Campylobacter Foodborne Disease: Essentials and Advanced Hands-On Techniques

(Activity Code: AGI-03-P165)

27th to 29th February 2024

Venue: Biomedical Research Centre, Qatar University

Target Audience: Public health practitioners, veterinarians, epidemiological researchers, and laboratory technologists specializing in both human and animal health

Aim: To enhance participants' understanding and knowledge of *Campylobacter*, covering various aspects such as its biology, detection, prevention, and control. Additionally, to discuss the standardization and reliability of identification and susceptibility practical techniques.

Overall learning objectives: By the end of this workshop, participants will be able to

- Describe how *Campylobacter* enters the food chain.
- Discuss methods used for diagnosis and the epidemiology of *Campylobacter* among humans.
- Explain the biochemical methods that are applied to AMR surveillance
- Explain techniques to identify *Campylobacter* using Real-Time PCR and Oxford nanopore whole genome sequencing technology.
- Demonstrate methods to isolate and enumerate *Campylobacter* from food.
- Describe the quality management in the *Campylobacter* laboratory
- Discuss the regulatory compliance for prevention and control.
- Analyze the novel technologies in enhancing control of *Campylobacter* in the food chain.
- Perform antimicrobial susceptibility testing by dilution and Etest.
- Describe the role of bioinformatics in food safety.
- Explain the bioinformatics that are applied to AMR surveillance and research in *Campylobacter*
- Discuss the importance of one health approach in foodborne diseases.
- Analyze the preharvest and postharvest mitigations of *Campylobacter* in the poultry industry.
- Demonstrate methods to identify *Campylobacter* using Real-Time PCR and Oxford nanopore whole genome sequencing technology.

*** The scientific planning committee has reviewed all disclosed financial relationships of speakers, moderators, facilitators and/or authors in advance of this CPD activity and has implemented procedures to manage any potential or real conflicts of interest.**

*** "This activity is an Accredited group learning activity (Category 1) as defined by Ministry of Public Health's Department of Healthcare Professions - Accreditation Section and is approved for a maximum number of 13 Hours."**

*** "CPD-HP (QU—Health) is accredited by Ministry of Public Health's Department of Healthcare Professions - Accreditation Section (DHP – AS) as a provider of continuing professional development."**

Activity schedule:

Date & Time		Presentation title	Speaker	Location
Tuesday 27 Feb 2024	7:30- 8:30	**Registration**		BRC corridor
		Moderator: Dr. Nahla Omer Eltai		
	8:30- 8:40	**Opening and Welcoming talk**	Prof. Asmaa Al Thani	D140
	8:40- 9:05	**Introduction to *Campylobacter*** Describe how *Campylobacter* enters the food chain.	Dr. Sandra Labora Anadon (APHA/UK)	D140
	9:05- 9:30	**Laboratory diagnosis and epidemiology of *Campylobacter* among humans in Qatar** Discuss methods used for diagnosis and the epidemiology of *Campylobacter* among humans.	Dr. Imad B. Ibrahim (HMC)	D140
	9:30-09:55	**ISO methods for the detection, identification and enumeration of *Campylobacter*** Explain the biochemical methods that are applied to AMR surveillance	Dr. John Rodgers (APHA/UK)	D140
	9:55-10:20	**Alternative methods (PCR and MALDI) for the identification of *Campylobacter*** Explain methods to identify *Campylobacter* using Real-Time PCR and Oxford nanopore whole genome sequencing technology.	Dr. Sandra Laborda (APHA/UK)	D140
	10: 20-10:50	**Coffee Break and Group photo**		BRC corridor
	11:00-12:00	**1st practical session: Sample processing, *Campylobacter* isolation, and colony enumeration.** Demonstrate methods to isolate and enumerate *Campylobacter* from food.	APHA/Qatar University	D131
	12:00-1:00	**Lunch Break**		BRC corridor
	1:00-2:30	**Continuation of the 1st practical session**		D131

Wednesday 28 Feb 2024	8:00- 8:30	**Registration**		BRC corridor
	8:30- 8:45	**Quality management in the *Campylobacter* laboratory** Describe the quality management in the Campylobacter laboratory	Dr. John Rodgers (APHA/UK)	D140
	8:45-9:20	**AMR in *Campylobacter*** Explain the bioinformatics that are applied to AMR surveillance and research in *Campylobacter*	Dr. John Rodgers and Dr Alistair Davies (APHA/UK)	D140
	9:20-9:45	**Regulatory compliance for monitoring and controlling *Campylobacter* in food safety** Discuss the regulatory compliance for prevention and control.	Dr. Dalia Ahmed Mohamed (CFL)	D140
	9:45-10:10	**Novel technology in enhancing food safety and quality across the food chain** Analyze the novel technologies in enhancing control of *Campylobacter* in the food chain.	Dr. Layal Hanna Karam (Qatar University)	
	10:10-10:40	**Coffee Break**		BRC corridor
	10:45-12:00	**2nd practical session: *Campylobacter* biochemical identification tests and Antimicrobial susceptibility methods** Perform antimicrobial susceptibility testing by dilution and Etest.	APHA/Qatar University	D131
	12:00-1:00	**Lunch Break**		BRC corridor
	1:00-2:30	**Continuation of the 2nd practical session**		D131

Thursday 29 Feb 2024	08:00- 8:30	**Registration**		BRC corridor
	08:30- 08:55	**Introduction to bioinformatics** Describe the role of bioinformatics in food safety	Dr. Alistair Davies (APHA/UK)	D140
	08:55-09:20	**Bioinformatics applied to AMR surveillance and research in *Campylobacter*** Explain the bioinformatics that are applied to AMR surveillance and research in *Campylobacter*	Dr. John Rodgers and Dr. Alistair Davies (APHA/UK)	D140
	09:20-09:45	**One Health approach and *Campylobacter* deep prevention and control.** Discuss the importance of one health approach in foodborne diseases.	Dr. Elmoubasher Abu Baker Abd Farag (MoPH)	D140
	09:45-10:10	**Preharvest and postharvest mitigations of *Campylobacter* in the poultry industry** Analyze the preharvest and postharvest mitigations of *Campylobacter* in the poultry industry	Dr. Mahmoud H. Mahmoud (MM)	D140
	10:10-10:40	**Coffee Break**		BRC corridor
	10:45-12:00	**3rd practical session: *Campylobacter* identification using RT-PCR and ONT sequencing** Demonstrate methods to identify Campylobacter using Real-Time PCR and Oxford nanopore whole genome sequencing technology.	Qatar University/APHA	D131
	12:00-1:00	**Lunch Break**		BRC corridor
	1:00-2:30	**Continuation of the 3rd practical session**		D131