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Exploring the Impact of Cultural Influences on Ethnic Minority Cancer Patients in a Small Community

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ABSTRACT

The purpose of the research was to investigate whether culture influences attributed to an oncology patient's background have an effect on patient decision-making. 25 white and non-white oncology patients were surveyed for this study creating two separate arms. A survey was created and distributed to patients at a local community hospital. Patients were asked about factors relating to cultural influences and patient decision making, including any alternative therapy used, use of religious and cultural support, and any potential stigma experienced. Patients were also asked about whether they delayed seeing a doctor or initiating treatment and the reasons associated with these decisions. Results found that both white and non-white patients delayed seeing a doctor for various reasons, as well as experienced factors associated with cultural influences. This demonstrates that experiencing cultural influences related to background is not limited to minority groups. Few minority patients utilized factors relating to cultural influences, however were seen to have the higher rates of using religious support to cope. No patients surveyed delayed initiating treatment once they were made aware of their cancer diagnosis. Further research can be done using a larger sample size of patients and having an even balance of white and non-white oncology patients. Whether the study being conducted in a community hospital had an effect on the results should also be investigated.

Literature Review

Cancer remains a global healthcare issue in the modern day, with an estimated 18.1 million cases of cancer worldwide in the past year (World Cancer Research Fund International, 2023, para. 1). Researchers have also found that the global number of cancer cases amongst people aged 14-49 has increased by 79% within the past three decades (Howard, 2023, para. 2). When looking at specific races, it was estimated that there were 73,680 deaths from cancer amongst African American people in the United States in 2022 (Giaquinto et al., 2022, para. 1). Similarly, African Americans are considered one of the ethnic groups most susceptible to being diagnosed with and dying from cancer (National Cancer Institute, 2019).

Racial Healthcare Disparities

According to the Center for Disease Control and Prevention, health disparities are preventable differences in opportunities to achieve optimal health that are experienced by socially disadvantaged racial or ethnic groups (Centers for Disease Control and Prevention, 2019, para. 2). Many of these disparities prevent minority groups from receiving necessary healthcare, and could potentially lead to the alienation of these groups from the US healthcare system. Overall, African Americans, Hispanics, and Native Americans fared worse in comparison with white people across measures of health coverage and access to necessary care (Hill et al., 2023, para. 11). Some other issues that could impact ethnic minority populations are health provider biases, poor patient-provider communication, and health literacy issues (*Healthcare Worker Implicit Bias Training and Education Rapid Review*, n.d., p. 13). While it is palpable that many ethnic minority groups face disparities when it comes to healthcare, the reasons for some of these disparities can differ based on the population.

Cancer Disparities Amongst Minorities

There are disparities amongst ethnic minorities, specifically when it comes to cancer screening/testing and the diagnosis of cancer. For example, a study done on Appalachian women living in a rural town found that many of these women refused to get screened or tested for cancer (Drew & Schoenberg, 2011). Some of the reasons for this included lacking sufficient economic resources and a lack of accessible care (Drew & Schoenberg, 2011). This could lead to their cancers going untreated if they choose not to get tested. Furthermore, a lack of screening or testing for possible cancer diagnoses could lead to some cancers being caught at a later and more fatal stage. According to the CDC, African American people are more likely to be diagnosed with breast, lung, and colorectal cancers at later stages compared to white people (*African American People and Cancer | CDC*, 2023, para. 1). In general, racial disparities in oncology are often attributed to a more advanced stage of the disease at its diagnosis, especially amongst minorities (Shavers, 2002, para. 4). This would indicate that there is a delay in some part of the cancer screening process, or in the patient going to see a doctor, which is why these patients are getting diagnosed at later stages. Furthermore, despite universal recommendations from the US Preventive Services Task Force for routine cancer screenings, racial and ethnic minorities are still less likely to receive these screenings (Sexton Ward et al., 2021, para. 1).

Communication or language barriers may also have an effect on the care that ethnic minority cancer patients receive. A study was done on ethnic cancer patients to ascertain their views on patient-physician communication. The study found that non-white patients may feel intimidated or scared by a lack of knowledge about their care, especially when explained by Western physicians (Oliffe et al., 2007). To further support this point, another study demonstrated that compared to white people, Hispanic and Asian oncology patients reported poorer overall communication with their physicians (Palmer et al., 2014, para. 3). These perspectives can impact how comfortable ethnic cancer patients feel consulting their doctors.

