ANTI-BREAST CANCER EFFECT OF SELECTIVE QATARI MEDICINAL PLANT CRUDE EXTRACTS

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The main goal of this project is to find an anti-cancer bioactive compound from the Qatari native plants.

The objective of this study to test a series of Qatari native plants for its potential efficacy against cancer cell progression and metastasis specially against breast and prostate cancer.
Achievements and outcomes

- We tested the alcoholic crude-extract of *Nigella sativa (NS)* seeds, *Senna italica*, *Glossonema edule*, and *Convolvulus Glomeratus Choisy* leaves against breast cancer cell survival, proliferation, and migration.

- Alcoholic crude extract of *Glossonema edule* leaves did not have any significant effect on both MCF-7 and MDA-MB-231 breast cancer cell killing.

- Crude extract of *Senna italica* and *Nigella sativa* had minimal breast cancer cell killing effect and crude extract of *Convolvulus Glomeratus Choisy* showed strong breast cancer killing effect.

- All the crude extracts tested had the capacity to inhibit breast cancer cell migration.

- *Convolvulus Glomeratus Choisy* exerts its anti-breast cancer effect at least partially by inducing apoptosis of breast cancer cells.
Post Projects Plans

- We plan to test more Qatari native desert plants for its anti-cancer effect against breast and prostate cancer.

- We plan to prepare crude extracts of different plant parts to test its anti-cancer effect.

- We plan to prepare crude extracts using aqueous and organic solvents to test its anti-cancer effect.

- Once potential Qatari native plants are identified, we will carry out fractionation study to determine the active compounds that exert the anti-cancer effect.

- Once active compound is identified, we will synthesize synthetically and test their anti-cancer efficacy as compared to the naturally isolated active compound for commercialization.

- We also plant to compare the anti-cancer effect of extract prepared from natural plant vs. lab grown callus.