

Colorectal Cancer Disparities Among Asian Americans

Identifying Factors Contributing to Colorectal Cancer among Asian American Subgroups: A Review

University of Georgia

Spring 2024

HPRB 5010

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Research Question

What factors are contributing to colorectal cancer disparities among Asian American subgroups?

INTRODUCTION

Background

Colorectal cancer (CRC) is a disease where colon or rectum cells grow uncontrollably. These abnormal growths known as polyps, form in the colon and rectum and can potentially lead to cancer (Centers for Disease Control and Prevention, 2023). Symptoms are not always visible right away, making colorectal cancer difficult to diagnose without screening. Symptoms may include changes in bowel habits, blood in stool, diarrhea, constipation, abdominal pain, cramps, and weight loss. Screening tests are essential since precancerous polyps can be identified and targeted before they develop into cancer. The recommended age range for screening, according to the U.S. Preventative Services Task Force, is 45-75 years old (U.S. Preventative Services Task Force, 2021). Researchers and doctors recommend testing after turning 45 and continued regular screening. Those with a family history of colorectal cancer, other inflammatory bowel diseases, or genetic syndromes, are recommended to undergo screening at a more frequent rate. The term “Asian Americans” is used to distinguish Americans of Asian descent and ancestry within federal ethnic categories. This term is often used synonymously with “Asian Americans and Pacific Islanders” (API) and “Asian Americans and Native Hawaiians/Pacific Islanders” (AANHPI) which allow for more inclusivity.

Racial Disparities

Although Asian Americans are among the fastest-growing racial groups in the United States, they are still undergoing colorectal cancer screening at lower rates compared to other ethnic groups. According to the Centers for Disease Control and Prevention, from the years 2000-2015, the cancer screening rate for non-Hispanic Asian adults was 52.1% compared to non-

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Hispanic white adults with 65.6% prevalence. The overall percentage of adults that are up to date with colorectal cancer screening is 72%, with 74.4% being the goal for 2030. (Centers for Disease Control and Prevention, 2017).

Incidence and Mortality Rate

In 2020, the United States reported 126,240 new colorectal cancer cases with 51,869 people dying from the cancer. There is a higher incidence rate for men to develop colorectal cancer compared to women. Similarly, there is also a higher incidence rate for men to be diagnosed with and die from colorectal cancer than women. Overall, the cancer incidence was lower in the year 2020, possibly due to the effects of the COVID-19 pandemic and reporting rates (Centers for Disease Control and Prevention, 2020).

The Center of Disease Control utilizes the 4 stages of distribution for diagnosing colorectal cancer. These stages include localized, regional, distant, and unknown. Localized is characterized as the cancer has not spread outside of the colon or rectum. The regional stage is characterized as the cancer having spread to nearby lymph nodes, tissues, and organs. The distant stage refers to the spreading of cancer to distant regions. Roughly 1 in 3 colorectal cancers are diagnosed at the localized stage, 4 in 10 at the regional stage, and 2 and 10 at the distant stage. For colorectal cancer patients diagnosed in 2013, roughly 64% of the patients had survived 5 years later (Centers for Disease Control and Prevention, 2020).

Screening and Diagnosis

Screening plays a vital role in the diagnosing and treatment of colorectal cancer. Screening tests are an effective way of identifying precancerous polyps that can be removed before they become cancerous. Treatment is most effective in the early stages, making early screening vital. Screening rates differ throughout demographic groups, exposing potential health

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disparities. Specifically, Asian Americans have significantly lower cancer screening rates compared to other ethnicities. The Centers for Disease Control and Prevention recommends that adults ages 45 to 75 are screened at regular intervals, or every 5 to 10 years (Centers for Disease Control and Prevention, 2023).

While heart disease is the leading cause of death in the United States, the leading cause of death for the Asian American population is cancer (Chen et al., 2022). These statistics alone identify the need for ethnic-specific research. This presents the question of what specific barriers are contributing to lower screening rates. The high rates of opt-out screening among Asian Americans suggest several barriers are present culturally, clinically, and socioeconomically.

