In this edition

Student Research Presentations

Brooklyn Health Disparities Summer 2014 Internship Program

Climate Change & Public Health Summer 2014 Internship Program 
Trinidad & Tobago

2014
In 2004, the Arthur Ashe Institute for Urban Health, in partnership with the SUNY Downstate Medical Center, and the Office of the Brooklyn Borough President created the Brooklyn Health Disparities Center to reduce health disparities among minorities and new immigrants in Brooklyn, New York through clinical and community based research, education, outreach and training. Through its community engagement core, the Center, funded by the National Institutes of Health – National Institute on Minority Health and Health Disparities (NIMHD) has implemented an engaging health disparities summer internship program for high school students.

The Brooklyn Health Disparities Summer Internship Program (HDSIP) provides a community engaged health disparities summer course for students recruited from the Institute’s Health Science Academy, a three-year after-school science enrichment program. In addition to didactic training on health disparities, students conduct research projects in collaboration with members of participating community-based organizations (CBOs).

In July 2014, 15 high school students participated in the 4-week Brooklyn based internship program, designed to engage minority youth while building the capacity of CBOs to conduct Community–Based Participatory Research (CBPR) on health equity issues. The students conducted their research projects at seven local community based organizations and focused on various health equity issues, resulting in advocacy and policy recommendations for local decision makers. Their internship experience culminated with oral and poster presentations of their projects at the Brooklyn Borough Hall.

For the past three years, the AAIUH has collaborated with the University of the West Indies in Trinidad & Tobago to conduct a summer internship program for secondary school students in Trinidad & Tobago. This year’s program was hosted by the Faculty of Science & Technology, and builds upon earlier iterations of the program funded through two Fulbright Fellowship awards. Similar to the summer internship program in New York, the climate change and public health program in Trinidad & Tobago included community-based research projects conducted at local organizations. 15 students conducted six research projects, the research findings of which were highlighted in oral and poster presentations at a closing ceremony held at the UWI Inn Conference Centre in August 2014. This publication features the projects of both the US and Trinidad & Tobago based summer projects.

Marilyn Fraser-White, MD
Deputy Director, AAIUH
Fulbright Research Specialist, 2013
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**Research Mentor:** Frédérique Jean Baptiste

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Health literacy goes beyond the ability to read and write, and is defined as the extent to which individuals are able to access, process and understand basic health information to make informed health choices. It is impacted by individual and system level factors. In addressing health literacy, it’s important that information be presented in a manner which is culturally and linguistically appropriate. Our students explored health literacy and access to care among various groups, including adolescents and individuals with disabilities.
A Study to Improve a Health Literacy Course for Urban Adolescents
Student: DiAndra Phillip
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A Study to Improve a Health Literacy Course for Urban Adolescents

Introduction

The deficiency in health literacy among adolescents is a public health problem. Health literacy is “the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions.” Much research has been done to assess health literacy in adults, but little is known about health literacy among adolescents (Manganello, 2007). Health classes at school (47%), parents (45%) and doctors (41%) remain leading sources of basic health information for young people (Rideout, 2001); however, deficiencies still exist in functional (not being able to spell a medical term), critical (not being able to differentiate accurate information from inaccurate information), and interactive (translating the health information to appropriate health behaviors) literacy (Jain & Bickham, 2014). Adolescents in particular are at a crucial stage of development where they must learn to independently navigate the healthcare system and advocate for their health needs.

In an effort to promote health literacy among adolescents, the NYU College of Nursing Mobile Health Van Program (MHVP) developed a health literacy course consisting of eight short videos. Titled “The Joe Health Power Show,” the course addresses common health issues faced by adolescents such as diabetes, depression, substance abuse and reproductive health. The health literacy course was presented to a small group of adolescents to elicit their feedback about the health literacy course and its perceived effectiveness.

Hypothesis

Focus group participants (ages 14 to 16) will find “The Joe Health Power Show” effective in increasing overall adolescent health literacy upon course completion.

Demographics

![Demographics](image)

- What did you think you’d like most about the health literacy course and actors?
- What did you learn from the course?
- What would you change?
- Were the quiz questions clear?

Figure 1. Sample questions for focus group.

Methodology

A two-day focus group was conducted by MHVP staff and a Brooklyn Health Disparities Center (BHDC) research intern to assess the effectiveness of a health literacy course administered to a group of adolescents participating in the Summer Youth Employment Program. The focus group consisted of ten girls and seven boys. The group had a small sample size (n= 12), ages 14 to 16, identified through the BHDC. The MHVP staff coordinated the sessions with the appropriate teachers and administrators of the Summer Youth Employment Program.

A pre and post-test of ten questions each was administered to every participant, with short quizzes that contained five to five questions after each video. The questions and quizzes were designed to determine the effectiveness of the course. The participants were broken up randomly into three groups. Immediately following the post-test, participants were asked four questions (Figure 1) and wrote their responses on index cards. The separate groups were joined together to discuss what was written down by the participants.

Results

After the focus group was conducted and the data were entered, results showed higher post test scores with 85.8% more correct answers in the posttest compared to the 63.3% in the pretest (Figure 2). Major themes were also identified from participants’ responses about: course format, relevance, and clarity. Overall, respondents stated that the course was too long and repetitive, though they felt that the included health topics and actors were appropriate, and the information was presented clearly. Figure 3 depicts the most common focus group responses. Participants also suggested that the course would improve if it addressed concerns of a broader base rather than solely focusing on immigrants.

Limitations

There were some limitations to this project. First, the focus group had a small sample size (n= 12). Second, the health literacy course was created for recent immigrant adolescents, which this focus group did not represent. Therefore, their feedback may not be representative of the intended target population. In addition, the participants may have provided socially desirable responses to the focus group questions. Lastly, the course was administered over a two-day period, which may have overwhelmed participants. Ideally, the course should be conducted over a period of two to three weeks in a high school classroom setting. In spite of these limitations, the data provide in-depth and culturally relevant information on how to improve an adolescent health literacy course.

