

**A Virtue Ethics Analysis of Dr. Frances Kelsey and Her Role in the Thalidomide
Application Process**

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By

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On my honor as a University student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments.

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Introduction

Thalidomide was a drug commonly used in Europe in the 1960's that was promised to function as a sleeping pill and alleviate morning sickness in pregnant women. However, it was later found that the drug was responsible for causing severe limb defects in pregnant women's embryos ("The Thalidomide Tragedy," n.d.). In the United States, Food and Drug Administration (FDA) medical reviewer Dr. Frances Kelsey was given the application from Richardson-Merrell for approval of thalidomide. Scholars have analyzed the ethics and morals behind large organizations like the FDA and Richardson-Merrell, and have attempted to distribute the responsibility regarding the 1960's tragedy and thalidomide's future uses to organizations and individuals.

It is also understood that Dr. Kelsey is a heroine, as she was the figure responsible for the United States narrowly avoiding a horrific tragedy (Bren, 2001). However, scholars have not yet analyzed Dr. Kelsey's overall morality, and have overlooked her character by focusing on larger groups involved in the distribution of thalidomide. This is most likely due to the fact that in larger organizations, individuals can become overshadowed by the actions of the organization as a whole. If we do not take into account the morality of key individuals such as Dr. Kelsey, then we will fail to acquire a greater understanding of the ethics involved in denying approval of thalidomide, an event that has had a tremendous impact on drug regulation and testing in the United States.

I believe that focusing on the thalidomide case in the United States, specifically emphasizing Kelsey and her role in preventing a tragedy, will show that Kelsey possesses the classical cardinal virtues of prudence and courage. To do this, I will draw on the framework of virtue ethics, which allows the morality of an individual to be assessed based on certain virtues

present in his/her character. To support this analysis, I will examine textual evidence in the context of prudence and courage from Kelsey's autobiography and newspapers during the time period in which the thalidomide application process occurred.

Background

Frances Oldham Kelsey began working for the FDA as a reviewer with both a medical degree and a PhD in pharmacology (Kuehn, 2010). Her first application as a medical reviewer was the thalidomide application. When reviewing a drug application, the FDA had sixty days to refuse the application or request more data or else the drug would automatically be approved. The application consisted of three parts, and each was evaluated by a corresponding reviewer. Although Dr. Kelsey was in charge of reviewing the clinical aspect of the application, the drug could not get approved unless all three reviewers passed the application (Kelsey, n.d.).

It was later found that the chemical properties of thalidomide were not all that understood, and one of the chemical forms the drug can undertake was responsible for malformations in developing embryos (Tokunaga et al., 2018). The thalidomide tragedy was responsible for causing defects in 10,000 children in Europe, Australia, and Japan. These included limb defects, congenital heart disease, ear malformations, and ocular abnormalities (Kim & Scialli, 2011).

Literature Review

There are many scholarly studies that have analyzed various aspects of the thalidomide tragedy. Many of them focus on the ethical aspects of the tragedy, specifically the actions of various companies and/or federal organizations that played a role in the distribution of the drug.

Although the following works examine health law and/or ethical issues associated with critical groups and their part in the introduction of thalidomide to the world, scholars have failed to consider the morality behind an individual, Dr. Frances Kelsey, whose character and actions affected all of these groups.

Klaus Ruthenberg (2021) analyzes the scientific decision-making of companies such as Richardson-Merrell in the United States to help better understand how deceit in science can influence ethical judgment and overall morality. The writer proposes possible reasons as to how the disaster could have been avoided by emphasizing the actions of various companies. Furthermore, Ruthenberg provides insight into the question, “Who takes responsibility for what?” by utilizing principlism and its four principles for large groups of biomedical professionals: respect for autonomy, non-maleficence, beneficence, and principle of justice. Thalidomide creators, distributors, and consumers were determined to have either violated or upheld each of these principles with respect to their responsibilities in the thalidomide tragedy (Ruthenberg, 2021).

Another study by Annas and Elias (1999) focuses on the re-introduction of thalidomide (post-1960's) to the market by the FDA to treat a dermatologic complication caused by Hansen's disease. It performs a risk-benefit analysis to determine if the FDA properly weighed the risks before releasing thalidomide to the market. The study concludes that thalidomide should not be restricted because it is teratogenic, and its benefits outweigh its risks. However, with its use in the market and its prescription to patients, the responsibility of all actors involved in the distribution of thalidomide increases greatly (Annas & Elias, 1999).

While these works provide important insight into the various principles behind large biomedical groups and their decision-making in the distribution of thalidomide, there is much to

be learned from the ethics of an individual who played a critical role in the functioning of these groups and the outcome of the thalidomide application in the United States. The following analysis will provide insight into the morality of Dr. Kelsey through the use of a virtue ethics framework, specifically emphasizing the classical cardinal virtues of prudence and courage.

