**B4.3 Obi card game – Facilitator guide**

**Objectives:**

* To collect and analyze data in the context of outbreak investigation
* To compute attack rate and measure of association

**Estimated Time/ Number of Participants:** 45 – 90 minutes / 5 - 8 participants per group

**Materials**

1. Obi cards
2. Kraft paper
3. Markers, adhesives

**Introduction to the game:**

There are 51 cards in the Obi card game (the number of the cards is located on the right-hand corner of the back of the card). There are two kinds of cards as described below. The explanations are provided below on the information contained in the different types of cards[[1]](#footnote-1).



**Preparing for the card game:**

There are 51 cards in the Obi game. The facilitator should print-out a set of 51 cards (**B4.3\_New\_Obi\_cards\_160919\_en.pdf**), in color for each group (more information about grouping on section below). Cut each card separately and paste back-to-back the person/food card (see figure A below) to the corresponding back card (see figure B below).

|  |  |
| --- | --- |
| **Figure A** | **Figure B** |
|  |  |

**Facilitating the game**

1. Participants will work in groups of 6-8 approximately. They are provided with the **background information** as below.

*The story is about fifteen people who joined together for a New Year’s dinner in Carmona. There was lots of food on the table: plantains, fufu, palm nut soup, fish, salad, etc. After 24 hours, five of the attendees became ill with gastroenteritis.*

1. Each group will be provided with a set of cards. The investigators are tasked to conduct outbreak investigation. If participants get stuck, they can take cue from the list below. (Participants can join in the investigation later)
   * + data collection
     + descriptive analysis
     + formulating hypothesis and testing hypothesis
     + computing for attack rate and relative risk
     + drawing conclusion
2. The participants and investigators then are requested to present what they have come up with.

**Answers**

**Table 1. Line listing**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No** | **Age** | **Sex** | **Onset of illness** | |  | **Plantain** | **Fufu** | **Palm nut soup** | **Fish** | **Salad** |
| **Date** | **Time** |
| **1** | 31 | M |  |  |  | Y | N | Y | N | N |
| **2** | 33 | M |  |  |  | Y | N | Y | N | Y |
| **3** | 28 | M |  |  |  | Y | N | N | Y | N |
| **4** | 29 | M |  |  |  | N | N | Y | N | N |
| **5** | 30 | M |  |  |  | Y | N | Y | N | N |
| **6** | 37 | F |  |  |  | Y | N | Y | N | N |
| **7** | 28 | M | 01/01 | 14:50 |  | N | Y | N | N | Y |
| **8** | 35 | F |  |  |  | Y | Y | N | N | N |
| **9** | 35 | F |  |  |  | N | N | Y | N | Y |
| **10** | 32 | F |  |  |  | Y | N | N | Y | Y |
| **11** | 30 | F |  |  |  | Y | N | Y | N | Y |
| **12** | 33 | M | 01/01 | 15:10 |  | N | N | Y | Y | Y |
| **13** | 37 | M | 01/01 | 09:45 |  | Y | Y | Y | N | N |
| **14** | 35 | F | 01/01 | 19:00 |  | N | Y | Y | N | Y |
| **15** | 31 | F | 01/01 | 16:00 |  | Y | Y | Y | N | N |

**Table 2a. Food-specific attack rates**

|  |  |  |  |
| --- | --- | --- | --- |
| **Food** | **Eaten** |  | **Attack Rate (%)** |
|  | **Ill** | **Total (who ate)** |  |
| **Plantain** | **2** | **10** | **20%** |
| **Fufu** | **4** | **5** | **80%** |
| **Palm nut soup** | **4** | **11** | **36%** |
| **Fish** | **1** | **3** | **33%** |
| **Salad** | **3** | **7** | **43%** |

**Table 2b. Age-specific attack rates**

|  |  |  |  |
| --- | --- | --- | --- |
| **Age Group** | **Number ill** | **Total Number** | **Attack Rate (%)** |
| **25 - 27** | **0** | **0** | **0** |
| **28 – 30** | **1** | **5** | **20%** |
| **31 – 33** | **2** | **5** | **40%** |
| **34 – 36** | **1** | **3** | **33%** |
| **37 - 39** | **1** | **2** | **50%** |
|  | **5** | **15** | **33%** |

**Table 2c. Sex-specific attack rates**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sex** | **Number ill** | **Total Number** | **Attack Rate (%)** |
| **Female** | **2** | **7** | **29%** |
| **Male** | **3** | **8** | **38%** |
| **Total** |  | **15** |  |

**Table 3. Food-specific attack rates (AR), relative risks (RR) and percent of cases exposed for selected food items during the main meal.**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Food** | **Food eaten** | | | **Food not eaten** | | |  |
|  | **Ill** | **Total (who ate)** | **AR (%)** | **Ill** | **Total (who did not eat)** | **AR (%)** | **RR** |
| **Plantain** | **2** | **10** | **20%** | **3** | **5** | **60%** | **0.33** |
| **Fufu** | **4** | **5** | **80%** | **1** | **10** | **10%** | **8.0** |
| **Palm nut soup** | **4** | **11** | **36%** | **1** | **4** | **25%** | **1.44** |
| **Fish** | **1** | **3** | **33%** | **4** | **12** | **33%** | **1.0** |
| **Salad** | **3** | **7** | **43%** | **2** | **8** | **25%** | **1.72** |

|  |  |  |
| --- | --- | --- |
| **Plantain** | **Ill** | **Not ill** |

|  |
| --- |
| **Ate plantain** |
| **Did not eat plantain** |

2

8

3

2

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **RR =** | **2 / 10** | **=** | **0.2** | **=** | **0.33** |
| **3 / 5** | **0.6** |

|  |  |  |
| --- | --- | --- |
| **Fufu** | **Ill** | **Not ill** |

|  |
| --- |
| **Ate Fufu** |
| **Did not eat Fufu** |

4

1

1

9

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **RR =** | **4 / 5** | **=** | **0.8** | **=** | **8.0** |
| **1 / 10** | **0.1** |

|  |  |  |
| --- | --- | --- |
| **Palm nut soup** | **Ill** | **Not ill** |

|  |
| --- |
| **Ate Palm nut soup** |
| **Did not eat palm nut soup** |

4

7

1

3

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **RR =** | **4 / 11** | **=** | **0.36** | **=** | **1.44** |
| **1 / 4** | **0.25** |

|  |  |  |
| --- | --- | --- |
| **Fish** | **Ill** | **Not ill** |

|  |
| --- |
| **Ate Fish** |
| **Did not eat Fish** |

1

2

4

8

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **RR =** | **1 / 3** | **=** | **0.33** | **=** | **1** |
| **4 / 12** | **0.33** |

|  |  |  |
| --- | --- | --- |
| **Salad** | **Ill** | **Not ill** |

|  |
| --- |
| **Ate Salad** |
| **Did not eat Salad** |

3

4

2

6

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **RR =** | **3 / 7** | **=** | **0.43** | **=** | **1.72** |
| **2 / 8** | **0.25** |

|  |
| --- |
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1. Data were sourced from Johan Giesecke’s Modern Infectious Epidemiology, 2nd edition. The food items were altered but data remains the same. [↑](#footnote-ref-1)