Conclusions

This project provides valuable information to promote health literacy among urban adolescents as evidenced by their responses and post-test results. Participants’ feedback offered ways to improve “The Joe Health Power Show” for future implementation in New York City high schools. These results will guide future modifications to improve the format, content, and relevance of this health literacy course.

Policy Recommendations

Based on these findings, efforts to make health literacy education available in New York City’s high schools should be prioritized. A standard health literacy curriculum should be mandatory for every high school student to complete during health or physical education classes. In addition, funding for advertisements that show adolescents of different ages and ethnicities promoting the importance of health literacy would also be beneficial.

Bibliography


Acknowledgement

Special acknowledgement to the staff at NYU College of Nursing MHVP, the Arthur Ashe Institute for Urban Health’s Health Science Academy and the focus group participants.
Introduction

The American Cancer Society (ACS) is the nation’s largest non-governmental Cancer investor, contributing about $3.4 billion to cancer research. ACS is dedicated to eliminating cancer as a major health problem. In New York, more than 107,000 people were diagnosed with cancer in 2011. ACS has a variety of support programs for cancer patients ranging from transportation to wigs. ACS also provides resources for the uninsured to receive free cancer screenings.

ACS has recently undergone a transformation, and for the first time in the history of the organization, it has staff and resources dedicated to primary care systems and Federally Qualified Health Centers (FQHCs). ACS chose to embrace this present study because it provides a greater opportunity to address health disparities and offers better leverage to help FQHCs and Community Health Centers (CHCs) improve health equity around cancer screenings in underserved communities. According to an Institute of Medicine Report written by the National Academy of Sciences, "The number of patients visiting Emergency Departments has been growing rapidly. EDs across the country are overcrowded, ambulances are turned away; patients, once admitted may wait in hallways for hours or even days before inpatient beds open up to them." (Warden, 2006) As a result, this leads to extremely long waits, patient dissatisfaction, walk-outs, and jeopardy of the reliability of the emergency department system.

This present study was undertaken to determine reasons why individuals would rather use their emergency room (ER) as opposed to nearby Community Health Centers and urgent care centers when compared to inpatient beds.

Methods

A six-item survey (including four close-ended and two open-ended questions) was developed by research mentors from the Brooklyn Health Disparities Center in collaboration with ACS staff. Surveys were administered around the vicinity of four major hospitals to 100 people; 50 surveys administered in low income areas and 50 surveys in high income areas. They were chosen on the basis of the average income of the community area. Two hospitals located in "low" income areas (Kings County Hospital and University Hospital of Brooklyn) and two hospitals situated in "high" income neighborhoods (Methodist Hospital and Brooklyn Hospital Center) were chosen as the recruitment sites. Surveys were administered to adults around the hospital vicinity. All adults regardless of race, ethnicity or gender were approached for potential participation.

Over the course of the distribution of surveys, people listened to a short concise introduction. Using this approach, more individuals showed interest to participate in the survey, and this part of the research was completed with efficiency.

As a part of the research, the two CHCs, the Brownsville Family Health Center, and the Bedford Stuyvesant Family Health Center were contacted and asked about their policies on urgent care. The questions that were asked are as follows:

1. Why aren’t urgent care centers located in low income neighborhoods?
2. Why don’t you accept Medicaid?

Participants were asked whether or not they used their CHC. 29% of the respondents said they used their CHC and Figure A illustrates the reasons the remaining 71% had for not using their CHC.

Results

Participants were asked whether or not they used their CHC. 29% of the respondents said they used their CHC and Figure A illustrates the reasons the remaining 71% had for not using their CHC.

Hypothesis

People in low income areas will have little to no knowledge of Community Health Centers and urgent care centers when compared to those in more affluent neighborhoods.

Figure A

The Urgent Care system is privately owned, which means that it is not funded by the government and they do not accept Medicaid. According to CITY MD, one of the major Urgent Care Centers, this is one of the main reasons why they do not exist in medically underserved communities as much as they do in high income areas.

Figure B

Conclusions

People were aware of Urgent Care Centers and Community Health Centers regardless of the area in which they lived. There was no significant difference in the level of awareness of UCCs and CHCs in low income vs. high income areas. These results are important because it can assist the American Cancer Society with developing new strategic health initiatives that support their mission to increase the usage of Community Health Centers.

Policy Recommendations

We recommend that funding be increased so that better equipped Urgent Care and Community Health Centers are available. More health plans should be accepted by these businesses to ensure the health equity between various individuals. The government should collaborate with the Urgent Care Centers to provide more options for insurance coverage. In addition, they should launch information sessions to educate the public about Urgent Care and Community Health Centers, which will ultimately reduce overcrowding in ERs, and increase awareness about UCCs and CHCs.

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Website Title: The Influence of an Urgent Care Center on the Frequency of ED Visits in an Urban Hospital Setting. Website Title: The Influence of an Urgent Care Center on the Frequency of ED Visits in an Urban Hospital Setting Date Accessed: July 21, 2014
Website Title: The Cancer Burden In New York State. Website Title: The Cancer Burden In New York State Date Accessed: July 21, 2014

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A huge thanks to our research mentor, Ms. Shaunte Truick. Thank you for working with us and providing management throughout this project. Thank you to the BHDC and the AAIUH.
Evaluating Preconception Health Literacy Among Generations

Student Researchers: Danielle Barrow, Zaria Holcomb

Other Contributors: Brandy Watts, Denise West, Shaunte Truick, Frédérique Wendy

Brooklyn Perinatal Network, Inc. (BPN), Brooklyn Health Disparities Center (BHDC)

Introduction

Brooklyn Perinatal Network (BPN) was established in 1988 with a mission to prevent infant and maternal illness, as well as provide vital information to at-risk residents in minority dense neighborhoods. BPN implements innovative strategies such as supportive health and social service coordination to significantly reduce infant mortality rates and improve maternal health.