Reasons Behind Oncology Disparities Amongst Minorities

Many of the reasons for some of these disparities can often be attributed to cultural and religious influences on cancer patients that stem from their ethnic background. One reason for a lack of care for ethnic minority groups can be linked to misconceptions regarding the disease that are not properly addressed. A study on Native Americans concluded that this group had much less knowledge about cancer testing methods and more negative attitudes towards cancer (Guadagnolo et al., 2009). Furthermore, Native Americans had higher rates of cancers that could have been detected through screenings and tests (Guadagnolo et al., 2009). From this study, it can be recognized that less knowledge in addition to negative beliefs about cancer can lead to less testing and higher rates of cancer. However, contrary to findings of this study, Al-Wassia et al. (2019) conducted a study on a Saudi Arabian population to understand the possible relationship between religiosity and people's misinformed beliefs about the spread of cancer. This study did not find any significant correlation between these two variables (Al-Wassia et al., 2019).

Ethnically diverse cancer patients may also be more likely to delay seeing a doctor or starting treatment, especially African American and Hispanic patients (Llanos et al., 2023). An additional study found that some of the reasons that cancer patients delay receiving care can be attributed to not believing the symptoms were serious, being too busy, experiencing fear, or feeling embarrassed (Pujadas Botey et al., 2020, para. 9). These delays could be linked to cancers being caught at a later stage or the cancer progressing without being properly treated.

There is also an influx of stigma and negative personal attitudes surrounding cancer that can affect patient views. Kobeissi et al. (2014) analyzed a study on immigrant Iranian women, and found that most of the women who had a poorer personal attitude towards breast cancer screenings were less likely to pursue short-term cancer screenings (Kobeissi et al., 2014). This shows that a negative attitude towards cancer can influence whether action is taken to prevent it. In addition, a study on ethnic Indian patients also found that there were negative stigmas around the cancer disease and the clinic that kept many people from this ethnic group from pursuing oncology care (Broom & Doron, 2012). This stigma may affect the ability of certain minority oncology patients to receive adequate care and treatment.

Religiosity also tended to be of high importance for certain ethnic minority groups to aid in coping with a cancer diagnosis. A study on Malaysian cancer patients found that these patients often use different forms of religious meaning-making and coping to make sense of their disease (Ahmadi et al., 2019). An additional study found that Iranian cancer patients also made use of religious coping in a similar way, and that it improved self-care amongst these patients (Goudarzian et al., 2019). Furthermore, a study found that Turkish cancer patients also turned to religious practices and used religious healers to cope (Guz et al., 2012). However, contrary to the previous two studies in which patients experienced religiosity in a positive light, utilizing religiosity was attributed to higher levels of hopelessness and depression among Turkish patients (Guz et al., 2012).

Gap & Research Question

The negative healthcare impacts that result from ethnic oncology patients' beliefs, misconceptions, and attitudes about cancer emphasizes the need to study this phenomenon. Furthermore, studying ethnic minority oncology patients living in the United States remains necessary as the US population is diverse and continues to diversify (Bureau, 2021, para. 8). Exploring cultural impacts on ethnic cancer patients can help in understanding patients' decision-making and mentality regarding cancer care and treatment (Daher, 2012). In addition, there is a need to examine community hospitals, as they are heavily understudied, despite treating 80-85% of cancer patients in the US (Tucker at al., 2020, as cited in Pfister et al., 2015 and Petrelli, 2010). This underscores the need to study a variety of ethnic populations in community hospitals to discern cultural biases and thought processes that impact cancer care. This is necessary because few previous studies have investigated cancer patients in community hospitals in the United States, or have only focused on one specific ethnic group rather than many oncology patients from various backgrounds. Furthermore, with the number of cancer cases growing amongst all populations, it is vital to understand the reasons behind certain cancer disparities related to race.

