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Power of Communication

Informational Interview with Dr. Alicia Smith

“What is one of the most influential things you have learned that has benefited you in your career?” I ask.

Tilting her head slightly to contemplate, “Well, this may sound silly, but the typing class I had taken years ago in grade school. It is the most useful thing ever,” responded Dr. Alicia Smith.

I had the pleasure of asking Dr. Smith this question at the end of our call which focused on her career, research, and the power of communication. Although a simple answer to my conclusion question, I believe it is the perfect answer. We constantly type on our computers, laptops, or phones to communicate with collaborators and peers to share our work and ideas. Through this essay, I will emphasize the importance of communication from the conversation that I had with the accomplished Dr. Alicia Smith.

Dr. Smith is the Associate Professor and Vice Chair of Research in the Department of Gynecology and Obstetrics at Emory University School of Medicine and a member of the Cancer Prevention and Control Research Program at Winship Cancer Institute. From the genesis of her career, she has had an innate fascination in genetics and genetics research. Dr. Smith performed reproductive biology research at Wake Forest University during undergraduate and continued to

earn a degree in genetics in her graduate degree program. Now, Dr. Smith combines her past experience in reproductive biology research and her degree in genetics to lead research in her lab located at the Emory Medical School. The lab of Alicia Smith, PhD primarily studies prenatal stress on pregnancy outcomes and child development with a focus on neuroendocrinology. When studying neuroendocrinology, scientists see hormones as the regulators of our physiology (body functions and mechanisms within an organism) which scientists use to predict prenatal development in their research.

Research requires communication. In our discussion, I asked Dr. Smith about the essential communication she utilizes in her career and her lab to obtain the necessary samples, develop data, and analyze outcomes in order to draw a conclusion and develop questions for future research. As a pretense, Dr. Smith did say that she is a “lab person” so she is more focused on communication within the lab than at the clinic. However, she did go over the procedures used to ask patients to sign up for a research study. Through our conversation, she shared with me the different processes that go into completing a research study and the communication that must accompany them.

The first step is developing a big picture question that is being addressed in the research study that will be communicated. Dr. Smith gave this example: “Stress in the prenatal period affects a baby's development. Ask to observe pregnancy and biological samples at 6 months” (Dr. Smith). Once the question is generated, it can then be shared to the University for approval and other research labs who may want to collaborate with the research study. When all is approved and the details of the research are finalized, it is time to “collect the data.”

The first stage of data collection begins at the clinic or within the hospital. Health providers must ask eligible patients to participate within the research study. This is no easy task.

Often, patients feel distressed for their health or the health of their child so communicating effectively with them is crucial. Dr. Smith said that it is important to talk to patients at a “high-level.” To speak with a patient at a “high-level,” is to speak to them about the potential benefits, risks, and procedure of a research study with enough detail so that they are well informed but simple enough so that they understand the details. Dr. Smith says that sometimes even she struggles to speak with a patient because she finds herself going “too deep” into the science of the study to the point where it may be confusing for patients.

The other key part to a research study is building trust and rapport with patients who participate. This is important for both the ethics and the success of the study. When participants feel that they can trust their health providers, they are more likely to maintain engagement within a research study. Engagement allows researchers to gather a higher quantity of data that can be used to create a more accurate conclusion to the research question. Additionally, most studies will compensate participants with money for their time, but never so much money to coerce their decision to participate. Once all the samples and data are gathered from participants, researchers may then begin to analyze the data and draw a conclusion.

So far communication from lab to sponsors, lab to lab, lab to clinic, and clinic to patients have all occurred. All these forms of communication are essential to gather the necessary data and to process said data in order to draw a conclusion to the research question. The final step is to share the conclusion to the research question through a paper. Dr. Smith recalls,

“Studies are large, multipotent – not one paper can wrap it up in general. For example, the PTSD study we performed had 3 objectives and published 12 papers. In general, there is not an end point. In papers, there is a question that we can answer but it often leads to more questions that will need to be addressed in other papers” (Smith).

In this essay, I will analyze only one of Dr. Smith's research papers, but I would like to acknowledge the fact that this singular paper is a part of a larger body of work. One of her most recent research papers, "Maternal Antibody Response, Neutralizing Potency, and Placental Antibody Transfer After Severe Acute Respiratory Syndrome Coronavirus (SARS-CoV-2) Infection," characterizes the maternal immune response after covid-19 infection during pregnancy.

The rhetoric within this research paper is very formal and targeted towards an educated audience, such as an individual in academia. The language is heavy in science vocabulary that would require a background within immunology in order to understand the data and conclusions drawn. There is an abstract within the paper that includes the objective, methods, and results followed by the majority of the paper. The majority of the paper is divided into methods, results, discussion, and reference sections that comprise the bulk of the data and conclusions within the research study. Within each section, there are figures that contain data that was collected through the experiment which are then further explained in the text. The research paper followed a standard scientific format which makes it universal within the scientific and academic communities. An immense amount of work and collaboration go into creating the final product of a research study, the research paper, which communicates the final conclusions and promotes discussion for further research. Simply put, the final paper is a cumulation of all the communication and work between individuals that will hopefully spark more dialogue to solve one of the world's questions.

Through my conversation with Dr. Smith, I have learned about the true power of communication. Communication is an essential tool that we must use in order to answer any of the world's questions, including the processes that go into answering research questions. There

is a huge amount of collaboration between scientists, patients, co-authors, and even students that goes into concluding a research question that may result in a singular research paper or many research papers. Without the communication between many individuals and organizations a singular research question cannot be answered, and the answer to that question cannot be shared to benefit the world's knowledge. Only with communication between all people, can the world's most substantial scientific and social problems be solved.

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