Preconception health encourages women to engage in healthy lifestyles before they become pregnant (CDC, 2012). If good health is not maintained during this time interval, the health of an unborn child can be severely affected. A research study conducted in Montana led to the theory that preconception health of women of reproductive age had substantial consequences on their ability to become pregnant, and their health intrapartum and postpartum (Lindsay, 2012).

Preconception health does not only apply if you are thinking or planning to get pregnant in the future (NYCDOHMH, 2001). It means "taking hold of your health," be it male or female, and feeling good about your health. It means "picking up" healthy habits, and creating a life filled with love and support. It is essential for men to support their partners through fertility and be a protective figure for their children.

BPN, in partnership with the Brooklyn Health Disparities Center (BHDC), conducted a series of focus groups and surveys to gain a better understanding of people's views on preconception care. Specifically, the objective was to evaluate differences in the knowledge of preconception health between two different generations: Generation X (15-34 years old) and Generation Y (37 years and up). Such information would be useful for the development and implementation of health information classes targeted in communities with higher infant mortality rates.

Methods

This research project employed the use of survey methodology. The survey was developed by a graduate research intern at BHDC in collaboration with BPN staff. Surveys were conducted at SUNY Downstate (East Flatbush) and Brooklyn Perinatal Network Inc. (Brownsville). They consisted of six questions designed to gather knowledge on preconception, interconception, and maternal care.

Surveys (n=122) were distributed either inside BPN’s lobby in Brownsville or outside SUNY Downstate to passersby near local bus stations and parks. Only individuals ages 15 and over were eligible to participate in the survey. To increase the sample size, an additional 20 phone surveys were conducted. All surveys were transferred over to Microsoft Excel for analysis. Many of the individuals contacted through the phone surveys were in our own network, which immensely increased the quantity of Generation Y. Generation Y consisted of 68% (n= 93) of the respondents, while Generation X consisted of 32% (n= 49).

Flyers and packets containing information about BPN, and perinatal health were also distributed to the participants. They provided information to parents regarding health care plans, children’s education, and planning on chronic diseases, and family planning services at various locations in Brooklyn.

Results

There was an interesting difference in the data collected between Generation X and Generation Y. When asked, "Smoking Hookah when pregnant will harm an unborn baby." 26% of Generation X indicated ‘Don’t Know’ or asked what hookah was, while only 8% of Generation Y indicated ‘Don’t know’ (Graph 1). In addition, 20% of Generation X selected ‘Don’t know’ for E-cigarettes, while only 4% of Generation Y chose ‘Don’t know’ to be true (Graph 2). Similar percentages were observed for both generations for the question pertaining to marijuana. There was a lot of similarity in certain responses—such as whether or not the use of alcohol and recreational drugs, such as cocaine, can affect the health of a child. Almost all the responses were "strongly agree." A large proportion (41%) of overall respondents either "disagreed" or "Didn’t know" that taking folic acid before pregnancy leads to a healthy baby. Moreover, both Generation Y (23%) and Generation X (12%) selected ‘Don’t know’ for the use of folic acid during and after birth. (see graph 3)

Hypothesis

Generation Y will be more knowledgeable on the preconception health surveys than Generation X because health classes today are more in depth, and have more scientific research to back up claims.

Limitations

The sample size for Generation X respondents was small. This was perhaps attributed to a large proportion of the “older” aged population that was working during the hours the surveys were distributed. Moreover, many people refused participation in the study. Non-English speaking persons were unable to participate because the surveys were written in English. Several post-menopausal women believed they couldn’t participate because they didn’t have any children or planned on having any in the future.

Conclusions

The data amassed led to the conjecture that Generation X lacked education on preconception health. This may be due to the fact that many of the substances listed, such as Hookah, were not prominent during Generation X’s youth and reproductive age. More data will be needed to investigate this speculation.

Policy Recommendations

These findings could help invigorate strategies to help increase more generations on preconception health. More advanced health education programs (i.e., classes, pamphlets) need to be implemented and made available to the public.

Programs should be implemented in preparation on marriage before and during pregnancy (such as the importance of folic acid), the effect of drugs on the health of a baby, maternal care, and how to take care of your health after pregnancy. Classes and interventions that provide health literacy should be integrated into health classes in schools. Counseling for women who are planning to become pregnant or are at risk of becoming pregnant, should be enacted in clinics throughout the city.

Policies should indicate that medical professionals must inform individuals on the risks of unhealthy habits on an unborn baby’s health, such as bad nutrition, or smoking.

Bibliography


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We would like to thank Brooklyn Perinatal Network and the Arthur Ashe Institute for allowing us to conduct this research project. We would also like to acknowledge our CBO supervisor, Brandy Watts, Dr. Joseph, our group leader Frederique and Ms. Primus for their encouragement and help in making this project a success.
Factors Affecting Dietary Choices in Low Income Households

Student Researchers: Karlana Allwood, Alana Rush
Other Contributors: Issaye Fair, Lucila Santana, Shaunte Truick, Frédérique Wendy
CAMBA, Brooklyn Health Disparities Center (BHDC)

Introduction

Church Avenue Merchant’s Block Association (CAMBA) is a non-profit community based organization located in the East Flatsbush section of Brooklyn, New York. CAMBA operates a choice-food pantry (Beyond Hunger Food Pantry) where individuals can self-select their food. CAMBA offers more than 150 integrated services and programs in economic development, education, youth development, family support, health, housing, and legal services (CAMBA, 2008). They help provide jobs for people with low income or on welfare, people who are currently at risk, or those transitioning to homelessness. They also help individuals living with, or at risk of HIV/AIDS, immigrants and refugees, and children and young adults, entrepreneurs and other groups that are working to become self-sufficient.

Individuals with low income often have limitations on their food options, resulting in unhealthy eating habits. Families that turn to food pantries represent 16.4% of the 11.5 million low income families in the United States (Zedlewski, 2003). Access to fresh produce and other healthy foods differs between poor, ethnic, and wealthier non-ethnic neighborhoods (Lewis, 2006). Thus, food pantries are designed to ensure an adequate supply of nutritious foods. Food pantries may reduce the disparities in low income food choice.

