

Over the summer of 2017, I began conducting research with Dr. Rohan Tikekar. Professor Tikekar had previously completed research in the area of a known natural component of the turmeric plant, called curcumin. He explained to me that although his previous research covered some aspects of curcumin, much was left to be discovered. He was left with residual inquiries regarding the effects of turmeric in traditional forms. Professor Tikekar was raised in India, which is a country that I had previously visited. My interests within Indian culture led me to research the effects of curcumin in a common drink that is believed to have positive immune effects; turmeric milk.

I discussed my preliminary research with Professor Alborzi, who performed research under the advisement of Dr. Tikekar. Professor Alborzi told me that she knew of someone who previously performed research on skim milk. She sent me the papers that the person had written on the topic. I then began using those papers as the general guideline for my experimental procedure. I began to research previous experiments that investigated the interaction between the compound curcumin and milk. One of the major issues with curcumin is that it has a low level of bioavailability, since it is known as a hydrophobic molecule. This means that curcumin does not bind well with water and that it needs another medium in order for our bodies to absorb the natural benefits that this plant component can offer. The previous studies showed that milk has a protein, known as casein, which allows for this binding mechanism to occur. Within these previous studies, skim milk was frequently used as a medium to bind with the curcumin, in attempts for the curcumin to be more bioavailable. However, few studies researched the interaction capabilities between curcumin and that of whole milk as a medium. Whole milk has a higher fat content than skim milk. Since whole milk includes lipids, or fats, it is also a hydrophobic solvent, such as how curcumin is a hydrophobic compound. This relationship suggests the possibility of improved binding and absorption results after consumption.

When I evaluated the sources for my topic, I attempted to ensure the following; that the article was peer-reviewed, on a popular journal with scholarly recognition and that the article full version was available online. The full version would allow for easier accessibility to those helping me currently or for those in the future if individuals were interested in discovering where I had received my information. I would then read the article abstract to see how relevant the article was to the topic of curcumin. If I felt it was relevant, I would continue by reading the conclusion, followed by the introduction and the remainder of the article. If I felt that I had gained a general understanding of what the experiment was trying to accomplish, and that it was relevant to my topic, I would summarize the article in a few sentences for my own notes to reference at a later date if need be.

Throughout my research process, whenever I encountered a hurdle in my experiment, I would first search the database on the University's Library website. If that did not prove to be beneficial, then I would ask a colleague in the laboratory for their recommendation. I gained

valuable methods of how to research a topic that I learned from my colleagues in the research laboratory of Professor Tikekar as well as from Professor Tikekar himself. I hope that I will be able to continue to use these methods and have similar resources in my professional career. I also feel that if the opportunity presents itself to continue my career in academia, I have been given the necessary tools to be successful. Throughout my academic career at the University of Maryland, the importance of using the resources of the University Library has been highly stressed, as the library includes quality sources for individuals to access.

Finally, after reflecting back on my research experience, I would have made a few changes mainly regarding the management and organization of my sources. I believe that a way the library could be improved, in order for those to have more successful research experiences, would be to allow those who search websites to save specific articles as well as make electronic comments for future use. It would have also been beneficial to have a way to filter out articles that are not relevant as well as to let users know what articles they have previously viewed. I think if the library provided these search strategies and organizational tools, users would potentially conduct their research with more structure and have an easier time when it came to finalizing their report. Overall, I believe that the University of Maryland library offers a variety of great resources for those in need. I do not believe I would have been able to complete my research without access to this invaluable resource.

Thank you,

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