The objective of this study is to fill this gap by asking the question "Do cultural influences have an effect on the decision making of ethnic minority cancer patients regarding their cancer care in small community hospitals in the United States?". This question will specifically investigate 'cultural influences' in the context of an oncology patient's decision to seek medical care from the time symptoms of cancer occurred, the decision to initiate treatment from the time of diagnosis, and examine possible stigma and cultural beliefs related to their cancer. These were all aspects that were highlighted in the literature that could be attributed to an oncology patient's ethnic or cultural background.

Methods

Study Design

After weighing the various methodology options, survey research stood out as the most accurate and effective way to gather data for this study. Survey research involves creating questions that can be used to collect information from individuals based on their responses to those questions (Ponto, 2015, para. 2). Some of the advantages of utilizing a survey are being able to accommodate a larger population and having the ability to gather a lot of information (Jones et al., 2013, para. 15). For this study, I will be working with a population of twenty-five patients, and using a survey allows for responses to be easily grouped. Furthermore, surveys can allow for the representation of diverse populations with more precise results, and therefore have good statistical significance (Sincero, 2012, para. 4). This survey was created to gather both quantitative and qualitative information to answer the research question, which would not have been feasible with any other research method.

While many of the studies I read used interviews to collect data from patients, in this situation, it was necessary to take into account the time and energy of the oncology patients. Most of the oncology patients stay at the hospital for hours whilst receiving treatment, and would not likely want to participate in an interview that could be cumbersome. A survey provided a quick and relatively easy way to obtain patient data to answer the research question. The present study also worked with many patient-focused research questions, especially the reasoning behind patients making certain decisions about their care. Using a survey allowed for the grouping of these responses to draw some accurate, key conclusions.

A limitation to utilizing survey research is that surveys rely heavily on the participants' opinion, which can be subjective. To control for this subjectivity, I used a specific set of questions with several pre-selected choice responses, but also some free response questions to gather patient opinions. Some other limitations of surveys may include data errors due to non-responses or the different ways questions can be interpreted by participants (DeFranzo, 2017, para. 6). Furthermore, surveys can include various responder biases that can skew the data and the results (*Common Types of Survey Bias and How to Avoid Them*, n.d., para. 4). Despite these limitations, survey research still remains the optimal method with its high amount of advantages.

Survey Creation

The survey was created with fifteen questions. Five of these questions were completely close-ended, featuring a "Yes" or "No" option, which was the quantitative aspect of the study. Nine questions had multiple choice options, but four of these included an "Other" section where participants could specify an answer. One question featured an open response. The first few questions were basic identification questions, such as asking about the patient's ethnicity, gender, and age. The next few questions pertained to whether the patient had delayed seeing a doctor. Participants were asked to answer "Yes" or "No" to whether they had delayed seeing a doctor. If the participants chose "Yes", they were asked to specify how many months they had delayed, which was given as checkboxes with a range of months. They were then asked to specify the reasons they had delayed seeing a doctor, in which they chose from a list of predetermined responses. Respondents were asked to select all reasons that applied to them. For those who chose "No" to whether they delayed seeing a doctor, they were asked to choose from reasons why they did not delay. A similar format was followed for the questions that asked about whether the patient delayed initiating treatment.

Patients were then asked whether they had sought out any alternative therapy; spiritual and religious support; and cultural beliefs and/or values for support after their diagnosis. If participants answered "Yes" to the question regarding cultural beliefs and values, they were asked to elaborate on any specific beliefs and values in their own words. Lastly, patients were asked whether any negative stigma surrounding cancer had any effect on them. These questions were specifically created to determine whether any cultural influences had an impact on oncology patients. This was achieved by noting the patient's ethnicity, and proceeding to ask about factors that were linked to cultural influences based on an oncology patient's ethnic background cited in previous studies *(see the Literature Review)*.

Ethical Considerations

Once the survey was drafted, it was necessary to go through the appropriate channels to get the study and survey approved by the hospital. As the study would be conducted using responses from patients at the Hunterdon Hematology & Oncology Center (HHO), an Investigational Review Board (IRB) Form was completed with the help of my expert advisor. This was then sent to the HHO's IRB for review and approval. An informed consent form (ICF) was also prepared and sent to the HHO's IRB *(see Appendix A for official ICF)*. This study was also approved by the Director of Curriculum and English Department supervisor of my high school. In order to comply with ethical standards and protect the participants involved, no personal identifiers were collected, and all patients in the study remained anonymous. Each patient was given a subject number as an identifier. Once all approvals were obtained, data collection for the study began.

