

## Appendix 4

**Table No (1): Showed the results of the study group for isolation and identification of Gram negative bacteria from urine sample before intervention phase.**

| Lab No | Sample | Culture media | Identification methods |     |         |        |         |        | Isolate       | observation  |
|--------|--------|---------------|------------------------|-----|---------|--------|---------|--------|---------------|--|
|        |        |               | Grams stain            | kiA | Oxidase | indole | citrate | urease |               |  |
| 1      | Urine  | CLED          | G –ve bacilli          | N.A | N.A     | N.A    | N.A     | N.A    | G –ve bacilli | Used proper type of media<br>All of them not applied the identification procedures |
| 2      | Urine  | CLED          | G –ve bacilli          | N.A | N.A     | N.A    | N.A     | N.A    | G –ve bacilli |  |
| 3      | Urine  | CLED          | G –ve bacilli          | N.A | N.A     | N.A    | N.A     | N.A    | G –ve bacilli |  |
| 4      | Urine  | CLED          | G –ve bacilli          | N.A | N.A     | N.A    | N.A     | N.A    | G –ve bacilli |  |

**Table No (1.2): Showed the results of the study group for isolation and identification of Gram positive bacteria from urine sample before intervention phase.**

| Lab No | Sample | Identification methods |             |          |     |       |           | Isolate     | observation  |
|--------|--------|------------------------|-------------|----------|-----|-------|-----------|-------------|--|
|        |        | Culture media          | Grams stain | Catalese | MSA | DNAse | Coagulase |             |  |
| 5      | Urine  | CLED                   | G +ve cocci | N.A      | N.A | N.A   | N.A       | G +ve cocci | Used proper type of media<br>All of them not applied the identification procedures |
| 6      | Urine  | CLED                   | G +ve cocci | N.A      | N.A | N.A   | N.A       | G +ve cocci |  |
| 7      | Urine  | CLED                   | G +ve cocci | N.A      | N.A | N.A   | N.A       | G +ve cocci |  |

**Table No (3.1) Showed the results of the control group for isolation and identification of Gram negative bacteria from urine sample before intervention phase.**

| Lab No | Sample | Identification methods |               |     |         |        |         |        | Isolate       | observation   |
|--------|--------|------------------------|---------------|-----|---------|--------|---------|--------|---------------|---|
|        |        | Culture media          | Grams stain   | KiA | Oxidase | indole | citrate | urease |               |   |
| 1      | Urine  | CLED                   | G –ve bacilli | N.A | N.A     | N.A    | N.A     | N.A    | G –ve bacilli | . Used proper type of media<br>. All of them not applied the identification procedures. |
| 2      | Urine  | CLED                   | G –ve bacilli | N.A | N.A     | N.A    | N.A     | N.A    | G –ve bacilli |   |
| 3      | Urine  | CLED                   | G –ve bacilli | N.A | N.A     | N.A    | N.A     | N.A    | G –ve bacilli |   |

**Table No (3.2) Showed the results of the control group for isolation and identification of Gram positive bacteria from urine sample before intervention phase.**

| Lab No | Sample | Identification methods |             |          |     |       |           | Isolate     | Observation   |
|--------|--------|------------------------|-------------|----------|-----|-------|-----------|-------------|---|
|        |        | Culture media          | Grams stain | Catalese | MSA | DNAse | coagulase |             |   |
| 4      | Urine  | CLED                   | N.A         | N.A      | N.A | N.A   | N.A       | G +ve cocci | . Used proper type of media, not applied the identification procedures. |

**Table No (4.1) Showed the results of the control group for isolation and identification of Gram negative bacteria from Wound swab before intervention phase.**

| Lab No | Sample     | Culture media | Identification methods |         |     |        |         |        | Isolate       | Observation   |
|--------|------------|---------------|------------------------|---------|-----|--------|---------|--------|---------------|---|
|        |            |               | Grams stain            | oxidase | kiA | indole | citrate | urease |               |   |
| 1      | Wound swab | B.A           | G –ve bacilli          | N.A     | N.A | N.A    | N.A     | N.A    | G –ve bacilli | . Not used proper type of media . not applied the identification procedures |
| 2      | Wound swab | B.A           | G –ve bacilli          | N.A     | N.A | N.A    | N.A     | N.A    | G –ve bacilli |   |

**Table No (4.2) Showed the results of the control group for isolation and identification of Gram positive bacteria from Wound swab before intervention phase.**

| Lab No | Sample     | Identification methods |             |          |     |       |           | Isolate     | Observation  |
|--------|------------|------------------------|-------------|----------|-----|-------|-----------|-------------|--|
|        |            | Culture media          | Grams stain | Catalese | MSA | DNAse | Coagulase |             |  |
| 3      | Wound swab | B.A + M acc            | G +ve cocci | + ve     | N.A | N.A   | N.A       | G +ve cocci | . 50% used proper type of media . not applied the identification procedures. |
| 4      | Wound swab | B.A                    | G +ve cocci | N.A      | N.A | N.A   | N.A       | G +ve cocci |  |

