



Middle Eastern Biology of Parasitism

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Turkmeni

Iran

Qman

South Africa



Overall Research Goal

Control of parasitic infections in Sub-Sahara African countries

Epidemiology, morbidity quantification and diagnostics

- Epidemiology of parasitic infections (schistosomiasis, malaria, trichomoniasis, filariasis)
- Conventional indirect diagnostic approaches and efficiency
- Molecular epidemiology of intermediate hosts of schistosomiasis in Nigeria and dynamics of *Schistosoma* transmission

Impact of co-infections on parasitic diseases severity

- Malaria and schistosomiasis and effects on susceptibility and diagnosis
- Malaria and schistosomiasis and effects on hematologic and renalrelated disorder
- Interaction between malaria and hepatitis
- Interaction between enteroviruses and intestinal parasites

Drug discovery against parasitic diseases

- Indigenous plant materials against snails intermediate host of schistosomiasis
- Determination of efficacy of novel nanoparticulate drugs against snail hosts
- Potency of some novel nanomedicines against malaria and trematode parasites

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

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- Babcock University, Nigeria

Some Research outputs from our lab

- Dauda, K., Busari, Z., Morenikeji, O., Afolayan, F., <u>Oyeyemi, O.,*</u> Meena, J., Sahu, D. and Panda A. (2017). Poly-D,L-lactic-coglycolic acid-based artesunate nanoparticles; formulation, antimalarial and toxicity assessments. J Zhejiang Univ-Sci B (Biomed & Biotechnol), doi.org/10.1631/jzus.B1600389.2017
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Thank you for you

your audience