Selection of Participants

Participants for the survey were selected to participate in the study if they were receiving cancer treatment from the Hunterdon Hematology & Oncology Center. Patients getting treatment were randomly approached on the days I was at the hospital. The survey participants were also controlled to include 15 white patients and 10 non-white patients, making for a total of 25 patients in the study. The demographics of the oncology patients at the hospital include 88% of the patients being white. As a result, a majority of the oncology patients that were randomly approached were white. In order to obtain the ten non-white patients, I was given permission to look at the ethnic group of patients coming into the hospital through their electronic medical records. Once non-white patients were identified, they were asked to participate in the survey at the time they came in for an appointment. If I could not be present at that time, my expert advisor was able to distribute the informed consent and survey.

Survey Distribution & Data Collection

Once the survey and study design were approved by both the HHO's IRB and my high school administration, enrollment into the study was initiated. The purpose of the study was briefly explained to the patients, followed by providing them with the informed consent. If they chose to participate in the study, they were asked to sign the informed consent, and were then provided with a hard copy of the survey. Once the survey was completed, a copy of the participants' signed informed consent was given to them, and both the survey and original informed consent were collected. All of these documents were stored in a binder kept confidential at the HHO premises. Data was then input into a spreadsheet, categorizing each section by white and non-white patients, and analyzed to determine the results of the study.

Results

Patient Demographics

The most important patient demographic data that was collected were the racial groups of the patients. Patients were asked to note their specific racial or ethnic group (such as Asian, Hispanic, African American, etc). For this study, Hispanic patients were considered 'non-white' patients, even if they may have identified themselves as 'white'. In total, there were 15 white patients and 10 non-white patients, making for a total of 25 patients within the study. It is important to note these patient statistics for all data collected, as there was an imbalance of white patients compared to non-white patients. Below is a pie chart showing the races of all the patients in the study.

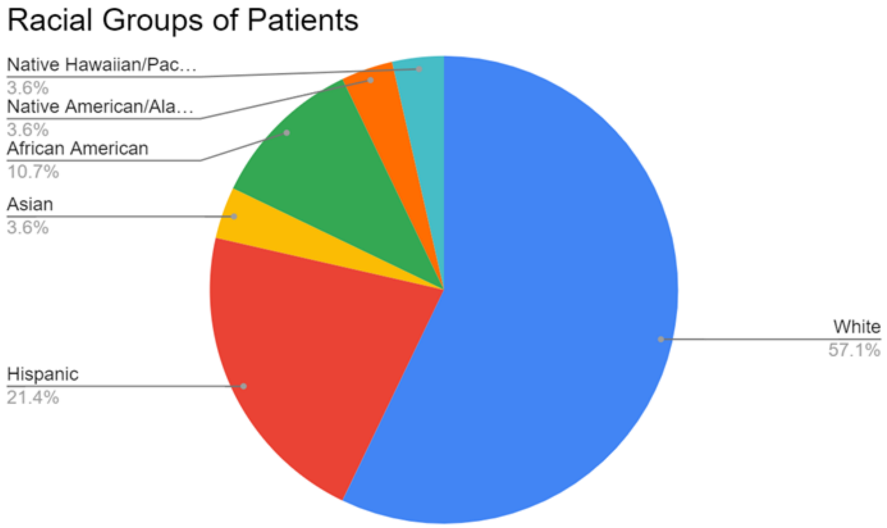

Figure 1. Racial Groups of Patients.

The majority of the patients in the study identified as white, however, there were 6 Hispanic patients, 3 African American patients, and one patient in each of the other ethnic groups represented (Native Hawaiian/Pacific Islander, Asian, and Native American/Alaska Native). Note that certain patients have classified themselves as two races (such as the Native American patient), but considered themselves 'white' overall. Thus, they are considered to be 'white' in all the data. The only exception to this is the Hispanic patients, who are considered 'non-white' in the context of this study.