Increased availability of food pantries, grocery stores, and farmers’ markets, that offer healthier food options in low income communities, along with educational course offerings might encourage people to engage in healthier eating. This change could most likely reduce the risk of diseases such as diabetes, obesity, high cholesterol, and hypertension (Rustad, 2013). Food pantries are open to the entire public regardless of one’s income. The purpose of this study is to understand what motivates food choice among low income individuals.

Hypothesis

Factors such as convenience, price and familiarity with food are associated with the food choices in low income households.

Methods

On Tuesdays and Thursdays, the days that the Beyond Hunger Food Pantry was open to the public, a survey assessing motivations behind food choices was distributed. The survey consisted of several 5-item Likert scaled questions covering topics such as health, mood, convenience, sensory appeal, natural content, price, weight control, familiarity, and ethical concern. Each question consisted of the following response options: 0: Don’t Know, 1: Strongly Disagree, 2: Disagree, 3: Agree and 4: Strongly Agree. Each category was summarized for the participants in an explicit way, in order to decrease time consumption.

CAMBA’s clientele came in and picked the food of their choice, researchers approached and delivered to them an interviewer-administered survey. Once the data were collected from each survey, the information was tabulated into Microsoft Excel.

Results

A total of 122 participants (85 females) completed the survey. The majority of respondents were of Afro-Caribbean descent and approximately 50 years or older. Figure 2 displays the participant views on the level of importance of categories regarding healthy food choices. Figure 2 also shows that the categories: Health, Sensory Appeal, and Familiarity were more important to the respondents as opposed to the others. Figure 3 differentiates between two categories, sensory appeal and ethical concern. Sensory Appeal had the greatest effect on the participants’ dietary choices, while Ethical Concern was inapplicable.

Our research showed that Sensory Appeal served as the most essential aspect of dietary choice. Overall, Ethical Concern was viewed as the least important aspect of dietary choice.

Results Cont’d

Primary & Secondary Aspects of Dietary Choices

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Figure 2: This chart shows the participant views towards the level of importance of various categories regarding dietary choices.

Figure 3: This graph shows what is viewed as the most and least important aspect of acquiring healthy dietary choices amongst males and females.

Limitations

- Study conducted at one community-based food pantry
- Limited days and times
- Small sample size for the project
- Lack of interpreters; participants spoke different languages

Conclusions

Food pantries help to reduce hunger and hardship in the United States. After collecting and analyzing the data, the hypothesis was partially supported. Familiarity was an essential factor associated with food choices in low income households. Initially, the research inferred that convenience and price would also be significant factors to dietary choices. However, the factors proven to be more essential to food choices were sensory appeal and health. The results were inconsistent with the hypothesis.

Individuals of low income have restraints when obtaining healthy foods, such as high pricing in health food stores and low budgets. The efforts of food pantries could serve to reduce the risk of diseases that are prevalent in the community, such as diabetes, obesity, and hypertension.

Policy Recommendations

- State government and community-based organizations should aim to provide more food pantries, grocery stores, and farmers markets.
- Regulate availability of unhealthy foods in public service venues and promote healthier food.
- Establish advertisement on eating healthy, and providing information sessions for the public.

Bibliography

- CAMBA (Church Avenue Merchants Block Association), 2008 www.camba.org

Acknowledgements

Special thanks to our supervisors Ms. Lucila Santana (Project Coordinator at CAMBA), Mr. Issaye Fair and the staff at CAMBA’s food pantry for helping us in conducting the surveys. Appreciation goes to our Research Mentor, Ms. Shaunte Truick and Ms.Nicole Primus, Education Coordinator at the Arthur Ashe Institute for Urban Health (AAUH) and the Brooklyn Health Disparities Center (BHDC).
Introduction

Brooklyn Center for Independence of the Disabled (BCID) is an organization that was created in 1956 by a group of parents working to promote equal benefits for their children with disabilities. The organization dedicated time and effort to end discrimination against people with disabilities (PWDs). BCID gives PWDs the tools and resources to become more independent in their daily lives.

BCID has grown over time and expanded their networking from battles against New York City taxis to ensure that they become accessible to PWDs, similar to Access-A-Ride. BCID has improved the lifestyle of many people and they will continue making a difference in society.

For this project, student researchers aim to identify the lack of accommodation for people with disabilities in dental and vision clinics. In the United States, 1 in 5 individuals have a disability, and 1 in 10 individuals have a severe disability (Stiefel, 2002). According to Dental Care Considerations for Disabled Adults, “on an annual basis 36.5% of individuals with severe disabilities aging 15 years and older reported a dental visit, compared to 53.4% of those with no disabilities” (Stiefel, 2002). This could be due to the lack of accommodations for people with disabilities. According to a study conducted at Waverly Park Hospital, 11% of disabled people, ranging from 20-85 years old, had a vision assessment in the last five years (McCulloch, 1996). This outcome is most likely caused by a scarcity of accommodations for the disabled.

Upon the conclusion of this research, BCID hopes to increase the awareness of the lack of accommodations for individuals with disabilities in vision and dental clinics, in order to make changes.

Hypothesis

Vision and dental facilities do not provide sufficient accommodations for people with disabilities.

Methodology

Methods used for this research project consisted of phone surveys and field observations for various dental and vision facilities in the borough of Brooklyn. These methods were used to find out if they accommodated the disabled. To initiate the phone interviews, a brief introduction of the research topic was used to provide information about the organization. Due to low response, a new tactic was used to interview the clinics. The interview questions were asked as if they were questions from a disabled patient’s point of view. The responses given would indicate whether the facilities were wheelchair accessible for the front entrance and examination room, were able to perform a procedure in the wheelchair, and were able to provide a sign language interpreter.

The field observation portion of this research project required investigating each dental and vision facility that responded ‘yes’ saying that they accommodated people with disabilities. In order to account for accommodations, the clinics had to have a front door entrance, exam room door, and/or an alternative entrance at least 35 inches wide, a step no more than 2 inches high (unless a ramp was provided), and a trained staff to assist the patient out of their wheelchair and into the examination chair.