Treatment

Treatment options can vary depending on the stage but are mainly categorized into two options: local treatments and systemic treatments. Local treatments include surgery, ablation and embolization, and radiation therapy. Surgery is the most common form of treatment for early stages of colon cancer. Through a local excision, surgeons aim to remove the entirety of the tumor or polyps. When cancer has spread to nearby locations such as the liver or lungs, ablation, and embolization are often used to target smaller targets throughout the body. They are used to destroy smaller tumors without the need for surgery. There are various forms of ablation therapy such as radiofrequency ablation (RFA), microwave ablation (MWA), percutaneous ethanol ablation (PEI), and cryoablation. Each uses different methods to target smaller tumors that have spread. Embolization is the process of injecting a substance into the liver artery to reduce blood flow to the tumor. Systemic treatments include chemotherapy, targeted therapy drugs, and immunotherapy. Chemotherapy is given in cycles and is administered through the vein (IV) injection typically for 3-6 months. Chemo drugs directly attack cells that divide quickly, making

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them particularly effective against cancer cells. These treatments can be administered by different types of doctors, such as gastroenterologists, surgical oncologists, colorectal surgeons, radiation oncologists, and medical oncologists. There are also often a multitude of side effects associated with each treatment section. Chemotherapy often results in more severe side effects such as an increased chance of infections, easy bruising or bleeding, and fatigue. Patients can also expect to experience severe nausea and diarrhea, nerve damage, and allergic reactions.

It is recommended to discuss all treatment options with multiple doctors and specialists to ensure the best course of treatment (American Cancer Society, n.d.).

METHODS

The databases used for this literature review include PubMed, Medline, and Google Scholar. All articles selected were peer-reviewed and published between the years 2014 and 2024. Additionally, articles that were reviews of studies rather than conducted studies were excluded. PubMed is an online database that primarily generates articles relating to health, biomedicine, bioengineering, and other sciences. PubMed was created by the National Center for Biotechnology Information (NCBI) at the U.S. National Library of Medicine (NLM). PubMed provided relevant, peer-reviewed articles for this literature review. Web of Science is a database powered by Clarivate, which is a British-American company that focuses mainly on bibliometrics and scientometrics to further knowledge, research, and innovation. In this particular database, users can access peer-reviewed articles related to sciences, social sciences, arts, and humanities. Google Scholar is an academic search engine that can generate scholarly articles. This search engine allows for broader searches but does not guarantee peer-reviewed articles for every search. This meant further verification of credibility and peer-reviewing was necessary for the articles selected in Google Scholar. Google Scholar also generates a larger

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number of results than the previously mentioned databases. This can make the selection process and tracing methodology more difficult. However, Google Scholar does automatically sort articles by relevance, therefore articles generated on the first page of results were selected.

For PubMed, the final search terms used were: (Asian Americans) AND (cancer disparities) AND (colorectal) AND (study), which yielded 10 results. Of the 10 results, 5 were selected. The Boolean phrase “AND” was utilized as an advanced search tool. The use of this Boolean phrase allows for more search terms to be included in the overall search. Similarly, for Web of Science, the terms used were: (colorectal cancer disparities) AND (Asian Americans). This yielded a total of 253 results, 4 of which were selected for the final list of sources. The first page of results yielded 50 results, and only articles within the first page were selected. Since Google Scholar is a scholarly search engine instead of an isolated database, a significantly larger number of articles was yielded. Google Scholar still allows the use of Boolean phrases, and the following search terms were used: (Colorectal Cancer) AND (Asian Americans). This yielded 16,100 results. The first page resulted in 10 articles, with 1 article being selected from this initial page. Another search was run using the Google Scholar search engine and the terms (Asian Americans) AND (Covid-19) AND (Discrimination) AND (healthcare workers) AND (colorectal cancer). This yielded 7,900 results and 2 articles from the first page were selected.

The initial process of identifying sources to be used for this literature review required them to be within the years 2014-2024, peer-reviewed, not systematic reviews, and with titles related to colorectal cancer disparities among Asian Americans. The next part of the screening process included a thorough review of the abstract portion of each article. After identifying the main points of each article and the overall results, articles were selected according. Articles and papers were further examined by full-length reading and analysis to confirm selection. Articles

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with similar information to a previously selected article or with unrelated information were excluded from the final list of resources. It was important that within the final list of resources and articles used, all ethnic subgroups within the Asian American population were represented. There were more studies conducted relating to Chinese Americans, Vietnamese Americans, and Korean Americans. Therefore, studies representing other Asian ethnicities must be included in this literature review to accurately represent the entirety of the Asian American population.