Bar graphs of the gender of the oncology patients were also created, separated by white and non-white patients. This data was collected because it would be important to note any differences in gender that may have to be accounted for in the data. This was also noted in the limitations section of the paper.

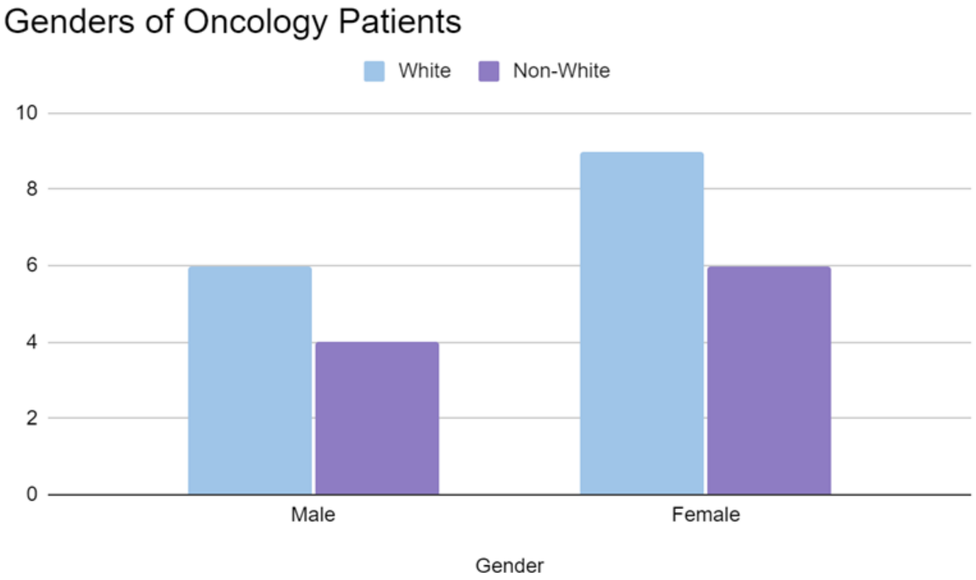

Figure 2. Genders of Oncology Patients.

While this information may not be as vital to the study as the racial groups of the patients, it is still important to note that there were more female oncology patients in this study for both white and non-white patients. This difference in gender was especially prevalent in the white population of patients.

Information about the age ranges of patients was also collected, separated by white and non-white patients.

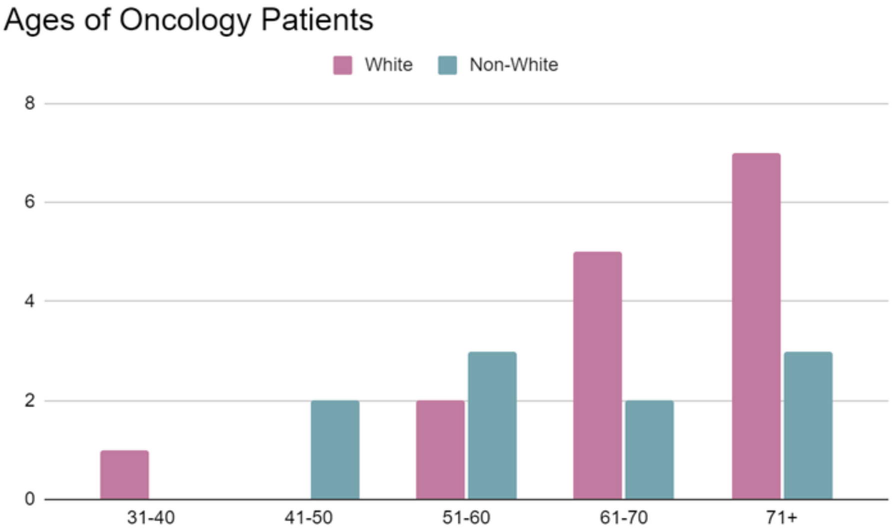

Figure 3. Ages of Oncology Patients.

A vast majority of the white patients were above seventy years old, whilst the non-white patients were more varied in age ranges. Most of the patients fell in the higher age categories. However, it is important to note that neither the gender nor age of the patients was taken into account when making conclusions regarding the study.