**Table No (5.1) Showed the results of the study group for isolation and identification of Gram negative bacteria from urine sample after intervention phase.**

| Lab No | Sample | Identification methods |               |                                     |         |        |         |        | Isolate              | observation   |
|--------|--------|------------------------|---------------|-------------------------------------|---------|--------|---------|--------|----------------------|---|
|        |        | Culture media          | Grams stain   | KiA                                 | Oxidase | indole | citrate | urease |                      |   |
| 1      | Urine  | CLED                   | G –ve bacilli | s b gas H <sub>2</sub> S<br>y y + - | -ve     | +ve    | -ve     | -ve    | <i>E.coli</i>        | <ul style="list-style-type: none"> <li>. Used proper type of media</li> <li>. All of them applied the identification procedures.</li> </ul> |
| 2      | Urine  | CLED                   | G –ve Bacilli | s b gas H <sub>2</sub> S<br>R R - - | +ve     | -ve    | +ve     | -ve    | <i>P.aureuginosa</i> |   |
| 3      | Urine  | CLED                   | G –ve Bacilli | s b gas H <sub>2</sub> S<br>y y + - | -ve     | +ve    | -ve     | -ve    | <i>E.coli</i>        |   |
| 4      | Urine  | CLED                   | G –ve Bacilli | s b gas H <sub>2</sub> S<br>R R - - | +ve     | -ve    | +ve     | -ve    | <i>P.aureuginosa</i> |   |

**Table No (5.2) Showed the results of the study group for isolation and identification of Gram positive bacteria from urine sample after intervention phase.**

| Lab No | Sample | Identification methods |             |          |     |       |           | Isolate         | observation   |
|--------|--------|------------------------|-------------|----------|-----|-------|-----------|-----------------|---|
|        |        | Culture media          | Grams stain | Catalese | MSA | DNAse | Coagulase |                 |   |
| 5      | Urine  | CLED                   | G +ve cocci | +ve      | +ve | +ve   | N.A       | <i>S.aureus</i> | <ul style="list-style-type: none"> <li>. Used proper type of media</li> <li>. All of them applied the identification procedures.</li> </ul> |
| 6      | Urine  | CLED                   | G +ve cocci | +ve      | +ve | +ve   | N.A       | <i>S.aureus</i> |   |
| 7      | Urine  | CLED                   | G +ve cocci | +ve      | +ve | +ve   | N.A       | <i>S.aureus</i> |   |

**Table No (6.1) Showed the results of the study group for isolation and identification of Gram negative bacteria from Wound swab after intervention phase.**

| Lab No | Sample     | Identification methods |              |                                     |         |        |         |        | Isolate              | observation   |
|--------|------------|------------------------|--------------|-------------------------------------|---------|--------|---------|--------|----------------------|---|
|        |            | Culture media          | Grams stain  | KiA                                 | Oxidase | indole | citrate | urease |                      |   |
| 1      | Wound swab | B.A + Macc             | G-ve bacilli | s b gas H <sub>2</sub> S<br>y y + - | -ve     | +ve    | -ve     | -ve    | <i>E.coli</i>        | . used proper type of media<br>. All of them not applied the identification procedures. |
| 2      | Wound swab | B.A + Macc             | G-ve bacilli | s b gas H <sub>2</sub> S<br>R R - - | +ve     | -ve    | +ve     | -ve    | <i>P.aureuginosa</i> |   |
| 3      | Wound swab | B.A + Macc             | G-ve bacilli | s b gas H <sub>2</sub> S<br>y y + - | -ve     | +ve    | -ve     | -ve    | <i>E.coli</i>        |   |
| 4      | Wound swab | B.A + Macc             | G-ve bacilli | s b gas H <sub>2</sub> S<br>R R - - | +ve     | -ve    | +ve     | -ve    | <i>P.aureuginosa</i> |   |
| 5      | Wound swab | B.A + Macc             | G-ve bacilli | s b gas H <sub>2</sub> S<br>y y + - | -ve     | +ve    | -ve     | -ve    | <i>E.coli</i>        |   |

**Table No (6.2) Showed the results of the study group for isolation and identification of Gram negative from Wound swab after intervention**

| Lab No | Sample     | Identification methods |             |          |     |       |           | Isolate         | observation  |
|--------|------------|------------------------|-------------|----------|-----|-------|-----------|-----------------|--|
|        |            | Culture media          | Grams stain | Catalese | MSA | DNAse | coagulase |                 |  |
| 3      | Wound swab | B.A + Macc             | G+ve Coccii | +ve      | +ve | +ve   | N.A       | <i>S.aureus</i> | . used proper type of media . All of them applied the identification procedures. |
| 4      | Wound swab | B.A + Macc             | G+ve Coccii | +ve      | +ve | +ve   | N.A       | <i>S.aureus</i> |  |

