**1. BACKGROUND**

- Breast cancer (BC) is the most common type of cancer affecting women worldwide.
- The rate of breast cancer among the Qatari residents and citizens is 39.41%, with a survival rate of 98% during early stages of diagnosis and 58% in late stages.
- *Plantago ciliata*, also commonly known as Rubia, Gireita or Widhaina is a small herbaceous annual plant that flower from February – April.
- It grows in sandy soil and is distributed through Egypt, Jordan, Iraq, Iran and Southern Qatar.
- Extracts from *Pciliata* reported to have analgesic, anti-inflammatory and antiseptic properties.
- *Convolvulus pilosellifolius* inhibit the growth of BC cells. It is mainly used in Saudi Arabia as folk medicine for treatment of ulcer diseases. However, it has never been studied as antioxidant and antibacterial.
- This study was conducted to identify the anti-proliferative effects of crude extract isolated from Qatari medicinal plants, *Pciliata* and *C. pilosellifolius* on breast cancer cells MDA-MB-231.

![Figure 1: Plantago ciliata](image1)

![Figure 2: Convolvulus pilosellifolius](image2)

**2. OBJECTIVES**

- Preparation of crude extracts from *Plantago ciliata* and *Convolvulus pilosellifolius* using 3 different solvents: methanol, acetone and water.
- To identify the anti-proliferative effects of the crude extracts on breast cancer cell MDA-MB-231.
- Identifying the best solvent for crude extraction.

**3. METHODOLOGY**

1. Crude extraction process
   - (a)
   - (b)

![Figure 3: (a) Crude extraction from C. pilosellifolius and P. ciliata process using methanol and acetone as solvents. (b) Crude extraction from C. pilosellifolius and P. ciliata process using water](image3)

2. Cell viability assay
   - (c)

![Figure 4: Cell seeding (48 hours treatment period)](image4)

**4. RESULTS/ CONCLUSIONS**

1. Effect of *P. ciliata* extracts on BC cells after 48 hours treatment

![Figure 5: Alamar blue reading of acetone (A) methanol (B) water (C) *P. ciliata* extract plate, acetone (D) Graphical representation after 48 hours of treatment.](image5)

2. Effect of *C. pilosellifolius* extracts on BC cells after 48 hours treatment

![Figure 6: Alamar blue reading of acetone (A) methanol (B) water (C) *C. pilosellifolius* extract plate, acetone (D) Graphical representation after 48 hours of treatment.](image6)

- Water extracts from both plants have the highest extraction yield and inhibited growth of MDA-MB-231 cells.
- Ethanol and methanol extracts inhibit the growth of MDA-MB-231 cells.

**5. SIGNIFICANCE**

This study generates preliminary data and establishes grounds for further research involving the use of Qatari medicinal plants in proliferating growth of breast cancer cells among other cancers.

**6. POST PROJECT PLANS**

Further research need to be conducted to support these results by using different cancer cell lines.
- Identifying the bioactive compounds and the underlying mechanisms mediating cell inhibition.
- Identify various pathways involved in apoptosis.