

Lang Prize Reflective Essay on Research Process:  
Delirium's Impact on Longevity in Older Adults

by

Emera Nai'a

Research Paper written for Longevity HDE 117  
Fall Quarter 2023  
University of California, Davis

## INTRODUCTION

I was tasked with writing a term paper that expanded my knowledge about longevity in the human lifespan. This was not a topic I was familiar with, so I felt somewhat without a research direction at first. I was provided with example topics for my term paper, but none seem to resonate with me. As I had the freedom to choose my topic, I began searching scholarly resources for topics that felt meaningful to my life. I thought about challenges experienced by my own family members and how their longevity could have been improved if these challenges had been prevented. This is when I first began exploring the topic of delirium. This is a word I had heard repeatedly as an explanation by other family members for why my granddad had never been quite the same after a hospitalization, but I realized I had no idea what that word really meant from a medical perspective, nor did I understand the impact the condition had on him. As I began my research, I realized that not only was I unfamiliar with delirium, but so were many healthcare professionals. Delirium is continuously unrecognized, misdiagnosed or mismanaged in healthcare, which are key contributing factors to the poor health outcomes associated with the condition, and recognizing this inspired my desire to research it further.

## RESEARCH PROCESS

Writing an empirical research paper is usually conceptualized as a systematic process of identifying one's topic, completing a preliminary search for information, locating resource materials, evaluation of the resources in terms of quality or strength of evidence, developing an outline based on notes, writing the paper, ensuring that all sources are cited, and then engaging in an iterative process of proofreading and review. Upon reflection, I recognize that I had initial challenges with many components of this process including with the initial step of identifying my topic.

I began my research using Google Scholar to initiate a search with various key terms to explore topics that may be of interest to me. My goal in this beginning stage was to explore a broad range of scholarly literature to help familiarize me with possible research topics, most of which I had little preexisting knowledge of, and then formulate a research question. Initially I only searched for articles that were published after 2019 and had the word "delirium" in it. With these results, I read the abstracts for the first page of results. This skim was helpful for my understanding of what age groups delirium most often affects. Based on this information, I narrowed down my topic to only focus on elderly as I thought researching delirium in older aged adults would relate most to the topic of expanding longevity in humans. I then began to combine key terms such as "delirium AND elderly" or "delirium AND longevity" to expand the search. Initially, I did not get many results that were specific to longevity, but I did get articles that related to the relationship between delirium and dementia or between delirium, frailty, and mortality that expanded my thinking on how I could approach delirium's impact on longevity. This led me to the primary research question of: "What is the impact of delirium on human longevity?" and a

secondary research question of: “What are evidence-based strategies to address delirium that might positively impact longevity?”

With these research questions in mind, I began to identify peer-reviewed journal articles using the UC Davis library databases (e.g., PubMed, UpToDate, and CINAHL) that I may be interested in using so that I could read them in full and take notes. This is also where I began to determine eligibility of studies for my review. For example, what was I considering to be inclusion or exclusion criteria? Inclusion criteria was determined to be empirical research studies related to delirium published in English in peer-reviewed journal articles ideally within the last 5 years, although I did allow for seminal works published earlier. I defined a seminal article as a pivotal study that is often cited by many other subsequent studies and is thus considered influential in the field of delirium research. Further inclusion criteria included that the study must include enough detail about the research methodology so that an appraisal of the quality or analysis of the data could be made. Exclusion criteria was considered to be any study that did not meet the inclusion criteria. Additionally, there was a preference for research focused on delirium in older aged patient populations; however, this was not a hard limitation, especially if the article served as foundational understanding on delirium.

Once I had the research question and inclusion/exclusion criteria defined, I created an outline to help organize my first draft of the research paper. To ensure that I was capturing the impact of delirium on longevity in a meaningful way, I would also identify relevant quotes from my resources and placed them into the appropriate sections of the outline. This included identifying a source that could provide an illustrative story or case example to open the paper so that the audience can relate to the impact in a real and tangible way as opposed to simply providing data to support theoretical perspectives.

#### RESEARCH STRATEGIES

One of the first strategies to write an effective research paper is to adequately define the research question and then identify relevant resources. The UC Davis Library has a helpful 4-minute video on keyword search strategies that are directly relevant to the research question. In this video, I was first prompted to identify what are the most important words in the research question. This video was especially helpful with providing strategies to brainstorm related key words that may not be included in the research question(s). It also showed me how to use the Advanced Search feature of the library databases to combine key words, which I had not done previously. This video also prompted me to look for new key words in the first relevant articles found, as previously I had simply focused on using the reference list from source articles to identify new articles that would likely be relevant. This led me to consider key terms such as “elderly” or “geriatric” to target articles relevant to older aged individuals as well as specific keywords such as “pharmacological treatment,” “prevention,” or “symptoms” to build out the different sections of my paper using my outline as a guide.

Once I had brainstormed key words, I was ready to identify relevant articles based on my inclusion and exclusion criteria. When I was considering studies for my research

paper, I was especially interested in the methodology and results of the study. I found it helpful to use the CARS checklist which outlines indicators for Credibility, Accuracy, Reasonableness, and Support. If my evaluation of the methodology had the indicators of quality, then I could consider relevancy to my research questions and decided how to incorporate the source material into my paper.

