

# The Importance of GLP in Research: A lesson learned the hard way

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Our first research project is unforgettable – a mix of excitement and worry, filled with uncertainty and inevitable mistakes. Even though it encompasses a blend of emotions, our first project undoubtedly teaches us some valuable lessons that stay with us throughout the journey.

In my case, while working on the project titled ‘Synergistic Activity of *Acacia nilotica* Linn. and *Citrullus colocynthis* in Tooth Healing,’ my research partner and I encountered unforeseen obstacles that taught us a valuable lesson about the significance of Good Laboratory Practices (GLP).

We conducted a project to investigate the antimicrobial and antifungal properties of these plant extracts specifically against oral pathogens. We had no idea that our journey would teach us the significance of following GLP principles in scientific research.

## The Mistake:

We initially neglected to give due attention to following GLP guidelines carefully. Our ignorance about using a sterile loop outside the Laminar Air Flow (LAF) for transferring the bacterial colony during the pour-plate agar transfer method, a common procedure, resulted in contamination due to a lack of proper precautions. The consequences of this oversight became evident during the analysis of our results.

## **The Lesson Learned:**

We had to review our entire research approach as a result of the contamination. We realized that GLP is not just a set of guidelines but a fundamental aspect of reliable scientific research.

Every stage of the experiment, from planning and designing it to carrying it out and analyzing the results, needs to be done precisely and meticulously.

The contamination had an impact on our results, which served as evidence of the vital function GLP plays in guaranteeing the accuracy and integrity of scientific discoveries.

## **Here are 5 Reasons Why Good Laboratory Practices are Non-Negotiable**

### **1. Building Trust in Science:**

- It's really important to make sure that scientific data is reliable and accurate, especially at a time when there's so much misinformation going around.
- GLP standards guarantee rigorous protocols, meticulous documentation, and transparent reporting, making results reproducible and verifiable. This fosters trust in science, leading to better-informed decisions and advancements across all fields.

### **2. Protecting Human and Animal Health:**

- GLP prioritizes safety within the laboratory. Strict guidelines on animal welfare, chemical handling, and waste disposal minimize risks for researchers and the environment.
- Ignoring these can lead to accidents, environmental contamination, and ethical controversies, ultimately hindering scientific progress.

### **3. Preventing Wasteful Research:**

- Imagine years of research invalidated due to inaccurate or unreliable data.
- That's the unfortunate reality when GLP principles are disregarded. By ensuring data integrity and reproducibility, GLP saves invaluable time, and resources, and prevents research from taking dead ends.

## 4. Facilitating Global Collaboration:

- GLP guidelines provide a harmonized language for scientific testing across countries.
- This enables collaboration between international researchers, promoting knowledge sharing and accelerating scientific discoveries.
- Ignoring GLP creates communication barriers and hampers the global effort to tackle pressing challenges.

## 5. Safeguarding Public Health and Consumer Confidence:

- Ultimately, GLP contributes to the development of safe and effective drugs, chemicals, and products.

By ensuring rigorous testing and reliable data, GLP protects public health from harmful products and fosters consumer confidence in the scientific process.

## Little wiser than before

The lessons we learned from our project completely changed the way we approach research. GLP became an essential foundation that guided us in every decision we made.

The GLP is more than just a set of rules. It represents a philosophy, a dedication to excellence, and a promise to the public to maintain the highest standards of scientific conduct.

We have learned from our early mistakes and now firmly believe that the GLP framework is not just an option, but a crucial requirement for the credibility and advancement of scientific research.

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