

Leprosy Research in Rio de Janeiro: A Molecular Approach

Safiya Topiwala, 2024, Molecular Biology
Fiocruz Institute (Oswaldo Cruz Foundation)
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Introduction

- Under the Ministry of Health, Fiocruz contributes to the promotion of health and reduction of social inequalities
- Specialized focus in Souza Araujo Outpatient Clinic (ASA) and the Laboratory of Hansen's Disease

Objective of Internship

I aimed to increase my exposure to global health challenges while gaining experience in a clinical research setting.



My research set-up in the Laboratory of Hansen's Disease

Work Profile

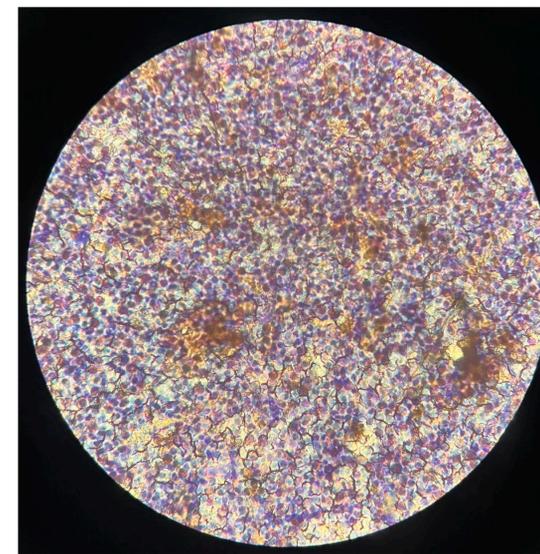
- Observed the comprehensive cycle of care for disadvantaged leprosy patients
- Accompanied a variety of different clinical research protocols
- I contributed to the ongoing research of leprosy-specific biomarkers found in infected cells

Reflection and Results

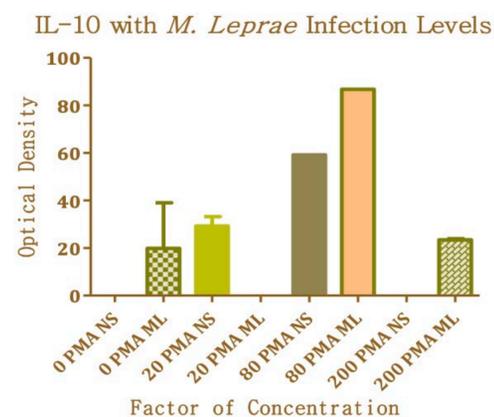
- In the clinic, I examined practices of overcoming structural barriers to healthcare for underserved communities
- After being trained in a variety of histopathological routines, I cultivated and stained my own cell cultures needed for further leprosy research — both **THP-1 cells and neutrophils** (pictured right)



- By attending regular lab meetings, I learned to concisely present higher quality research
- My encouraging colleagues helped acclimate to Brazilian culture, both in and outside of the lab
- Overall, I am very grateful for this opportunity in providing me with such meaningful insights into global healthcare and research systems



- For my own research project, I infected macrophage cell populations with *M. Leprae* bacteria to test the resulting levels of three leprosy-affiliated biomarkers
- For example, levels of IL-10 are seen below, particularly in populations treated with 80M PMA concentrations



Looking Ahead

- My project served as another stepping stone in ongoing vaccine research at Fiocruz
- Further research in viability needs to be done to improve the BCG vaccine for leprosy

Questions

- How can the communities who are a means for the research be properly given back to in recognition of their vast contributions to improving the quality of healthcare?

Conclusion

- The work conducted in global settings is by no means simple, and yet holds incalculable promise towards improving the quality of life

Acknowledgements

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