Delays in Seeing a Doctor & Initiating Treatment

Data was then collected about whether patients delayed seeing a doctor or did not delay seeing a doctor. Patients were separated by white and non-white groups.

Table 1. Healthcare delays broken up into two groups.

Healthcare Delays	***White***	***Non-White***
Delayed Seeing a Doctor	4	3
Did Not Delay Seeing a Doctor	11	7

According to the data collected, 30% of non-white patients delayed seeing a doctor compared to 26% of white patients. *(All percentages given throughout this paper have been rounded to whole numbers. Decimals have not been included for easier comparison.)*

The reasons for why patients did or did not delay seeing a doctor were also collected. Patients were able to choose as many reasons as applied to them. Only the reasons that were chosen are included, but there were other reasons that were not selected at all. *To view the full survey and all options provided, see Appendix B.*

Table 2. Reasons for delaying/not delaying a doctor broken into two groups.

Seeing a Doctor	***White***	***Non-White***
Delayed	4	3
I was too busy.	2	0
I did not think it was serious.	2	3
Other	Subject #14: Procedure not covered Subject #16: Felt I was too young for it to be anything serious	0
Did Not Delay	11	7
I wanted to get treatment right away.	7	2
I was able to get a timely appointment.	7	3
I had so many questions and/or worries about my health.	3	0
My family/relatives pushed me to.	0	1
My health is a top priority for me.	5	5
Other	Subject #03: I couldn't eat.	Subject #22: I didn't know - I wanted answers.

All of the white patients who delayed seeing a doctor cited their reasons as either being too busy or not thinking that the symptoms (of their cancer) they were experiencing were serious. All of the non-white patients who delayed indicated that they did not think their symptoms were serious. Many of the patients from both groups who did *not* delay seeing a doctor cited their reasons as wanting to get treatment right away, being able to get a timely appointment, and that their health was a top priority for them.

The length of time that patients delayed seeing a doctor was also noted on the survey, in which patients chose from a range of months.

Table 3. Length of delay broken up into two groups.

Length of Delay	***White***	***Non-White***
0-1 Months	2	2
2-4 Months	0	1
5-7 Months	0	0
8+ Months	2	0

Of the four white patients who delayed seeing a doctor, two delayed for 0-1 months and two delayed for 8+ months. The length of delay varied greatly for this group. For the non-white patients, two delayed seeing a doctor for a period of 0-1 months with one patient delaying for 2-4 months.

Below is the table for patients who either did or did not delay initiating treatment once they were aware of their cancer diagnosis.

Table 4. Delays in initiaing treatment broken up into two groups.

Initiating Treatment	***White***	***Non-White***
Delayed	0	0
Did Not Delay	15	10

As demonstrated by the graph, no patients involved in this study delayed treatment once they were made aware of their cancer diagnosis. In other words, 100% of the patients surveyed did not delay initiating cancer treatment for any reason. In this study, the survey did not ask about the reasons for not delaying treatment.

Cultural Influences/Beliefs, Alternative Therapy, and Stigma

Oncology patients were then asked about whether they had tried any alternative therapy (to the traditional cancer therapy). Only one white patient responded with yes, and all other patients (including all the non-white patients) responded with no.

Patients were then asked about whether they had used any religious support to help them cope. A table was created to determine which oncology patients sought out religious support separated by white and non-white patients.

Table 5. Use of religious support broken up into two groups.

Religious Support	***White***	***Non-White***
Used Religious Support	2	4
Did Not Use Religious Support	13	6

According to the data, 40% of non-white patients used religious support to cope with a cancer diagnosis compared to 13% of white patients. This can be considered significant within the populations, as this is the largest percentage difference between the two groups for any of the data collected. However, it is important to note the discrepancy within the number of patients in each population.

Data regarding whether patients had utilized cultural influences to cope with a cancer diagnosis was also collected. Examples of cultural influences were given, such as talking to family, telling stories, cultural holidays, beliefs, etc. If patients responded with “yes” to this question, they were then asked to elaborate in their own words.