Results

Frequency of “yes, can accommodate” and “no, cannot accommodate” responses

Figure 1: This graph shows the phone call assessments for dental and vision clinics. 71% of the dental and vision clinic respondents stated they accommodate people with disabilities.

Figure 2: This graph shows verifications of the phone call assessments of dental and vision clinics stated they accommodated the disabled. After verification, 73% of clinics did accommodate the disabled as said during phone surveys.

Figure 1 represents the outcome of the phone survey. It indicates the amount of dental and vision facilities that accommodate and which do not. 22 dental clinics initially stated that they accommodated the disabled, while 8 of them said no. 15 vision clinics stated that they accommodated the disabled, while 7 clinics said they did not.

Figure 2 shows the confirmation of the clinics that stated through phone surveys that they accommodated individuals with disabilities, verified by field observations results. Out of the 22 dental clinics, 14 stated they accommodated the disabled and 8 dental clinics did not accommodate as they claimed. Out of the 15 vision clinics, 13 clinics accommodated, 2 clinics did not.

Acknowledgements

We would like to acknowledge our supervisors, Ms. Amari and Ms. Peters, and the entire staff of BCID. We would also like to thank Ms. Shaunte Truick, our research mentor, for giving us the guidance to succeed in this project and assisting us on a daily basis.
Central to beginning the conversation on health promotion and risk reduction behaviors, is identifying someone’s perception of risk. Oftentimes, one’s perception of risk influences the choices an individual makes regarding his/her health. Our students focused on various topics related to perception of risk, including condom use and the consumption of alcohol during pregnancy.
Perceptions about Alcohol Consumption During Pregnancy and Fetal Alcohol Syndrome

Students: Jessica Otty, Akia Walters
CBO: Caribbean Women’s Health Association
Supervisors: Amanda Nace, Hariette Jordan
Research Mentor: Nicole McLean

Gender Differences in Condom Use Self-Efficacy
Students: Elijah Joseph, Deniya Thompson
CBO: Community Counseling and Mediation
Supervisors: Michael Jackson, Myriam Lamothe
Research Mentor: Nicole McLean

[Image] (L-R) Student interns Jessica Otty and Akia Walters with HSA Alumni and mentor Nicole McLean
Assessing Correlates of Self-Perceived Health

Student Researchers: Deijha Blake, Beatrice Wallace
Other Contributors: Leronda Sharpes, Nicole McLean
Diaspora Community Services (DCS), Brooklyn Health Disparities Center (BHDC)

Introduction
Diaspora Community Services (DCS), established in 1981, is a Brooklyn-based non-profit organization that provides support to low-income residents, the chronically ill, as well as immigrants. DCS has three sites in New York City and a community health center in Haiti. DCS empowers its clients by offering access to education, counseling, housing, and other much-needed benefits. Overall, DCS’s mission and vision is to provide low-income minorities with access to quality health services, education, job training, adequate housing and social service support.

Factors shown to be associated with favorable perceptions of health include higher education, higher income, and younger age. Factors associated with fair/poor health ratings include lower education, lower income, and older age. We sought to assess correlations of self-perceived health among the Brooklyn neighborhoods served by DCS. The population typically serviced by DCS is 74% Black, 60% women, and 56% over the age of 40.

Hypothesis
Individuals who are young (13-26), college-educated, with an income of $50,000 or more have better self-perceived health than those who are older (27 and up), not college-educated, with an income less than $50,000.

Methods
This assessment was conducted through survey methodology. The survey was developed by DCS staff to collect information from those who use their services. The 48-item survey allowed respondents to provide information regarding socio-demographics, family history of disease, health access, and general health. This survey was distributed to Brooklyn residents who were also clients of DCS. All participants were given informed consent. The sample size was 95. Self-perceived health was determined by the question “How do you describe your health?” To assess the correlates of self-perceived health, we focused on the questions regarding demographic information, which included, but was not limited to, age, race, education level, and income level. Frequencies of responses were determined and a chi-square test was employed to assess statistical significance.

Results
Figure 1 displays self-perceived health ratings by education level. The majority of individuals with more than high school education believed that their health was excellent/very good (61%). The p-value for the accompanying chi-square test was 0.5. Figure 2 shows the ages of the people surveyed and their self-perceived health ratings. Individuals who are young (13-26) rated their health as excellent or very good, slightly less often than older people (48% vs. 53%). This association had a p-value of 0.87. In Figure 3, there were more individuals who received less than $50,000. A majority of them (70%) perceived their health to be excellent/very good (p = 0.16).

Conclusions
While the frequencies of responses showed a possible association between high education level and self-perceived health, further chi-square analysis showed that this finding was not statistically significant. The evidence collected refuted the hypothesis stated. Surprisingly, older age was associated with better self-perceived health, although these results were not statistically significant. Those with income less than $50,000 reported their self-perceived health as excellent/very good more often than their counterparts, but this finding also lacked statistical significance.

Policy Recommendation
We recommend creating education programs for minority groups to help them return to college, as well as to help them complete school to receive higher level degrees. From our data, it is shown that there are very few African Americans or Hispanics who have an income at or above $10,000. Education could help increase the chance of receiving a higher income.

Bibliography

Acknowledgements
We would like to acknowledge and thank our CBO supervisor Ms. Leronda Sharpes, the staff members at Diaspora Community Services, as well as our research mentor Nicole McLean. We would also like to acknowledge the Arthur Ashe Institute for Urban Health for this opportunity to work with these amazing individuals.
Introduction
Sexually transmitted infections (STIs) among adolescents are a rising concern in today’s society. According to the Centers for Disease Control, there are 19.7 million new cases of STI infection in the US each year, with young people (ages 15-24) accounting for nearly half of those cases. This statistic is especially surprising, given that adolescents only represent 25% of the sexually experienced population. Teens are engaging in sexual activities at younger ages, and more frequently (Lawrence, 1994).

