September 2025.

9. MediPIET modules attended

1. Introductory Course – Part 1, 20 September – 8 October 2021, online.
2. Inject day on Phylogeny, 20 October 2021, online.
3. Inject days on Operational Research, 26 & 27 October 2021, online.
4. Inject days on Data Collection, 10–11 November 2021, online.
5. Outbreak Investigation module, 6–10 December 2021, online.
6. Multivariable Analysis module, 14–18 March 2021, online.
7. Multivariable Analysis inject day, 30 March, 2022, online.
8. Project Review module I & Introductory Course – Part 2, 20–29 April 2022, Spetses, Greece, face-to-face.
9. Rapid Assessment and Survey Methods (RAS) & Mass Gatherings, 6–10 June 2022, Stockholm, Sweden, face-to-face.
10. Project Review Module II, August 29 – September 2, 2022, Lisbon, Portugal, face-to-face.
11. Time Series Analysis module, 7–11 November 2022, Bilthoven (Utrecht), Netherlands, face-to-face.
12. Chemical, Biological, Radiological and Nuclear Awareness and Mitigation (CBRN) Module, 13–17 February 2023, Petrovac, Montenegro, face-to-face.
13. Vaccinology Inject day, 29 March 2023, online.
14. One Health & Vector borne Diseases module, 2–4 and 15–17, May 2023, online.
15. Project Review module 2023, 28 August – 1 September 2023, Lisbon, Portugal, face-to-face.

10. Personal conclusions of fellow

Despite the challenges and difficulties I faced along the way, completing the MediPIET fellowship stands as one of the most rewarding achievements of my career. This journey has given me invaluable knowledge, practical expertise, and a broader vision of public health. It opened my eyes to diverse experiences and inspiring professionals from around the world, whose passion and dedication strengthened my own. The guidance of mentors and experts, the rich content of the modules, and the exchange of experiences with colleagues have left a lasting mark on me. As a young professional in public health, this fellowship has ignited my commitment to continue serving my community and to share what I have learned with others in my country. I am sincerely grateful for this transformative experience, which has shaped both my career and my sense of purpose.

11. Acknowledgements

I would like to express my sincere gratitude to my local MediPIET supervisor, Dr. Diaa Hjaija, for his continuous scientific and administrative support throughout my fellowship. My deepest appreciation and heartfelt thanks go to Dr. Kostas Danis and Dr. Pawel Stefanoff, my frontline coordinators, for their invaluable, unwavering guidance and encouragement. I truly believe I would not have completed this fellowship without their constant support, availability, and mentorship. I have learned so much from their professionalism, dedication, and passion for public health, and this has left a lasting impact on me. I am also thankful to my colleagues from MediPIET, EPIET, EUPHEM, and other fellowship programmes' colleagues for the wonderful collaboration, shared knowledge, and the many unforgettable moments along this journey. Finally, I extend my gratitude to the colleagues at ECDC for their effort, commitment, and contribution to making this fellowship an inspiring and enriching experience.