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Independent Study Projects

Title

Improving liver cancer awareness: an educational module tailored towards the Asian Pacific Islander (API) community

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Title: Improving liver cancer awareness: an educational module tailored towards the Asian Pacific Islander (API) community

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Abstract:

There is significant health disparity in liver cancer outcomes among the Asian Pacific Islander (API) community, both in incidence and mortality rates. Much of this can be attributed to the increased incidence of chronic hepatitis B infection and reduced rates of hepatitis B screening and vaccination among API individuals. This disparity can be potentially reversed with effective outreach focusing on modifiable risk factors such as hepatitis B education and prevention. The UCSD Moores Cancer Center's *Asian Grocery Store-Based Cancer Education Program* was initiated in 1994 in order to address such health care disparities among the San Diego API community. Outreach efforts by this program have shown to be effective in raising awareness on health topics such as breast cancer, lung cancer and poison control. In this ISP project, I aim to partner with the UCSD *Asian Grocery Store-Based Cancer Education Program* in order to implement a liver cancer outreach module targeting the local API community. This module will include the development of an informational brochure and instructional reference materials to train future outreach participants. Weekly outreaches to local grocery markets will utilize these materials. Data from these outreaches will evaluate the effectiveness of this module.

Background:

Liver cancer is currently the second leading cause of cancer in the world.¹ In the US, liver cancer is the fifth leading cause of cancer in men and seventh in women. Furthermore, primary mortality rates for liver cancer have increased faster than any other leading form of cancer in the US, and the incidence of hepatocellular carcinoma has tripled in the past two decades.² 50-year survival rates remain poor, at below 10%. Around 90% of liver cancer cases are hepatocellular carcinomas (HCCs), while 10% are intrahepatic cholangiocarcinomas.

The pathogenesis of hepatocellular carcinoma is multifactorial and involves an initial hepatic insult. Over time, progressive injury to the liver may lead to series of pathologic events including fibrosis, cirrhosis (scarring of the liver resulting in irreversible liver dysfunction), and eventually malignancy.³ Risk factors include alcoholic liver disease, nonalcoholic steatohepatitis (NASH), hereditary hemochromatosis, Wilson's disease, and Alpha-1 antitrypsin deficiency.⁴ However, the most common risk factor for hepatocellular carcinoma worldwide is chronic hepatitis virus infection.⁵ Studies demonstrate that in the US alone, around 2.7 million people are chronically infected with hepatitis C virus (HCV).⁶ While the oncogenic mechanism of viral hepatitis infection is unknown, is it thought to involve

the integration of viral DNA into the host genome, resulting in chromosome instability and hepatocarcinogenesis.⁷

The major types of viral hepatitis are: A, B, C, D and E; HBV and HCV can result in chronic infection. The HBV vaccine has significantly decreased the incidence of HBV infection since its development in 1982; the CDC has reported a decrease in HBV incidence of 20% in recent decades, from 10.7 cases per 10,000 in 1987 to 2.1 per 10,000 in 2004.⁷ However, despite advances in HBV therapy, the majority of patients currently undergoing treatment for chronic HBV do not have a sustained response, reinforcing the importance of proper screening and prevention.

There is significant disparity in liver cancer outcomes among the Asian Pacific Islander (API) community. In fact, Hepatitis B-related liver cancer is the leading cause of cancer death in this population. The incidence and mortality rates (per 100,000) of HCC among API individuals in 2003-2005 were 11.7 and 8.9, respectively. In comparison, the incidence and mortality rates in 2003-2005 among the general population were 5.1 and 4.0, respectively. This disparity can be attributed to the increased incidence of viral hepatitis (particularly HBV) in the API population, as well as disproportionately low screening and vaccination rates.⁹⁻¹⁰ Some barriers that may be contributing to this include lack of knowledge, cultural stigma, language difficulties, and system-level issues such as a lack of awareness and/or discomfort with the western health care system.¹¹