Consistent condom use is an effective and reliable method to reduce risk of STI infection (Lam, 2004). Condom use self-efficacy is defined as an individual’s belief in his or her ability to use condoms and it is one of the most important predictors of actual condom use (Baele, 2001).

Community Counseling and Mediation (CCM) is an organization that works with individuals in their homes and communities to promote awareness of adolescent sexual activity in neighborhoods of concern. CCM works with Comprehensive Adolescent Pregnancy Prevention, funded by the New York State Department of Health, to support community-based efforts to reduce the risk of unplanned pregnancies, STIs, and HIV among New York State adolescents.

Hypothesis
Males and females are expected to have dissimilar behaviors and perceptions regarding condom use.

Methods
The research was based on survey methodology. The survey, which was developed by our research mentor, included items that were based on similar questions in prior published surveys on condom use and condom negotiation among adolescents. The 22-item survey was distributed to adolescents between the ages of 14 and 19. Convenience sampling was employed to collect 150 surveys from adolescents at two CCM sites and in highly populated places, such as the Broadway Junction train station and Fulton Street mall.

Results
Of the 158 surveys, 44% of respondents were male, while 56% were female.

Figure 1: Adolescents who report being sexually active

As shown in figure 1, of adolescents who reported being sexually active, the majority (63%) were males.

Figure 2: Frequency of Condom Use

As illustrated in figure 2, of the females respondents, the majority (64%) indicated that they were not sexually active in contrast to the 18% of adolescent males. Of the sexually active respondents, 58% of males indicated they use condoms ‘always’ as compared to 19% of female respondents. A small percentage of those surveyed (4%) indicated that they use condoms either ‘sometimes’ or ‘never.’ Additionally, among the five adolescent males who reported ‘never’ using a condom, two of them reported testing positive for an STD/STI.

Figure 3 shows responses to the above mentioned survey item. An overwhelming majority of the females said that they were confident in their abilities to convince their partner, while the males gave more mixed responses.

Limitations
Due to time constraints, a small sample size was used (N= 150); therefore, the results cannot be generalized to the larger population. Another limitation is, the surveys administered were not very diverse in terms of race; the majority of the surveys completed were by African Americans. In addition, because of the sensitivity of the topic, the validity of the surveys may be in question.

Conclusion
The data that was collected seemed to both support and contradict our hypothesis. It was hypothesized that males and females would have dissimilar perceptions and behaviors regarding condom use and condom use self efficacy; males and females responded similarly to the survey questions. Both males and females said that a majority of the times they always use condoms. However interestingly, most of the females that were surveyed were not sexually active in comparison to over half of the males surveyed.

Policy Recommendations
One policy recommendation is to develop school-based programs that will promote awareness regarding condom use.

Bibliography

Acknowledgments
We would to thank the CCM staff, our CBO advisor Mr. Michael Jackson, our research mentor Nicole McLean, as well as Jordayna Francois & Nicole Primus.
Perceptions about Alcohol Consumption during Pregnancy and Fetal Alcohol Syndrome

Student Researchers: Jessica Otty, Akia Walters
Other Contributors: Amanda Nace, Nicole McLean

Caribbean Women’s Health Association (CWHA), Brooklyn Health Disparities Center (BHDC)

Introduction

Caribbean Women’s Health Association (CWHA), established in 1982, aims to provide high quality, comprehensive, culturally appropriate health, immigration, and social support services to the neighboring community. CWHA is a regional coordinating body of the Infant Mortality Reduction Initiative (IMRI), funded by the New York City Council. IMRI was developed to combat the disproportionately high rates of infant mortality in New York City. Through IMRI, CWHA coordinates city-wide efforts to improve the health of pregnant and postpartum immigrant women through research, conferences, training, and technical assistance for community providers. This research will provide a basis for future programs regarding maternal and child health.

Fetal Alcohol Spectrum Disorders (FASD) are the leading cause of preventable birth defects in North America. The National Organization on Fetal Alcohol Syndrome found that FASD affects an estimated 40,000 infants in the US each year, more than Spina Bifida, Down Syndrome, and Muscular Dystrophy combined. Prior knowledge surveys about FASD have been conducted with various health and allied healthcare providers and have proven useful in identifying gaps in knowledge and differences among provider groups to support prevention efforts. The present study was conducted to assess women’s perception about alcohol consumption during pregnancy and fetal alcohol syndrome.

Hypothesis

Women underestimate the risks of consuming alcohol during pregnancy.

Methods

A 14-item survey was given to women over the age of 14 in the 11203 zip code area which surrounds CWHA, to determine the common beliefs regarding alcohol use during pregnancy and fetal alcohol syndrome. The responses were recorded into a Microsoft Excel database and the frequencies of these responses were determined and interpreted.

Results

**How often can a pregnant woman safely have a drink containing alcohol?**

- Never, no amount of alcohol is safe
- Once a month or less
- 2 to 4 times per month
- 2 to 3 times per week
- More than 3 times per week
- Don’t Know

**What is the leading cause of intellectual disability?**

- FAS/FAE
- Cerebral Palsy
- Spina Bifida
- Down Syndrome
- Don’t Know

**Have you ever heard of Fetal Alcohol Syndrome (FAS) or Fetal Alcohol Effect (FAE)?**

- Yes
- No

**Limitations**

Due to time constraints, the sample size for the study was small and thus the results could not be generalized for the rest of the population.

**Conclusion**

In conclusion, the results seemed to contradict the hypothesis. Women do not underestimate the risks of consuming alcohol during pregnancy. The data show that women over the age of 14, know the risks of consuming alcohol during pregnancy. While conducting our literature review, we also took notice of the health and emotional benefits of women’s beliefs by their age. FAS/FAE can be avoided if younger women are given the knowledge about the risks of consuming alcohol during pregnancy. This could also lead to a decrease in the cases of intellectual disability.