Conceptual Framework

My analysis of the morality of Dr. Frances Kelsey draws on the ethical framework of virtue ethics, which allows for evaluation of the morality of an individual through analyzing certain qualities of excellence known as virtues. Primarily developed by Aristotle, virtue ethics establishes virtues that aim to indicate which good or desirable characteristics people must possess to be moral. Each individual should strive for “the good life,” or *eudaimonia*, which is the state of being in which one realizes one’s human potential (van de Poel & Royakkers, 2011). Figure 1 illustrates the classical cardinal virtues as described by Plato, Aristotle, and Cicero: prudence, courage, temperance, and justice (Carr, 1988).

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| <p style="text-align: center;">Classical Cardinal Virtues</p> <ol style="list-style-type: none">1. Prudence (practical wisdom, discernment)2. Courage (fortitude, endurance)3. Temperance (self-control, self-mastery, moderation)4. Justice (fairness, equity, freedom from bias) |
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Figure 1: Classical cardinal virtues as described by Plato, Aristotle, and Cicero

These virtues are not innate, but can be developed through consistent good deeds and practice. They exist as the middle ground between two evils; for example, courage is balanced between cowardice and recklessness. However, it takes moral skill to discern what the middle ground is, as it is dependent on the circumstances of each situation.

Prudence involves discerning between what is good and bad, and in a general sense can be considered as “rational direction.” Given that prudence can only be defined given a particular situation, it is thought of as a cognitive function (Houser, 2004). Furthermore, it involves the use of practical wisdom, which allows individuals to choose the middle ground between two vices and thus allows them to make the morally right choice for action (van de Poel & Royakkers, 2011). The courage of an individual can be judged by how they endure hardships, such as his/her emotional and attitudinal response to them (Carr, 1988). Courage can occur when there is a threat and associated fear to values, status, and bonds between an individual and others. In fact, to act courageous is to defend values and control the subsequent fear that threats may pose to these values (Hursthouse & Pettigrove, 2018).

In my analysis that follows, I will utilize the framework of virtue ethics to determine the morality of Dr. Frances Kelsey, an individual who played a key role in preventing FDA approval of thalidomide in the 1960’s. Specifically, I will emphasize the cardinal virtues of prudence and courage. The following sections analyze the actions of Dr. Kelsey in the thalidomide application process to better understand her morality and character.

Analysis

Dr. Frances Kelsey is proficient in two of the classical cardinal virtues: prudence and courage. The presence of these virtues can be seen through her actions as a medical reviewer in the FDA, specifically when evaluating Richardson-Merrell’s application for thalidomide approval. Although each of the four classical cardinal virtues makes up part of the others, an individual can still incorporate a specific virtue into his/her character to attain a state of higher morality. Virtue ethics proposes that repeated practice in exhibiting virtues can allow one to

become, for example, a courageous person, as opposed to someone who is courageous in one instant (van de Poel & Royakkers, 2011). Through the lens of virtue ethics, Dr. Kelsey has proven to be both a courageous individual and a prudent individual due to her moral character. The following analysis will give insight to the specific actions of Dr. Kelsey with respect to prudence and courage in order to highlight her overall morality and the presence of these virtues in her character.

Prudence

Prudence, which consists of practical wisdom and discernment (Figure 1), can be seen in Dr. Kelsey's character as proven by her exhibition of these sub-virtues. As discussed previously, prudence is difficult to define as it may appear differently depending on the context of the situation. It relies heavily on an individual's intellect in order to determine how to act in the most morally acceptable way (Celano, 2018). Practical wisdom can be extremely difficult to achieve in healthcare due to an emphasis placed on the capacities of the self (the healthcare employee), capacities of the other (patients or colleagues), and the demands of the problem itself (Dekkers & Gordijn, 2007). Discernment, on the other hand, can be defined as "the quality of being able to grasp and comprehend what is obscure" ("Definition of Discernment," n.d.). Especially in the healthcare field, there are many situations in which the morally right decision can be unclear, and it is important for health officials in a position such as Dr. Kelsey to acquire these sub-virtues so that the most moral outcome can be achieved.