Table 1. PubMed Search Terms

	Key Terms	Yielded Results
Search 1	Asian Americans AND cancer disparities	79
Search 2	Asian Americans AND cancer disparities AND colorectal	12
# of Articles Selected: 6		

Table 2. Web of Science Search Terms

	Key Terms	Yielded Results
Search 1	Cancer disparities AND Asian Americans	1,408
Search 2	Colorectal cancer disparities AND Asian Americans	253
# of Articles Selected: 5		

Table 3.1 Google Scholar Search Terms

	Key Terms	Yielded Results
Search 1	Colorectal Cancer disparities AND Asian Americans	35,800
Search 2	Colorectal cancer disparities AND Asian Americans AND screening	32,600
# of Articles Selected: 4		

Table 3.2 Google Scholar Search Terms

	Key Terms	Yielded Results
Search 1	Asian Americans AND Covid-19 AND Discrimination	17,400
Search 2	Asian Americans AND Covid-19 AND Discrimination AND	7,900

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	healthcare workers AND colorectal cancer	
# of Articles Selected: 5		

RESULTS

The need for ethnic-based research is crucial to better understand health disparities that disproportionately affect underrepresented minority groups. Even though colorectal cancer trends have declined by over 30% since 1990, trends among Asian American subgroups have declined at significantly slower rates (Fedewa et al., 2016). While many factors are negatively contributing to this disparity among Asian Americans, the main risk factors include socioeconomic factors, attitudes and beliefs, and acculturation.

Socioeconomic Factors

‘Socioeconomic factors’ is often a blanket term used to characterize a multitude of other terms; these often include education, employment status, income, and food or housing security (Cuaresma et al., 2018). All of these can play a significant role in the development of a health disparity among ethnic groups. In a study published in 2021, researchers identified those with higher education and income status were strongly associated with a higher level of colorectal cancer knowledge. Higher levels of colorectal cancer knowledge correlated to a higher likelihood of undergoing testing and understanding the importance of screening. The ultimate findings of this research found that socioeconomic status is strongly associated with colorectal cancer knowledge among Asian American populations (Morey et al., 2022). According to a study done by the Pew Research Center, Asians have displaced Blacks as the most economically divided within the United States. While Asians do represent a high percentage of the highest-earning group, that is not the case for all. Since 1970, Asians representing the lower-income group have increasingly trailed behind other ethnic groups (Cilluffo, 2018). Vietnamese Americans, for

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example, are predominantly a refugee and immigrant population. While they represent the fourth largest Asian ethnic group in the United States, they face more socioeconomic and health disparities than whites at significant rates (Nguyen, Stewart, Nguyen, Bui-Tong, & McPhee, 2015). The growing inequality means fewer opportunities for Asians in the workforce and education, and healthcare access (Cilluffo, 2018). Another study found that, overall, being financially stable and able to afford a doctor's visit is the strongest predictor and determinant of colorectal cancer screening (Tong et al., 2017). However, both steady income and educational attainment significantly increase the likelihood of colorectal cancer screening (Domingo, Chen, & Braun, 2018).

In another study published in 2018, researchers were able to identify additional socioeconomic and demographic factors such as healthcare access and immigration status that influence colorectal cancer screening rates. Among the participants, less than half of the participants were aware that colorectal screening prevented the development of colorectal cancer. Chinese and Korean Americans specifically continue to have lower screening rates compared to other racial/ethnic groups. This is mostly due to a lack of knowledge regarding the importance of screening and misconceptions regarding the disease (Lu et al., 2016). One additional sociodemographic factor that researchers found may influence colorectal cancer is immigration or citizen status. Participants who were not foreign-born were 5 times more likely to be consistent with colorectal cancer screening compared to immigrants. Researchers suspect familiarity and knowledge of the U.S. healthcare system could be influencing screening rates among Asian populations (Tran et al., 2018).

Attitudes & Beliefs

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Attitudes and beliefs towards the U.S. healthcare system or health-related quality of life (HRQoL) play significant roles in influencing one's health. These attitudes and beliefs can often fluctuate in different regions, cultures, families, and ethnicities. Understanding cultural perceptions of health care is the initial step to eliminating ethnic disparities (Ngo-Metzger et al., 2015). For Asian Americans, the term "cancer" has been stigmatized in certain ethnic subgroups. Some Asian ethnicities believe cancer is related to bad fortune, poor luck, or from a past life. Research conducted among first-generation Chinese Americans found that most believed in their culture's perceptions of health and relied mainly on traditional Chinese remedies and medicine in lieu of more Western alternatives. Chinese men are less likely to be screened for colorectal cancer to maintain an appearance of masculinity and proper sexual function (Lee et al., 2021). In a similar study examining cancer attitudes among Hmong and Korean participants, researchers found that participants with Asian healthcare were more likely to be screened for colorectal cancer due to increased comfort with their providers. The belief that an Asian healthcare provider will have a better understanding of the participant's culture and beliefs seems to play a role in screening rates (Tsoh et al., 2018).