**Policy Recommendations**

Because there are many conflicting beliefs regarding alcohol use during pregnancy, all healthcare providers, especially those in obstetrics and gynecology should receive standardized information on alcohol use and pregnancy. Once health care providers are adequately educated, they can disseminate accurate information to expectant mothers.

Another recommendation is to implement community-based programs to provide education to multiple generations of women since many beliefs are solidified through socialization.

**Bibliography**


**Acknowledgements**

We would like to acknowledge and thank our CBO supervisor Amanda Nace and the staff at CWHA, group leader Nicole Primus, Jordayna Francois, and our research mentor Nicole McLean.
Trinidad & Tobago
Summer Internship 2014

For the past three years, the Arthur Ashe Institute for Urban Health has collaborated with the University of the West Indies (Trinidad & Tobago) to conduct the Summer Internship Programme for Secondary School Students. Each year, 15 to 20 students are recruited from high schools across Trinidad & Tobago to participate in the Internship. The first year’s program (2012) was made possible by a Fulbright Nexus Award to the Institute’s CEO, Dr. Ruth C. Browne, and focused on the Social Determinants of Health. In 2013, the Institute’s Deputy Director, Marilyn Fraser White, MD was awarded a Fulbright Research Specialist award to conduct a summer internship focused on climate change and public health. The 2014 summer internship also focused on climate change and was supported by funding from various sources, including the US Embassy, the University of the West Indies (St. Augustine’s campus) and private donors. 15 students conducted six research projects at six Non-Governmental Organizations (NGOs) in Trinidad & Tobago. This section highlights the research projects of our students.
Effective ways in Mitigating the Effects of Surface Water Runoff in the St Ann’s Area
Students: Gareth Walker, Kryssa Boodram
NGO: Fondes Amandes Community Reforestation Project

Exploring Teenagers’ Perceptions of Climate Change and Its Effects on Public Health in Trinidad & Tobago
Students: Renée Browne, Kefim Scott, Saianna Solomon
NGO: Pointe-a-Pierre Wild Fowl Trust

Perceived Impact the Weather has on Diet and Exercise Patterns of Cardiac Patients Over the Past Ten Years
Students: Arlene Bharat, Kendall Bissessar
NGO: Heartbeat International of Trinidad & Tobago

Special Thanks to:
Vice Chancellor Professor Nigel Harris, Principal Professor Clement Sankat, Deputy Principal Professor Rhoda Reddock and her staff, especially, Ms. Lynette Joseph-Browne for their support. Thanks to Professor John Agard and Dr. Judith Gobin for hosting the Summer Internship Programme, and the staff of the Science & Technology Faculty, especially Ms. Paulette Belfonte. Our sincere thanks and appreciation to the staff of the participating NGOs, without whom this work would not be possible.

Presenters: Ms. Nandi Mitchell, Dr. Bernice Dyer-Regis, Mr. Amilcar Sanatan, Dr. Bennie Berkeley, Dr. Azad Mohammed, Dr. Alan Williams, Dr. Monica Davis, Ms. Michelle Gill, Ms. Myrna Ellis, Professor John Agard, Mrs. Dennise Demming, Mr. Salorne McDonald, Dr. Avery Hinds, Ms. Lynette Joseph-Brown, Mr. Rubadiri Victor, Mr. Gregory Sloane-Seale, Ms. Suelan Chin, Dr. Rohan Maharaj. Special thanks to Ms. Myrna Ellis (Coordinator).
Perception of Water Quality Issues Amongst Users of the Arima Watershed
Students: Nadira Balgobin and Enzo Kinsiona
NGO: Caribbean Youth Environment Network

The Impacts of Industrial Oil Spills on Human Health and the Environment of the La Brea Community
Students: Melyssa Amann, Faith Sookram, Anna Ramnarine
NGO: OilFields Workers’ Trade Union

Vector Borne Diseases and Climate Change
Students: Indira Gopee, Earlisa James, Kevin Callender
NGO: Urbaniseme

Sponsors:
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Effective ways in Mitigating the Effects of Surface Water Runoff in the St Ann’s Area

Gareth Walker and Kryssa Boodram

Fondes Amandes Community Restoration Project; The Arthur Ashe Institute for Urban Health & The University of West Indies, Faculty of Medical Sciences, Trinidad & Tobago

INTRODUCTION

The Fondes Amandes Community Restoration Project (FACRP) was founded in 2006 by Tacuma and Aishah Jameney, resident of Fondes Amandes and a local government officer who was concerned about the health and business environment of her community. The main goal of the FACRP is to engage in reforestation programmes. The major indicator to them that they needed to act for their community was the severe St Ann’s flood in 1998 which ravaged the area. Since the FACRP has been established, no serious flow flood has affected the residents or area of St Ann’s. Also, before the establishment of FACRP, the area was considered one of dry river beds and soil and trees. The environmental conditions made St Ann’s more susceptible to floods, flooding, landslides and flooding and this is linked with surface water runoff.

FACRP is a highly regarded Non-Governmental Organization (NGO) and has served its community extensively well in eradicating the annual forest fires, a yearly ‘grudge’ in the area, amongst many other environmental issues. A forest fire is an uncontrolled fire occurring in vegetation more than 6 feet (1.8 m) in height. They often reach the proportion of a major conflagration and are begun by combustion and heat from surface and ground fires. Forest fires spread rapidly through the top most branches of the trees before involving undergrowth or the forest floor (Botanica, 2006). Their holistic views, combined with the indigenous Kaninye (Carib) ideals of protecting nature and respecting ‘her heritage’ work hand in hand to provide a healthier, safer living environment for the community of St Ann’s.

As the number and susceptibility of settlements and forest fires increases, flooding becomes a natural hazard. Adverse impacts include loss of life, property damage, contamination of water supplies, loss of crops, and social dislocation and temporary homelessness. Though many resistances and increased effect of surface water runoff, there are also measures which have been implemented to stop or reduce these effects. Some of these implemented measures consist of river’s use, erosion and flood control programmes (Jen, S. 2012).