The UCSD Moore's Cancer *Asian Grocery Store-Based Cancer Education Program*, under the guidance of Dr. Georgia Sadler, was developed in 1994 in order to reduce health outcomes disparity through local outreaches and education programs targeted to the API community in San Diego. Members of the program engage individuals at local Asian supermarkets, and raise awareness of integral health topics such as breast cancer, lung and other tobacco-related cancers, and poison control.¹²⁻¹³

A recently developed educational module by this group seeks to reduce API disparity in liver cancer outcomes by establishing a sustainable outreach program. Based on the Health Belief Model, liver cancer was chosen as the topic of choice due to the severity of the disease, the susceptibility of the target audience to the disease, and the significant benefit of intervention.¹⁴

Materials and methods

Development of materials for educational intervention (please see attached files)

After liver cancer was chosen as the topic of choice for this educational module, a several educational materials were developed:

1. A brochure with information regarding liver function, HCC, and viral hepatitis was created. The purpose of the brochure was to guide verbal

- exchanges at the outreaches, and also to provide the audience with concrete material to review subsequent to encounters. We also provided further resources if individuals wanted to learn more about the topic, as well as information on local vaccination walk-in sites.
2. A powerpoint presentation was given to the student educators involved in the outreaches. The purpose of the powerpoint was to provide an introduction to this topic, and to equip student educators with the ability to not only provide individuals at the outreaches with basic information, but to be able to answer more advanced or in-depth questions. The powerpoint includes information on: basic liver physiology and anatomy, epidemiology/symptomatology/ pathophysiology of liver cancer, and viral hepatitis (with an emphasis on screening and vaccination).
 3. A knowledge quiz was developed and given to all student educators in order to assess their knowledge before and after the presentation was given. Students were required to achieve a passing score prior to being involved in the outreaches.

Recruitment of Participants

Outreaches were held primarily at two Asian supermarkets around San Diego. These supermarkets reflected the cultural diversity of the San Diego API community. In previous outreaches at these locations, participants were also diverse in age, languages spoken, and socioeconomic status.

Implementation of intervention

Individuals were approached at the outreach locations and asked for permission to receive a verbal message on viral hepatitis and HCC. A brochure was offered regardless of whether they were interested in the verbal message. If interested, the individuals were given either a brief or in-depth message. In order to qualify as a brief message, three vital components needed to be communicated in preferably less than 30 seconds. These three vital components include: “(1) the API community has a disproportionately high incidence of liver cancer compared to the general American population; (2) screening for and vaccination against hepatitis B can reduce the risk of developing liver cancer; and (3) financial support for hepatitis B screening and vaccinations are available for low-income individuals in California”.¹⁴ If the verbal message consisted of more detailed discussion and covered aspects of the topic other than these vital components, it was considered an in-depth message. Individuals were also encouraged to speak directly with their primary care physician regarding their current Hepatitis B vaccination status, and to ask whether they were among the high-risk group for whom the vaccine is highly recommended.

Collection of data

Information on the demographics of the participants was recorded during outreach sessions. Data included percentage of participants who accepted a verbal message,

percentage of participants who accepted a brief vs. in-depth message, and ethnicity. Anecdotal data and subjective feedback were also recorded.

Results

	Total individuals	Percentage individuals
Male	245	59%
Female	171	41%
Indian	341	81%
Filipino	75	18%
Accepted Message	363	87%
Brief Message	322	77%
In-depth Message	41	10%
Rejected Message	53	13%

Subjective and anecdotal feedback were also observed during the outreaches. The most common feedback received included preference in combining both parts of the brochure together, including more online resources for further information in the brochure, etc. Overall, the brochure and verbal messages were very well received.

Discussion

There is significant health outcomes disparity among the Asian Pacific Islander community in a variety of health conditions. This is demonstrated in the prevalence and mortality rates of liver cancer within the API community. While the causes for this disparity are not fully understood, it is clear that establishing a sustainable module for disseminating information and awareness is vital to addressing this issue.