Covid-19 proved to be a harmful period for all Americans, and Asian Americans were often subject to an increased amount of racism and xenophobia. Researchers who investigated health-related social needs (HRSN) among Chinese Americans and the effect they have on screening rates found that growing anti-Asian hate during the pandemic resulted in a "downstream effect" that negatively impacted long-term access to care and health services, like screening for colorectal cancer (Tsui et al., 2021). Another article suggests that the cancer disparity Asian Americans currently face will only grow post-COVID-19. The author argues that the "model minority myth" is contributing to cancer disparities. This concept of the "model

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minority myth” coupled with the extremist anti-Asian views, will likely continue to affect Asian American communities and their quality of healthcare (Dee et al., 2021). The “model minority myth” is the idea that Asian Americans are well-educated, hardworking, and high-achieving. Not only does this wrongfully characterize the Asian American community, but it also fails to recognize the diversity within. It also acts as a wedge between one ethnicity and others that merges with the field of medicine. Without recognizing the full extent of diversity within the Asian population, medical schools, residency programs, and practices are failing to reach equal representation. College and medical school admission policies as a whole are becoming increasingly more diverse and inclusive. However, many subgroups of Asian ethnicities are excluded from diversification programs. This myth is acting as a barrier between many Asian Americans and higher education. This is evident within medical schools as Asians only represent 19% of full-time faculty, 3.5% as department chairs, and 0% as deans. The magnitude of this ethnic imbalance is contributing to the lack of Asian healthcare professionals, which other Asians are most comfortable consulting (Liu et al., 2022).

Acculturation and Westernization

Acculturation, or the assimilation into a different culture, is often presumed among Asian Americans. However, whether Asian Americans identify more with Asian culture versus “Western” culture can alter their healthcare choices (Lee et al., 2021). A study published in 2021 examined the influence acculturation can have on Asian subgroups and colorectal cancer screening. The authors of this article identified that ethnic identity may be affecting Asian American immigrants’ willingness to undergo screening. They also identified two more factors that act as proxies for acculturation: time lived in the U.S. and English language proficiency (Morey et al., 2022). Their research showed that participants who identified as

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“bicultural/westernized” as opposed to “mostly Asian” or “very Asian” were more likely to be influenced by their healthcare providers to be screened for colorectal cancer. This further implies that Asian Americans with mostly Asian social groups are likely to be negatively influenced by their peers (as opposed to healthcare providers) to receive screening (Morey et al., 2022).

Researchers continue to identify other factors such as English proficiency and cultural beliefs that are affecting screening rates (Carney et al., 2014). Many self-reported screening surveys are distributed in English, which contributes to the low rates of self-reported data (Fung, Nguyen, Stewart, Chen, & Tong, 2018). Researchers are still trying to identify if these results are being affected due to limited English language proficiency. Even among families with children, Asian American parents are less likely to report necessary information regarding their children to their healthcare providers (Son et al., 2017).

DISCUSSION

Colorectal cancer disparities are a growing concern and urgent healthcare issue that is affecting Asian Americans at a significant level. This disease can significantly impact an individual’s life through a variety of symptoms (Mayo Clinic, 2023). This literature review aims to identify the main factors that are influencing this disparity among Asian Americans. These included socioeconomic factors, attitudes and beliefs, and acculturation and westernization. Current and future research must continue to address this disparity and advocate for the importance of Asian Americans’ livelihood and health.

Socioeconomic factors that are negatively impacting this disparity were analyzed through a variety of research methods, to identify which factors are the most influential. Financial stability, access to healthcare, and immigration status are among the most influential. Language is a massive barrier that most immigrants face when they visit American healthcare providers,

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especially the elderly (Tsoh et al., 2016). The communication barrier that continues to affect the quality of care Asian Americans receive is an ongoing contribution to the cancer disparity. The attitudes and beliefs within Asian American cultures can prevent individuals from getting screened or the care they need. The pandemic has been negatively contributing to this disparity as well, making it more difficult for Asian American citizens to seek care. Growing xenophobia and ethnic divides continue to isolate ethnic groups and immigrants. Often, shame can be associated with seeking out Western medicine rather than at-home remedies. Some cultures also believe themselves to be at low to no risk for certain diseases due to cultural differences in diet (Lor et al., 2017). Another study found that among Korean and Chinese Americans, many believed their risk for cancer is associated with the adoption of a Western diet (Lu et al., 2016). One participant in the study shared their mentality regarding colorectal cancer: “CRC is something that Western people often get due to their meat-heavy dietary style.” Among these same participants, researchers noted growing concern or fear of an increased risk of colorectal cancer among the participants due to a more “Americanized” diet. Since Asian Americans have a relatively healthier diet compared to Western people, many of the Korean and Chinese American participants had very low perceived risk, which may explain the delayed seeking of screening in this population (Lu, et al., 2016).

