WG 2 (Preventive Medicine and Healthcare Policies)

Polio Vaccination in Wartime: A 36-Hour Operation

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Military public health is a critical component of force readiness, particularly during prolonged combat operations. As part of routine infectious disease prevention, the military monitors environmental contaminants in combat zones to assess health risks. When the presence of hepatitis A was detected in Gaza, soldiers were vaccinated to prevent infection due to potential exposure to contaminated food and water. Additionally, tetanus vaccination was administered to mitigate the risk of battlefield injuries. In July 2024, the detection of poliovirus type 2 in sewage in Gaza posed an immediate threat to IDF soldiers operating in the area. To mitigate the risk of infection and potential viral spread, the Ministry of Health mandated the urgent administration of an inactivated poliovirus vaccine (IPV) booster to all forces entering Gaza.

With only 36 hours to execute the operation, the vaccination campaign required precise coordination between medical and operational units. Logistical challenges included distributing vaccines to 18 dispersed units, maintaining cold chain integrity in field conditions, and efficiently administering intramuscular injections under combat constraints. The IPV, as opposed to the oral poliovirus vaccine (OPV), provides systemic immunity without the risk of viral shedding, making it the preferred choice in this operational context. Unforeseen obstacles, such as cold chain failures and last-minute force reallocations, demanded rapid problem-solving to prevent mission delays.

Despite these challenges, over 4,200 soldiers were successfully vaccinated within the designated timeframe, with additional doses administered in the following days to ensure full immunization prior to deployment. No cases of polio were reported among IDF soldiers despite exposure to contaminated environments.

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Pertussis- Trends in Israel and Among Soldiers (IDF)

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Background:
Pertussis remains a global public health challenge despite widespread vaccination. Israel has observed cyclical outbreaks, including a recent rise in cases from 2023 to 2024. The IDF faces unique challenges due to high transmission risk in training environments, impacting operational readiness.

Purpose:
To analyze pertussis trends in Israel and the IDF, assess the disease's burden on military personnel, and evaluate the impact of integrating pertussis vaccination into military service.

Methods:
A retrospective review of pertussis cases in the IDF (2023–2025) was conducted using serology and PCR data. The study examined infection rates, operational disruptions, and the effect of a standardized pertussis vaccination program introduced in July 2024.

Results:
A surge in pertussis cases was observed in early 2024, with peak transmission in training units. After vaccine implementation, cases declined, and no PCR-confirmed infections were reported in vaccinated soldiers. The findings underscore the vaccine's effectiveness in reducing morbidity and maintaining force readiness.

Conclusions & Discussion:
The IDF vaccination program has proven effective in outbreak control, emphasizing the need for routine adult booster immunization. These results support the expansion of booster programs in military and institutional settings, with implications for global public health policy.