Table 6. Use of cultural influences broken up into two groups.

Cultural Influences	***White***	***Non-White***
Used Cultural Influences for Support	2	2
Responses	**Subject #05:** I spoke with family that had either been through it or could speak for my parents, both of whom died of cancer by the time I was diagnosed. **Subject #10:** Support group through Elixir, religious beliefs, prayer, Catholicism	**Subject #18:** My mom, my cousin, and support groups on FaceBook **Subject #19:** *Said yes, but did not elaborate*
Did Not Use Cultural Influences for Support	13	8

According to this data, approximately 13% of white patients indicated that they used cultural influences for support compared to 20% of non-white patients. Many patients cited that they used their family for support as well as online support groups. One patient cited using prayer and religion to cope.

Data was also collected regarding whether patients felt any negative stigma around cancer once they were diagnosed.

Table 7. Feelings of stigma broken down into two groups.

Felt Stigma	***White***	***Non-White***
Did Feel Cancer-Related Stigma	4	1
Did Not Feel Cancer-Related Stigma	11	9

Four white patients said "yes" compared to eleven patients saying "no". As for the non-white patients, one said they felt stigma compared to nine who did not. This is around 29% of white patients who felt cancer-related stigma compared to 10% of non-white patients.

Discussion

The objective of this research was to determine whether cultural influences had an impact on the decision making of ethnic minority cancer patients. The data indicated that there were few non-white patients who delayed seeing a doctor, utilized alternative therapy, or used cultural influences for support. However, two white patients did utilize cultural influences for support after their diagnosis (*Table 3.2*). While this is a relatively small amount of the total population (13% of all white patients surveyed), it still shows that utilizing cultural influences for cancer support is not exclusive to minority groups. This contradicts many of the previous studies I had read that indicated that cultural influences were attributed to non-white patients. However, it is important to note that a majority of these studies only surveyed non-white patients or specific ethnic populations.

Some of the most important data collected was in regards to whether patients delayed seeing a doctor or initiating treatment, as well as the reasons behind these decisions. In the study, 100% of patients surveyed did not delay initiating treatment once they were made aware of their cancer diagnosis. This demonstrates that once patients were aware that they had cancer, they did not wait to start treatment. However, for patients who delayed seeing a doctor, the results were quite different. As shown in *Table 2.2*, 30% of non-white patients delayed seeing a doctor. The only reason that these patients cited for this delay was that they did not believe the condition was serious. This option correlates directly to a certain mindset about their healthcare and can be attributed to the patients' perspectives. This supports the findings of Pujadas Botey et al. (2020), who found that inaction on the patients' part can delay a cancer diagnosis due to beliefs that the symptoms were not serious (Pujadas Botey et al., 2020, para. 12). However, it is important to note that there were four white patients who delayed seeing a doctor, which translates to around 26% of the white patients surveyed. These patients cited that they did not believe their symptoms were serious and/or that they were too busy. This demonstrates that white patients can also delay seeing a doctor for similar reasons to non-white patients. However, this is not nearly as many non-white patients as I expected to have delayed seeing a doctor in comparison to their non-white counterparts. Previous research indicates that racial disparities are more likely to indicate an advanced stage of disease, especially in minority groups (Shavers, 2002, para. 4). This would indicate that minority cancer patients are more likely to delay seeing a doctor than their white counterparts, which is why they are diagnosed at later stages. However, this was not the case with the results in my study. Furthermore, a study by the CDC found that African Americans are more likely to be diagnosed with certain cancers at a later stage than white people (*African American People and Cancer | CDC*, 2023, para. 1), indicating that they are more likely to delay seeing a doctor. However, of the three African American patients involved in the study, none of them delayed seeing a doctor, which contradicts this finding.

In addition, it is important to note the specific cultural influences played a role for patients in their cancer experience. Many of the patients (both white and non-white) who affirmed that they used cultural influences for support cited using their family or virtual support groups. This demonstrates that cultural influences can be used for support for both white and non-white patients.