In regards to Richardson Merrell's quest for FDA approval of thalidomide, Dr. Kelsey claims in her autobiography, "My first dissatisfaction with the thalidomide application, as I mentioned, centered on the quality of the clinical reports, because they were more in the nature

of testimonials rather than well-designed, well-executed studies. I requested Merrell, I believe, to get better clinical studies and to provide us with a little better evidence of these various and sundry claims that they had made” (Kelsey, n.d.). It is important to note that Kelsey writes that the inadequacy of the clinical reports was only her first dissatisfaction, which alludes to the fact that she was able to find other problems within the application. This is significant in my analysis of her possession of prudence, as her ability to find other inadequacies shows that she was able to practice moral discernment. As discussed previously, virtues are not innate, but are acquired through consistent practice. Using her judgment to find multiple mistakes within the application from Richardson-Merrell shows consistent practice of discernment to achieve the most moral outcome – the refusal of thalidomide approval. Additionally, it is important to recognize Kelsey neither rejected nor gave her approval of the application as the medical officer. Practical wisdom is the ability to find the middle ground in between two vices; in this case, rejection or approval. Although we now know that approval of thalidomide would cause an extremely large number of birth defects in children, the rejection of the drug could have also been considered a vice at the time. There was not enough data or knowledge to know whether or not thalidomide could be used for other purposes, such as its uses today like treating multiple myeloma and skin lesions caused by leprosy (“Thalidomide: Research Advances,” n.d.). Therefore, Kelsey exhibited practical wisdom by asking for more data from the company rather than outright rejection or approval.

Kelsey was also responsible for finding the reports of a serious side effect in patients who were using thalidomide. She was browsing the British Medical Journal and found a section that discussed how many patients taking thalidomide were experiencing a painful and sometimes irreversible tingling in their extremities, known as peripheral neuritis. After this finding, Kelsey

drafted a letter to Richardson-Merrell asking for more proof of safety (Kelsey, n.d.). Not only was Kelsey able to find this information during a period of time in which information (especially overseas) was more difficult come by, but she was able to “grasp what is obscure” in reference to the definition of discernment. One factor comprising the obscurity of the situation was poor communication, as Kelsey and the FDA found out about this side effect months after the drug had been removed from over-the-counter sales in Germany. In addition, it required a warning label in other European companies due to the peripheral neuritis (Kelsey, n.d.). Another factor contributing to the obscurity and Kelsey’s ability to discern well was the relative novelty of this finding to European companies, Richardson-Merrell, and the FDA. A simple sleeping pill should not have severe side effects like peripheral neuritis. Kelsey was able to discern the severity of the matter at hand, albeit extremely obscure, and was then able to use her judgment to follow an appropriate and moral plan of action.

Furthermore, in an article that highlights the accomplishments of Dr. Kelsey, Morton Mintz reports, “She saw no need either to hurry or to be satisfied with the approach that, nine chances out of ten, it is safe. She was determined to be certain that thalidomide was safe ten times out of ten, and she was prepared to wait forever for proof that it was” (Mintz, 1962). In the context of prudence, the determination of Kelsey to continue fighting for proof of safety one hundred percent of the time before she would approve the drug shows consistent discernment and practical wisdom. She was willing to continually find the middle ground between approval and rejection while using her discernment to determine whether or not the goal for safety could be supported by supplied data within the application.

In addition to the above evidence, Kelsey’s possession of prudence is even more notable because when the company originally filed the application, it thought that the approval would

come easy due to the widespread use of thalidomide in Europe (Kelsey, n.d.). In fact, there were many aspects of the drug that pushed for “easy” FDA approval, such as its massive over-the-counter sales (before it was removed due to peripheral neuritis in patients), its cheap price, and its failure to cause death even in suicide attempts. The animal studies conducted on thalidomide also showed relatively promising results, as there were no malformations in rat offspring when they were dosed with the amount that humans would receive (Mintz, 1962). However, Kelsey did not fall victim to the expectations and pressures surrounding her throughout the application process. She was able to use her own discernment and practical wisdom to execute the decisions made by her character. Since Dr. Kelsey exhibited all of the sub-virtues that enable one to acquire the virtue of prudence, I stand by my claim that Dr. Kelsey’s moral character is rooted by her possession of this virtue.

Courage

Dr. Kelsey has shown to possess the virtue of courage through actions that have proven her fortitude and endurance. Fortitude is defined as “mental and emotional strength in facing difficulty, adversity, danger, or temptation courageously,” whereas endurance is defined as “the ability or strength to continue or last, especially despite fatigue, stress, or other adverse conditions” (“Definition of Endurance,” n.d.; “Definition of Fortitude,” n.d.). Courage in the medical field is all-encompassing of the physical, moral, and emotional tolls that come with the various jobs in the field. Especially as an FDA medical officer with both an MD and a PhD, Kelsey was subject to many, if not all, of these pressures. All of the necessary skills/characteristics required in healthcare, such as professionalism, teamwork, communication,

and adequate medical knowledge, can most effectively be acquired through exhibiting courage (Gaufberg, 2010).