**Table No (7.1) Showed the results of the control group for isolation and identification of Gram negative bacteria from urine sample after intervention phase**

| Lab No | Sample | Identification methods |               |     |         |        |         |        | Isolate       | observation  |
|--------|--------|------------------------|---------------|-----|---------|--------|---------|--------|---------------|--------------|
|        |        | Culture media          | Grams stain   | KiA | Oxidase | indole | citrate | urease |               |              |
| 1      | Urine  | CLED                   | G –ve bacilli | N.A | N.A     | N.A    | N.A     | N.A    | G –ve bacilli | Not improved |
| 2      | Urine  | CLED                   | G –ve bacilli | N.A | N.A     | N.A    | N.A     | N.A    | G –ve bacilli |              |
| 3      | Urine  | CLED                   | G –ve bacilli | N.A | N.A     | N.A    | N.A     | N.A    | G –ve bacilli |              |

**Table No (7.2) Showed the results of the control group for isolation and identification of Gram positive bacteria from urine sample after intervention phase.**

| Lab No | Sample | Identification methods |             |          |     |       |           | Isolate         | Observation  |
|--------|--------|------------------------|-------------|----------|-----|-------|-----------|-----------------|--------------|
|        |        | Culture media          | Grams stain | Catalese | MSA | DNAse | coagulase |                 |              |
| 4      | Urine  | CLED                   | G +ve Cocci | N.A      | N.A | N.A   | N.A       | <i>S.aureus</i> | Not improved |

**N.A:Not applied**

**B.A:Blood agar**

**Macc:Macconkey**

**MSA:Mannitol salt agar**

**R:Red Y:Yellow**

**S:Slope B:butt G:Gas**

**-Ve :Negative +Ve :Positive**

**Table No (8.1) Showed the results of the control group for isolation and identification of Gram negative bacteria from Wound swab after intervention phase.**

| Lab No | Sample     | Identification methods |               |         |     |        |         |        | Isolate       | Observation  |
|--------|------------|------------------------|---------------|---------|-----|--------|---------|--------|---------------|--------------|
|        |            | Culture media          | Grams stain   | oxidase | kiA | Indole | citrate | urease |               |              |
| 1      | Wound swab | B.A                    | G –ve bacilli | N.A     | N.A | N.A    | N.A     | N.A    | G –ve bacilli | Not improved |
| 2      | Wound swab | B.A                    | G –ve bacilli | N.A     | N.A | N.A    | N.A     | N.A    | G –ve bacilli |              |

**Table No (8.2) Showed the results of the control group for isolation and identification of Gram positive bacteria from Wound swab after intervention phase.**

| Lab No | Sample     | Identification methods |             |          |     |       |           | Isolate     | Observation  |
|--------|------------|------------------------|-------------|----------|-----|-------|-----------|-------------|--------------|
|        |            | Culture media          | Grams stain | Catalese | MSA | DNAse | Coagulase |             |              |
| 3      | Wound swab | B.A + Macc             | G +ve cocci | N.A      | N.A | N.A   | N.A       | G +ve cocci | Not improved |
| 4      | Wound swab | B.A                    | G +ve cocci | N.A      | N.A | N.A   | N.A       | G +ve cocci |              |

**(9) showed performance requirements of Susceptibility test of Isolates from study group before Intervention phase.**

| Lab No | Identification methods |            |                       |                  |                         |                           |       |                                |               |
|--------|------------------------|------------|-----------------------|------------------|-------------------------|---------------------------|-------|--------------------------------|---------------|
|        | media                  | Reagent    | Method                | Internal Quality | Single antibiotic agent | Multiple antibiotic agent |       | Measurement of inhibition zone |               |
|        |                        |            |                       |                  |                         | G +ve                     | G -ve | Ruler                          | Approximately |
| 1      | Muller Hinton          | Macfarland | Modified Kairby bauer | N.A              | N.A                     | N.A                       | Used  | N.A                            | Used          |
| 2      | Nutrient agar          | N.A        | N.A                   | N.A              | N.A                     | N.A                       | Used  | N.A                            | Used          |
| 3      | Muller Hinton          | N.A        | N.A                   | N.A              | Used                    | N.A                       | N.A   | N.A                            | Used          |
| 4      | Muller Hinton          | Macfarland | Modified Kairby bauer | N.A              | N.A                     | N.A                       | Used  | N.A                            | Used          |
| 5      | Nutrient agar          | N.A        | N.A                   | N.A              | N.A                     | Used                      | N.A   | N.A                            | Used          |
| 6      | Muller Hinton          | Macfarland | Modified Kairby bauer | N.A              | N.A                     | Used                      | N.A   | N.A                            | Used          |
| 7      | Muller Hinton          | Macfarland | Modified Kairby bauer | N.A              | N.A                     | Used                      | N.A   | N.A                            | Used          |