Finally, I wanted to develop a paper that was both comprehensive and integrated so that it would be easily understood by a broad audience ranging from healthcare professionals to research scholars to even the impacted patients and families themselves. To accomplish this, I would attempt to show consistency by using the same source in multiple different sections of my paper but also to use multiple different sources in each section to add support to my synthesis of the research. Yet, I still wasn't sure if my paper had the correct academic tone. Here, one strategy that I used was to review the UC Davis Library resources on writing including the video series titled *Write Like a Professor*. This video series includes helpful topics such as ethical approaches to writing, appropriate citations, research strategies, and my personal favorite "Plan of Attack" which highlights the importance of a research schedule, organization, initial drafts, and iterative revisions.

#### CHALLENGES

This research paper was a challenge for me as I had not written anything this advanced previously. Prior to transferring to UC Davis as a junior, I was at community college where the most I was expected to do was to write a three-page paper on a specific topic pre-chosen by the instructor. I was never given the freedom to explore my own interests in research, so when I finally got the chance to, I had no inclination as to where to start. I was given examples of topics from previous students, but I wanted to challenge myself to research something that I found interesting and meaningful for myself and others. Upon reflection, I never imagined this type of research and writing freedom to be so challenging, but as I searched the internet for topics nothing seemed to resonate with my interests or felt impactful. I decided to stop looking on the internet for research ideas but instead think about those who impacted me in my own life through their stories. One of those impactful stories was the story of my granddad experiencing delirium and feeling like there was not adequate help or support from the healthcare team for him or our family. I wondered how this experience might have impacted his longevity.

When I first initiated my research on Google Scholar, I ran into a roadblock of finding several potential articles that I was not allowed to access. I knew that I should utilize the UC Davis library databases to overcome this challenge, yet since I had never previously utilized the university database, I wasn't sure where to begin. I had only relied on Google search tools my entire school career as that is what I was comfortable with prior to this research project. Then when I first began by searching "delirium in elderly" within the UC Davis health sciences resources I got over 9,000 results, which made me realize I was not using this tool effectively. I tried narrowing it down further by only searching for peer-reviewed articles and articles written in the past 5 years, but even that yielded over

2,000 articles. This is when I turned to the Keyword Search video in the resources to learn how to fine-tune my Advanced Search.

I also decided to focus on one database at a time. Many of my articles were previously coming from PubMed, so I decided to take advantage of PubMed for UC Davis, which gave me more full-text articles than the public version. Using this version of PubMed, I was able to narrow my search to only 1,000 results. Although this was still a significant number of results, it was much more manageable for me to skim through these to apply my inclusion and exclusion criteria. The majority of my articles came from using this version of PubMed, although I also appreciated the access to UpToDate which provided concise summaries of what is currently known as well as CINAHL which allowed me to find articles more specific to the role of nursing care for delirium management. The wealth of resources from the UC Davis library, including self-help videos made me feel confident in my independent navigation of new tools. I was also comforted to know that should I feel the need I could also reach out to a medical librarian from the William Blaisdell Medical Library.

#### EVALUATION PROCESS

My first step in evaluating potential resources was to identify what was the main research question, or focus, of the article under consideration. A research question should be clear, concise, focused, and potentially arguable or in some way contributing something new to what is currently known. The identification of the research gap being addressed is often included in the abstract and again in the background section of the paper. Most importantly, the research focus of the study must be relevant to my research question for this paper.

Next, I reviewed the methods and results sections of the paper looking for detailed descriptions of the study authors inclusion and exclusion criteria, research approach (e.g., quantitative, qualitative, of mixed methods), as well as clear and understandable supporting tables and figures.

Finally, I wanted to know if the study authors conclusions can be reasonably supported, and this can often be better understood by reviewing the discussion and limitations sections as well as assessing for indicators of credibility and accuracy outlined in the CARS checklist. The credibility of an article is enhanced by evidence of quality control such as publication in a peer-reviewed journal, which is why I used this as an inclusion criterion for my research paper. Many journals publish details confirming that they are peer-reviewed and explain the process utilized for these reviews. This process will often assess for conflicts of interest or sources of bias as well as reasonableness of methodological approaches and support of conclusions. Often the presence or absence of a potential conflict of interest is included in the final publication for the purposes of transparency. Additionally, accuracy of an article is essential and is indicated by both how comprehensive the study details are as well as the timeliness of the resources cited in the background section of the study.

### USE OF ARTIFICIAL INTELLIGENCE (AI)

I used ChatGPT to create a title for my research term paper. The link I used is: <https://chat.openai.com/>. I was previously given an assignment in my Longevity class that told me to use AI to come with title options for my term paper. I told ChatGPT to give me a title that relates to delirium in elderly populations and is related to expanding longevity. This is where it came up with the title “Delirium’s Impact on Longevity in Older Adults: Unveiling the Connection”. No other AI tools/technologies were used in the writing of this essay.

## REFERENCES

NHCC (n.d.). *CARS Checklist* | *North Hennepin Community College*. [online] Available at: [https://www.nhcc.edu/academics/library/doing-library-research/cars-checklist#:~:text=The%20CARS%20\(Credibility%20Accuracy%20](https://www.nhcc.edu/academics/library/doing-library-research/cars-checklist#:~:text=The%20CARS%20(Credibility%20Accuracy%20).