By targeting Asian supermarkets, a representative sample of the API community in San Diego can be recruited. While the outreaches for this module have been so far limited to two supermarkets, extending the reach to include markets in different communities and of different ethnicities will allow for a more diverse target audience. This has been demonstrated by previous outreaches led by the UCSD *Asian Grocery Store-Based Cancer Education Program*, addressing topics such as breast cancer and poison control. Furthermore, equipping student educators to lead these outreaches will help build up the next generation of health care providers, and instill in them the importance of addressing health care-related issues in a culturally and linguistically sensitive manner.

Although the purpose of this ISP project was not quantitative analysis, the data demonstrates that individuals were open to receiving this information, and many were active in engaging in more in-depth conversation. In fact, almost 90% of the individuals that were approached accepted a verbal message from the student educators. Anecdotal feedback from student educators revealed the need for further

education and outreach, as a surprising amount of individuals were not aware of the information presented to them. Furthermore, a significant portion of the target audience responded positively to the brochure, and was interested in learning more about this topic.

Conclusion/Final Thoughts

This ISP project served to implement an educational module designed to increase awareness for viral hepatitis and HCC within the San Diego API community. Specifically, individuals were educated on the significant disparity in liver cancer outcomes among API individuals, as well as the importance of HBV screening and vaccination. The implementation of this module included developing instructional resources, training student educators, and disseminating the information to individuals at local Asian supermarkets. Most individuals were open to receiving verbal messages, and interested in obtaining more information by accessing further resources, or speaking directly with their PCP. The long-term goal of this project is to establish a sustainable module that will serve the local API community for years to come.

Personally, being involved in this project has been one of the most rewarding experiences as a medical student. Throughout medical school, one of my interests has been the promotion of API health, and I hope to continue this passion throughout the rest of my career. I am particularly excited that I will be continuing my medical education as an internal medicine resident at USC, in an area with a substantial Asian immigrant community. I hope that I will be able to use the skills I have learned over the past four years to best serve and be an advocate for this community.

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You Cannot Live Without Your Liver

- It is a triangular organ located in the **right upper belly**.
- It cannot be felt unless there is damage that causes it to enlarge.
- Responsible for a number of functions
 - Helps digest your food
 - Helps your body fight infections
 - Stores nutrients
 - Filters blood to remove harmful substances



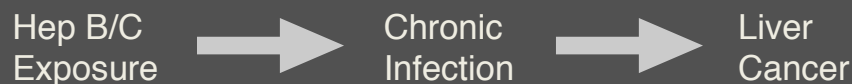
Liver Cancer: Basics

- Abnormal growth of unhealthy liver cells.
- 6th leading cause of cancer death in US.
- More common in **people of Asian descent** due to increased rates of viral hepatitis and lower rates of vaccination.
- Causes include **chronic viral infection**, fatty liver disease, alcohol abuse, cirrhosis (scarring of the liver).
- **Risk of Liver Cancer Can be Reduced**

Frequently Asked Questions

What is hepatitis and how is it related to liver cancer?

- Hepatitis means “**inflammation of the liver**”.
- Most cases of hepatitis are due to the hepatitis virus.
- There are three major strains of hepatitis virus: A, B, C
- Hepatitis B and C can cause **chronic infection**, permanent and irreversible liver damage, and may **increase risk for liver cancer**
- Hepatitis B is **preventable with screening and vaccination**



What are the initial symptoms of liver cancer?

- Liver cancer **often causes no symptoms until advanced stages of disease.**

How is liver cancer diagnosed?

- Physical examination by your doctor along with imaging studies such as CT and MRI scans

How do I reduce my risk of liver cancer?

- If you are already at increased risk for developing liver cancer (prior exposure to hepatitis, advanced liver disease, diabetes), follow your doctor’s recommendations on regular screening
- Talk to your doctor about hepatitis virus prevention, and **refer to our brochure on hepatitis B vaccination**

No Health Insurance? Get vaccinated for a low cost at:

Family Health Centers of San Diego (www.fhcsd.org)

Call 1(619) 515-2300 for more information

OR

Walk-in Sites Available

City Heights: Central Region Public Health Center

5202 University Ave.

Call 1(619) 229-5400

Chula Vista: South Region Public Health Center

690 Oxford St. (*behind Costco*)

Call 1(619) 409-3110

El Cajon: East Region Public Health Center

460 N. Magnolia Ave., Suite 110

Call 1(619) 441-6500

Better Health for a Greater Future

Talk to your primary care physician about getting the Hepatitis B vaccination and screening for you and your loved ones.