**Note:** approximately i.e. they used necked eye to measure inhibition zone.

**(10) showed performance requirements of Susceptibility test of Isolates from control group before Intervention phase.**

| Lab No | Identification methods |             |                       |                  |                         |                           |       |                                |               |
|--------|------------------------|-------------|-----------------------|------------------|-------------------------|---------------------------|-------|--------------------------------|---------------|
|        | media                  | Reagent     | Method                | Internal Quality | Single antibiotic agent | Multiple antibiotic agent |       | Measurement of inhibition zone |               |
|        |                        |             |                       |                  |                         | G +ve                     | G -ve | Ruler                          | Approximately |
| 1      | Muller Hinton          | N.A         | Modified Kairby bauer | N.A              | N.A                     | N.A                       | used  | N.A                            | used          |
| 2      | Muller Hinton          | Maccfarland | Modified Kairby bauer | N.A              | N.A                     | N.A                       | Used  | N.A                            | used          |
| 3      | Muller Hinton          | Maccfarland | Modified Kairby bauer | N.A              | N.A                     | Used                      | N.A   | N.A                            | used          |
| 4      | Muller Hinton          | Maccfarland | Modified Kairby bauer | N.A              | N.A                     | used                      | N.A   | N.A                            | used          |

**Note:** approximately i.e. they used necked eye to measure inhibition zone

(11) showed performance requirements of Susceptibility test of Isolates from study group after Intervention phase.

| Lab No | Identification methods |            |                       |                  |                         |                           |       |                                |               |
|--------|------------------------|------------|-----------------------|------------------|-------------------------|---------------------------|-------|--------------------------------|---------------|
|        | media                  | Reagent    | Method                | Internal Quality | Single antibiotic agent | Multiple antibiotic agent |       | Measurement of inhibition zone |               |
|        |                        |            |                       |                  |                         | G +ve                     | G -ve | Ruler                          | Approximately |
| 1      | Muller Hinton          | Macfarland | Modified Kairby bauer | N.A              | N.A                     | N.A                       | Used  | Used                           | N.A           |
| 2      | Muller Hinton          | Macfarland | Modified Kairby bauer | N.A              | Used                    | N.A                       | N.A   | Used                           | N.A           |
| 3      | Muller Hinton          | Macfarland | Modified Kairby bauer | N.A              | Used                    | N.A                       | N.A   | Used                           | N.A           |
| 4      | Muller Hinton          | Macfarland | Modified Kairby bauer | N.A              | Used                    | N.A                       | N.A   | Used                           | N.A           |
| 5      | Muller Hinton          | Macfarland | Modified Kairby bauer | N.A              | N.A                     | Used                      | N.A   | Used                           | N.A           |
| 6      | Muller Hinton          | Macfarland | Modified Kairby bauer | N.A              | N.A                     | Used                      | N.A   | Used                           | N.A           |
| 7      | Muller Hinton          | Macfarland | Modified Kairby bauer | N.A              | N.A                     | Used                      | N.A   | Used                           | N.A           |

**Note:** approximately i.e. they used naked eye to measure inhibition zone.

**(12) showed performance requirements of Susceptibility test of Isolates from control group after Intervention phase.**

| Lab<br>No | Identification methods |            |                          |                     |                               |                              |       |                                   |               |
|-----------|------------------------|------------|--------------------------|---------------------|-------------------------------|------------------------------|-------|-----------------------------------|---------------|
|           | media                  | Reagent    | Method                   | Internal<br>Quality | Single<br>antibiotic<br>agent | Multiple antibiotic<br>agent |       | Measurement of inhibition<br>zone |               |
|           |                        |            |                          |                     |                               | G +ve                        | G -ve | Ruler                             | Approximately |
| 1         | Muller<br>Hinton       | N.A        | Modified<br>Kairby bauer | N.A                 | N.A                           | N.A                          | used  | N.A                               | used          |
| 2         | Muller<br>Hinton       | Macfarland | Modified<br>Kairby bauer | N.A                 | Used                          | N.A                          | N.A   | N.A                               | used          |
| 3         | Muller<br>Hinton       | Macfarland | Modified<br>Kairby bauer | N.A                 | N.A                           | Used                         | N.A   | N.A                               | used          |
| 4         | Muller<br>Hinton       | Macfarland | Modified<br>Kairby bauer | N.A                 | N.A                           | used                         | N.A   | N.A                               | used          |

**Note:** approximately i.e. they used naked eye to measure inhibition zone.