As discussed in the previous section, Kelsey was “prepared to wait forever” to ensure the drug was safe to use ten times out of ten (Mintz, 1962). I analyzed this piece of evidence before in the context of prudence, but its meaning in regards to courage can be further elaborated upon. The pressures and expectations from Richardson-Merrell and from the knowledge of the drug’s widespread use in Europe created an environment of temptation for Dr. Kelsey to approve the use of thalidomide in the United States. Furthermore, the data she asked for to prove the drug’s safety would require many more years of clinical trials and studies, therefore extending the application process on an even larger timescale than the typical sixty days between application cycles. Kelsey knew what she was demanding and how it would prolong the various pressures and interactions with Richardson-Merrell, yet she was able to find a middle ground between recklessness and cowardice as both would involve approving thalidomide without the necessary proof of safety.

Moreover, Kelsey required Richardson-Merrell to resubmit their application at least half a dozen times, which caused negative emotions and pressure from the company to continuously rise. In fact, Richardson-Merrell subjected Kelsey to professional aggravation, provocation, and intimidation. The company had around fifty-one exchanges with Kelsey when in reality, it should have had none; a clause in certain hearings prohibited pharmaceutical companies from contacting FDA application reviewers. Dr. Joseph Murray, Richardson-Merrell’s representative who interacted the most with Kelsey, attempted to “coax” her on behalf of the company to set a deadline for approval, which she refused (Stephens & Brynner, 2009). It is important to note the use of the word coax, as it implies that Murray tried to convince Kelsey of something while

knowing it was against her better judgment. In addition, not only was Kelsey facing the various pressures from local and international companies, but she was being individually targeted by company figures to approve the drug. The fact that she was willing to continue facing the hardships associated with approving thalidomide's application, such as the bullying and targeting by the company as a whole and by its individuals, is a great testament to her endurance and fortitude, especially when faced with time constraints such as the sixty days between each application cycle and the various years of clinical trials to back the drug's safety.

Kelsey's courageous character can be further exemplified through events and changes within the United States that unfolded after her actions as the medical reviewer of the thalidomide application. Mintz's article on Kelsey was the first to demonstrate how she was responsible for the avoidance of the tragic effects of thalidomide in America. After the article was published, Americans realized how close they were to a tragedy, and reform began. President John F. Kennedy signed the Kefauver-Harris amendments into place, which gave the FDA more control over drug regulation and called for greater requirements for drug testing on humans (Bren, 2001). The serious reform that occurred as a result of Kelsey's moral character and actions emphasizes the courage it took from her to act in the way that she did. It shows that the standards for drug regulation and testing while she was reviewing the thalidomide application were not what they are now. Kelsey's actions were far from conventional during the time, and it requires a courageous character for one to act in a novel way, against the norms and expectations established by society and the world. Not only was she able to shape FDA regulations, but she was able to stand her ground and remain secure in her decisions and actions for the entirety of the application process. This in itself is a true act of courage, as there were no standards, social or political, to fall back on or to justify her reasoning.

Although I have shown that Kelsey possesses the virtue of courage through changing the way the FDA handles drug regulation and testing, some argue that the courageous character of Senator Estes Kefauver was ultimately responsible for these changes. In fact, he drafted the Kefauver-Harris amendments in an attempt to prevent a tragedy like thalidomide (FDA, 2020). However, this view fails to consider the fact a courageous character is caused by finding the median between recklessness and cowardice. Kefauver was originally more towards the direction of recklessness, as some of the components of his bill were very radical (Greene & Podolsky, 2012). This further reiterates the skill and practice that are required in order to have a morally courageous character, and exemplifies that of Dr. Kelsey.

Nonetheless, the environment Kelsey was subjected to throughout the application process was proven to be adverse, full of temptation, and fatiguing due to the prolonged timeline and various pressures exerted upon her. Due to this, she had sufficient practice in facing these conditions, which allowed her to acquire the virtue of courage. She not only acted courageously, but is a morally courageous person.

Conclusion

Using the framework of virtue ethics, I have argued that Dr. Frances Kelsey possesses two classical cardinal virtues: prudence and courage. These virtues, along with their associated sub-virtues, can be seen in her role as a medical reviewer of the thalidomide application. Her moral actions as depicted in her autobiography and other various sources demonstrate that her decisions throughout the application process and the events that unfolded as a result of her actions have allowed Dr. Kelsey to showcase her courageous and prudent character.

These findings are important in many aspects, as it is imperative that others learn from Kelsey's moral actions so that we, as a society, can follow in her footsteps in hopes of avoiding tragedies such as the one caused by thalidomide. Through the lens of virtue ethics, we can consider which virtues are upheld by certain individuals who have the power to shape society through their decision-making. This will encourage us to continue to learn about the morality of characters such as Dr. Kelsey to better our morality as individuals and to ensure the safety of our society.

Word Count: 3646

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