

Workshop on the Surveillance, Diagnosis, Control and Prevention of Brucellosis in Arab Countries

Kingdom of Bahrain Ministry of municipalities affairs and agriculture

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Member's profile

- **The susceptible population for brucellosis mainly comprises individuals in close proximity to infected animals or their products. This includes:**
 1. Farmers and Livestock Handlers: Increased risk due to direct animal contact.
 2. Veterinarians: Exposure from caring for infected livestock.
 3. Butchers and Meat Processors: Risk from handling contaminated meat or dairy.
 4. Pregnant Women: Greater risk of complications from exposure.
 5. Laboratory Workers: Those studying brucellosis are also at risk.



Member's profile

- **In Bahrain, the risk of brucellosis introduction is influenced by several factors:**

Livestock Importation: Animals from endemic regions may introduce the disease.

Tourism and Trade: Increased movement can bring contaminated products or infected individuals.

Cultural Practices: Consumption of unpasteurized dairy products raises the risk.

Environmental Factors: Potential spillover from wildlife to domestic animals.

To mitigate these risks, strategies like enhanced surveillance, public awareness, safe food handling, and secure animal trade regulations are crucial.



- **A brief description of brucellosis disease situations:**

1. **Incidence and Prevalence:**

- **Animal Cases:** In livestock, brucellosis is endemic in some regions that Bahrain import from. Fortunately there aren't any new cases in cattle, sheep, goats, and camels.

2. **Species Involved:**

- Bahrain conducts routine testing for livestock such as cattle, sheep, goats, and camels, as well as captive wildlife as part of its surveillance activities.



- **Response measures to brucellosis disease outbreak**
- **No outbreaks of brucellosis have been reported or detected in Bahrain.**
 - Prevention of spread of disease e.g.:
 - **Movement restrictions:** Limit the spread of infection across regions.
 - **Biosecurity:** Strict hygiene, quarantine, and safe disposal of aborted tissues.
 - **Vaccination** is not implemented in Kingdom of Bahrain.
 - **Communication and public awareness.**
 - Costs of response measures
 - **Primary Responsibility:** The government typically takes the lead in financing and implementing brucellosis control measures, given its role in safeguarding public health, agriculture, and the economy.



• Response measures to brucellosis disease outbreak - Surveillance

Outbreak Investigations and surveillance schemes:

- Details of specific outbreak events, including source tracing, transmission routes, and any link to wildlife reservoirs or human transmission events.
- Bahrain have **no borders** with neighbor expect King Fahad Causeway.
- The management and tracking of animal movements typically fall under the jurisdiction of national veterinary services, agriculture departments, or relevant governmental agencies responsible for animal health and border control.
- Most wildlife animals kept in captivity, in Al areen wildlife reserve and in Hawar Island reserve.



• Response measures to brucellosis disease outbreak - Surveillance

Surveillance schemes:

- Type of surveillance (active or passive): Active Surveillance: Involves proactive measures like systematic testing of livestock, while passive surveillance often relies on reporting of cases or symptoms by farmers and veterinarians.
- Target animal species: Target Animal Species: Common target species for surveillance in brucellosis outbreaks include cattle, sheep, goats, and other ruminants, as they are primarily affected by the disease.
- Number of collected samples is averaged between 12000 and 18000 of livestock.
- Serology testing or the detection of anti-Brucella abortus, melitensis, or suis antibodies in bovine, ovine, caprine, and porcine species



• Response measures: National prevention and control

Measures	Y/N	Description
1. Programme to control or eradicate disease	Y	Active surveillance conducted to declare Brucellosis-free status.
2. Veterinary legislation	Y	They aim to reduce the risk of transmission to humans (zoonotic transmission) and ensure animal health and public safety.
3. Emergency preparedness and response plans	Y	essential for minimizing the public health impact and economic losses
4. Disease surveillance (general, targeted,..)	Y	General, both active and passive.
5. Disease reporting – notification	Y	Twice annual reports to WOAHA.
6. Detection and management of cases	Y	Testing of imported animals and any suspected cases.
7. Measures to prevent introduction or spread of disease	Y	Quarantine imported animals and test 10% of them.
8. Vaccination	N	Vaccinations against Brucella is not allowed in Bahrain.
9. Measures to protect public health	Y	IHR and One Health communities
10. Communication and collaboration among all competent authorities	Y	Communication between Veterinary Services Authorities and Public Health
11. Awareness programme for relevant stakeholders	Y	Campaign to raise awareness about the risk of the disease.



• National prevention and control

Vaccination strategy if in place:

Kingdom of Bahrain is not vaccinating against Brucellosis.

Control and Eradication Measures:

- The quarantine period varies by shipment source but generally lasts 5 days. Blood from 10% of the shipment is tested for Brucellosis using the Rose Bengal Test. If any samples are positive, the entire shipment is then tested, and only the positive animals are slaughtered under supervision.
- **Laboratory capacity:**
 - Rose bengal test, and Brucellosis ELISA test.
 - Bahrain is not performing Brucella isolation or molecular diagnostic methods.



- **Economic impact**

In Animals: Loss of productivity (milk, meat), costs of culling and treatment.

In Humans: Healthcare costs, loss of workforce productivity due to illness.



Challenges and solutions in implementing national plan

Challenges	Solutions
Lack of Awareness and Education, communities and farmers are not fully aware of the risks of brucellosis.	Public awareness campaigns and educational programs targeting farmers, veterinarians, and the general public.
Human cases may go undiagnosed or misdiagnosed, undermining efforts to reduce human infection rates.	Early diagnosis and treatment, combined with public education on the risks of consuming unpasteurized dairy products.
Cost of compensation of positive / slaughtered cases.	



Country's experience on response using OH approach

- IHR community
 - The IHR community facilitates the exchange of information on zoonotic diseases between public health and veterinary services.
 - The private sector is also required to notify the public authorities on a monthly about any reported notifiable disease.

Thank you

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