The use of lay health educators (LHE) has been researched as a way of connecting healthcare and cultures. LHEs can build relationships with Asian American participants, by using their cultural and linguistic expertise to improve health attitudes among a community. In a study published in 2018 with Filipino Americans, researchers used LHEs to increase colorectal cancer screening rates. The LHEs were successful in increasing rates among Filipino Americans, further emphasizing the need for culturally aware research and healthcare providers (Cuaresma et al.,

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2018). A study published by the American Cancer Society that utilized lay health workers with the hopes of increasing cancer screening rates among Chinese Americans found that medical information and pamphlets printed in native languages such as Cantonese, paired with the LHEs' work, doubled the screening rate among the participants (Fung, Nguyen, Stewart, Chen, & Tong, 2018). A similar study yielded the same results when using language-specific pamphlets and lay health workers (LHWs) to inform Vietnamese Americans of colorectal cancer risks. They discovered that the use of LHWs and translated pamphlets was successful in increasing self-reported colorectal cancer screening rates among Vietnamese American men and women (Nguyen, Stewart, Nguyen, Bui-Tong, & McPhee, 2015). Another cluster randomized controlled trial found that deploying trained, bilingual LHEs among immigrant Hmong American populations increased their screening rates for colorectal cancer as well (Tong et al., 2017). There is also a need for culturally adapted intervention techniques. One researcher found that to enhance health equity for South Asians, public health workers, and healthcare providers should develop culturally adapted and linguistically adapted interventions (Wyatt et al., 2022). This could be in the form of pamphlets and medical information, or bilingual healthcare providers and educators.

Another study that examined the use of culturally specific health educators among Chinese, Korean, and Vietnamese participants found a positive outcome. Researchers used a culturally relevant and specific organization to enroll, educate, and influence Asian American colorectal cancer screening. The use of culturally specific educators, and culturally relevant language, resulted in a higher enrollment and attendance in information seminars and intention to receive screening. There were higher intention and planned screening rates among all three

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subgroups. This identifies the need for such health educators and language-specific education programs to increase screening (Carney et al., 2014).

Implications

Asian Americans are the fastest-growing ethnic population in the United States and the only ethnic group with cancer as the leading cause of death. This is a noticeable health disparity that must be addressed. Many ways could combat this disparity such as employing bilingual healthcare providers or lay health workers/educators. This could bridge any communication gaps and increase overall health knowledge among Asian Americans. Additionally, healthcare providers must be aware of cultural myths and stigmas that influence the decision to see a doctor. Because colorectal cancer screening can dramatically affect the finding and progression of cancer, knowledge surrounding screening is of great importance. This directly applies to public health officials and calls for their expertise to address this disparity (Jo et al., 2017).

Limitations

One of the most prominent limitations of the studies examined in this literature review is related to sample size and representation. In the majority of the studies, the sample size was limited to a specific community or city. Additionally, each study represented either one Asian ethnic subgroup or a limited amount. Due to their small and specific sample sizes, this would not provide an accurate representation of the entire population. Similarly, less populated Asian ethnicities were underrepresented in studies which is not an accurate representation of all Asian Americans. Many studies focused on Hmong, Chinese, Korean, and Vietnamese Americans while Indian, Pacific Islander, and Southern Asian countries were underrepresented among many research studies. Some studies also relied on self-reported data which can often be either under or over-reported. Some surveys also required access to telephones and technology which isn't

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accessible to the entire Asian American population. Surveys were also mainly conducted in English, as opposed to native languages of participants.

CONCLUSION

This literature reviewed and analyzed articles from PubMed, Web of Science, and Google Scholar intending to identify factors influencing colorectal cancer rates among Asian Americans. This review found that socioeconomic factors, attitudes and beliefs, and acculturation and Westernization all play significant roles among Asian American populations. Addressing this disparity in colorectal cancer rates among Asian Americans requires a comprehensive and multifaceted approach that considers both medical and social determinants of health. By identifying these factors and recognizing their role, healthcare providers and policymakers can develop targeted interventions that are sensitive to the diverse needs of Asian American communities. Similarly, utilizing culturally sensitive healthcare informational programs promotes community engagement and enhances trust between community members and healthcare providers. This disparity must be addressed to decrease colorectal cancer rates and provide health equity to minority populations.

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