Hepatitis and Liver Cancer Silent Threats to the Asian community

What You Need to Know



Take Control of your Health!



UNIVERSITY of CALIFORNIA
SAN DIEGO

MEDICAL CENTER

MOORES CANCER CENTER

***Create a healthier Asian community.
Share this information with others!***

**Moore's UCSD Cancer Center
Cancer Outreach Team
Basic Liver Cancer and Hepatitis B Science Quiz**

Name: _____

Please answer (T) for true or (F) for false for each of the following questions. (Passing Score=) This exam is open-book.

Basic and Clinical Aspects of Liver Cancer

Questions for COT group (pass line: 13/17)

1. The following are all functions of the liver EXCEPT (**only one answer**):
 - a. Metabolism of cholesterol and fat
 - b. Synthesis of clotting factors
 - c. Storage and concentration of bile**
 - d. Detoxification of drugs and toxins
 - e. Immune response
2. The general chronological clinical course of viral hepatitis is?
 - a. Exposure → cirrhosis → acute infection → hepatocellular carcinoma → chronic infection
 - b. Exposure → acute infection → chronic infection → cirrhosis → hepatocellular carcinoma**
 - c. Exposure → acute infection → cirrhosis → chronic infection → hepatocellular carcinoma
3. Most common cause of liver cancer is? _____
4. What is liver cirrhosis? _____
5. What does hepatitis mean? _____
6. Which strain of hepatitis do we have a vaccination for?
 - a. Hepatitis A
 - b. Hepatitis B**
 - c. Hepatitis C
7. (**Chronic**/acute) viral infection is a major risk factor for liver cancer?
8. A series of 3 (#) injections will achieve significant antibody levels in approximately 95% of individuals
9. Modifiable risk factors for developing hepatocellular carcinoma include all EXCEPT (**only one answer**)?
 - a. IV drug use
 - b. Pregnancy**
 - c. Obesity
 - d. Alcohol use
10. The chances of someone with chronic hepatitis B infection of developing cirrhosis or hepatocellular carcinoma are roughly?
 - a. 10-20%
 - b. 30-40%**
 - c. 50-70%
 - d. 90-100%
11. Chronic hepatitis C is often symptomatic early (true/false).
12. Circle the following choices that are direct causes of cirrhosis (**more than one answer possible**)?

- a. **Wilson's disease (accumulation of copper)**
 - b. **Non-alcoholic Steatohepatitis (NASH)**
 - c. **Hepatitis B**
 - d. Diabetes Type II
13. Hepatitis B and C are transmitted through the fecal-oral route (true/false).
14. CDC recommends screening for Hepatitis B in which of the following groups of patients (more than one answer possible)?
- a. **Pregnant women**
 - b. **IV drug users**
 - c. **US born persons with childhood vaccination whose parents were born in China**
 - d. **Persons requiring chemotherapy**

Please answer (T) for true or (F) for false for each of the following questions.

General Brochure Questions

- T 1. Hepatitis B is transmitted through blood, semen and vaginal fluids. Methods of transmission include childbirth, unprotected sexual intercourse, and contaminated syringe use.
- F 2. HBV infection can be spread by hugging, kissing, and breastfeeding.
- T 3. The primary route of Hep B transmission is from mother to child through the birthing process.

Sociobehavioral Aspects

- F 4. 2 out of every 3 Asian Americans infected with H are aware of their status.
- T 5. Vietnamese men have the highest incidence rate of Hepatitis B infection.
- T 6. There is a stigma that HBV is associated with "bad people" and "bad behavior" among the API population.
- F 7. Screening for HBV is routinely and universally given by primary care physicians.
- F 8. According to the study presented, the most prominent cited deterrent among Chinese Americans in SF was the language barrier.