Very little information could be inferred about patients using alternative therapy, with only one white patient saying they had tried some form of alternative therapy. Another unexpected finding was the amount of patients who felt negative stigma around their cancer diagnosis, with 36% of white patients compared to 10% of non-white patients affirming this *(Table 3.3)*. This contradicts with the findings of Broom & Doron, 2012, who found that specific ethnic cancer patients had high rates of negative stigmas around the cancer disease.

From this data, however, it appears that white patients experience more cancer-related stigma. However, the data gathered about whether cancer patients used religious methods for support proved to be more significant. As indicated in *Table 3.1*, 40% of non-white patients used religious support compared to 13% of white patients. This demonstrates that non-white patients are more likely to incorporate religion and religious beliefs as a source of support. This supports the findings of Goudarzian et al., 2019, Guz et al., 2012, and Ahmadi et al., 2019 who all found that different populations of ethnic patients relied heavily on religious support when dealing with cancer.

Based on my research question, these results were quite different from what I had expected. Based on the literature, it appeared that cultural influences, religious support, delays in healthcare and other factors tested for in the study would be attributed more to non-white cancer patients. However, the results from my study show that a lot of these factors can be experienced in similar amounts by both white and non-white patients, or even more so for white patients.

Implications

The results of the study demonstrate a new understanding, which is that both white and non-white patients may incorporate cultural influences and other factors often attributed to culture in regards to a cancer diagnosis. White oncology patients are just as likely to make decisions that impact their care for similar reasons as non-white patients. Furthermore, it should be noted that five of the non-white patients who were approached for this study declined to participate due to a lack of understanding or perhaps a mistrust of the survey purpose and questions. This demonstrates a language barrier that can often be a key factor in conducting studies. This also supports research done by Oliffe et al., 2007 that found that non-white oncology patients could often feel misinformed or intimidated by a lack of understanding or knowledge of their care. This information could be used to strengthen patient-physician communication for ethnic oncology patients. The data can also be used to enact frameworks or programs that emphasize the dangers of delaying seeing a doctor and the importance of treating symptoms seriously. This could help oncology patients in seeing the importance of communicating with their physicians and receiving care in a timely manner. Overall, more research in community hospitals can help in illuminating the vital role that these hospitals have in the lives of cancer patients. The results also inspire more research on this topic, and I know I would like to continue this.

Limitations

One of the key limitations of the study was the imbalance of white and non-white patients. Due to the HHO demographics *(see Appendix C for full HHO demographic breakdown)* with 88% of the patients being white, it was extremely difficult to enroll non-white patients into the study. This reflects the overall demography of Hunterdon County, with 89% of people being white (*U.S. Census Bureau QuickFacts: Hunterdon County, New Jersey*, n.d.). However, this had the potential to affect the results of the study. Furthermore, out of the remaining 12% of patients, there was an even smaller number of patients who actually had cancer. Many of the ethnic patients who were found were unable to be included in the study because they did not have cancer. The small sample size is also a limitation, however, I did not want to have too large of an imbalance between the white and non-white cancer patients as this could further skew the data. There was also an imbalance in the ages of the patients, with a majority of the oncology patients being 50+ years old as well as slight differences in the amount of each gender. There was also an imbalance in the amount of patients from each ethnic group in the study.

Furthermore, the research study was only conducted at one community hospital in Hunterdon County, which can only be generalized to areas which have a similar demographic population. Another limitation comes from the survey in the questions that asked about the reasons patients delayed seeing a doctor, which had predefined answers that may not have been all encompassing. This somewhat limited the patients' response to a reason that previous studies had generated, which could have affected how some patients responded.

Opportunities for Future Research

Future research should be conducted in locations with more diverse demographic populations in order to get larger sample sizes of non-white oncology patients. This includes obtaining an overall larger sample size of all patients to draw substantial conclusions about the findings. Future researchers should also consider doing a comparison study of patients from community hospitals and patients from larger hospitals to note whether there are any differences in cultural influences or decision making in regards to oncology care. Other factors such as overall barriers that ethnic oncology patients face should also be studied to further understand their perspectives. Researchers should also make note of language barriers amongst ethnic minority patients and make appropriate accommodations, such as utilizing a translator or interpreter when needed. The data collected has solidified that further research on this topic is warranted and I am looking forward to doing similar research in the future.

Acknowledgments

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