Middle Eastern Biology of Parasitism

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Overall Research Goal

*Control of parasitic infections in Sub-Saharan African countries*

<table>
<thead>
<tr>
<th>Epidemiology, morbidity quantification and diagnostics</th>
<th>Impact of co-infections on parasitic diseases severity</th>
<th>Drug discovery against parasitic diseases</th>
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<tbody>
<tr>
<td>• Epidemiology of parasitic infections (schistosomiasis, malaria, trichomoniasis, filariasis)</td>
<td>• Malaria and schistosomiasis and effects on susceptibility and diagnosis</td>
<td>• Indigenous plant materials against snails intermediate host of schistosomiasis</td>
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<td>• Conventional indirect diagnostic approaches and efficiency</td>
<td>• Malaria and schistosomiasis and effects on hematologic and renal-related disorder</td>
<td>• Determination of efficacy of novel nanoparticulate drugs against snail hosts</td>
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<td>• Molecular epidemiology of intermediate hosts of schistosomiasis in Nigeria and dynamics of <em>Schistosoma</em> transmission</td>
<td>• Interaction between malaria and hepatitis</td>
<td>• Potency of some novel nanomedicines against malaria and trematode parasites</td>
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<td>• Interaction between enteroviruses and intestinal parasites</td>
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Present and Future Research Directions

Proteomics and diagnostics development for African-type schistosomiasis

- Profiling of *Schistosoma* infected host serum for immunoreactive antigens
- Proteome profiling in bladder pathology induced by *Schistosoma haematobium* infection

Immunogenicity of nanovaccine

- Adjuvanticity properties of curcumin on *Schistosoma* worm tegument protein in PLGA delivery system
- Immunogenicity of SWA using *Moringa oleifera*-derived glycosides in polymeric nanoparticles delivery system
Expertise and resources available

**Expertise**

- Epidemiological data gathering
- Cell culturing
- ELISA
- Drug formulation, design and testing
- Data mining and analysis

**Resource available**

- Research field and biological samples
Expertise required for next line of research

• Bioinformatics for proteomes analysis

• Flow cytometric

• Gene cloning and expression

• Electron microscopy
ACKNOWLEDGEMENTS

• MEBoP Team
• MEBoP Participants
• Babcock University, Nigeria
Some Research outputs from our lab


Thank you for your audience