As water runs off the land, it collects contaminants which can alter the metabolic rate of aquatic species. These alterations can lead to death, such as fish kills, or affect the balance of populations present. Other specific impacts are on animal mating, spawning, egg and larval viability, juvenile survival and plant productivity (Skarz, 2002). These contaminants have been shown to have very adverse effects on wildlife and causes horrendous changes to some ecological life.

Discharge into water bodies is a huge contaminant of water. Surface water runoff contains high levels of nutrients, organic compounds, heavy metals, and harmful pesticides and industrial waste. This runoff is produced by rainfall, snowmelt and horticultural activities. The contaminants are altered in their natural state and do not affect the aquatic ecosystems of the area. Knowledgeable professionals are always striving to mitigate the problems caused by surface water runoff.

METHODOLOGY

The primary data were obtained by administering 28 questionnaires to the residents in the Fondes Amandes, St. Ann’s. The resident community comprised of 50 people. Most of the residents recognized a connection between “deep” vegetation and surface water run off, as this barrier reduces or even stops the absorption of water into the soil. The water therefore is not allowed or doesn’t have time to percolate through the soil and be absorbed, and pools up loose sediment. Over time, this sediment builds up so that these water pathways are eventually clogged. This contributes to floods which are known to cause destruction to homes and livelihoods, just as in the St Ann’s area.

Amongst previously established effects of surface water run off, landslides are another detrimental effect. On November 20th 2011, there was flooding in the area of Maraval, Trinidad, which resulted in landslides. The residents of the area who lived in these neighborhoods were affected as a result of the forest fire the early the previous year (Trinidad and Tobago Express, 2011). This was due to a lack of tree, together with heavy downpour. Another contributing factor to landslides is deforestation which is, the process whereby natural forests are cleared through logging and/or burning, either to use the timber or to replace the area for alternative uses (WWF, 2010).

RESULTS

From the graph above, 30% of respondents reported deforestation as the main reason for the flooding in the St Ann’s area, whereas 19% thought it was due to surface water runoff.

CONCLUSION

In conclusion, it was found that the most effective way to mitigate surface water run off in the Fondes Amandes, St Ann’s area, is check dams (based on suggestions by skilled people working with FACRP and our investigations regarding the depth of the soils and its susceptibility to erosion). The check dams can be built by the residents and can be used as a means of checking the water run off. As the residents have complained to the relevant authorities and some measures have been implemented. Authorities have paved the river beds to reduce the amount of sediment washed downstream, resulting in a successful method. If this is so then we may have some forests and communities that have a healthy and sustainable environment.

HYPOTHESIS

Surface water run off is effectively mitigated by check dams.

REFERENCES

Exploring Teenagers’ Perceptions Of Climate Change And Its Effects On Public Health In Trinidad & Tobago
Renée Browne, Kefim Scott & Saianna Solomon
Pointe-a-Pierre Wild Fowl Trust, The Arthur Ashe Institute for Urban Health & The University of the West Indies, Faculty of Science & Technology, St. Augustine Campus

INTRODUCTION
According to the Environmental Protection Agency of The United States (2014), climate change refers to any significant change in the measures of climate lasting for an extended period of time. The Economic Commission for Latin America and the Caribbean (2013) released a paper entitled ‘An assessment of the economic and social impacts of climate change on the health sector in the Caribbean.’ It suggested that climate change affected the fundamental bases of good human health, which are clean air, safe drinking water, sufficient food and secure shelter. In their research, it was discovered that climate change is known to impact health through three dimensions: extreme heat, natural disasters, and infections.

The Pointe-a-Pierre Wild Fowl Trust, founded in 1966, is an independent, environmental, non-governmental organization located within the Petrotrin compound in Pointe-a-Pierre, Trinidad. This organization is involved in research, breeding and translocation of endangered wetland birds into natural wildlife areas in Trinidad and Tobago. The organization also lobbies for improved environmental policies and promotes awareness of environmental issues through daily environmental education programmes.

This research problem was of particular interest to the Pointe-a-Pierre Wild Fowl Trust due to their ongoing passion for education and deep concern about climate change and its impacts on public health in Trinidad and Tobago. The Trust believed that this research project would be a good opportunity to observe how teenagers understand and think of climate change and its effects on public health.

From the findings of this research, teenagers’ awareness of climate change and its impact on public health will be assessed. This will allow for future plans to be made to increase their awareness of this issue.

HYPOTHESIS
Teenagers in Trinidad and Tobago are not fully aware of what climate change is and do not perceive it as a public health concern.

METHODOLOGY
A total of 50 questionnaires were distributed to visitors at the WWF Field, between the ages of 12-18, of an average of 100 visitors who came to the organization daily. These questionnaires were self-administered, and contained 12 quantitative questions. Data results were then analyzed using Microsoft Excel.

Secondary data were also collected via documentaries, internet articles and pamphlets, supplied by the Wild Fowl Trust.

RESULTS
Figure 1: Number of teenagers having knowledge of climate change

<table>
<thead>
<tr>
<th>Causes</th>
<th>Awareness of climate change causes and effects</th>
<th>Typical</th>
<th>Not aware</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rapid spread of diseases such as malaria, dengue and chikungunya</td>
<td>26.7</td>
<td>73.3</td>
<td></td>
</tr>
<tr>
<td>Increased vulnerability to natural disasters such as hurricanes, flooding and landslides</td>
<td>50.3</td>
<td>49.7</td>
<td></td>
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<tr>
<td>Increased in number of cases of cardiovascular and respiratory diseases such as asthma</td>
<td>56.7</td>
<td>43.3</td>
<td></td>
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<tr>
<td>Clearing vast amounts of trees in areas to construct houses and other buildings</td>
<td>16.7</td>
<td>83.3</td>
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<td>Leaving light bulbs, laptop and phone chargers and other electrical appliances on or plugged in even when not in use</td>
<td>33.3</td>
<td>66.7</td>
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<tr>
<td>Using products which contain chlorofluorocarbons</td>
<td>43.3</td>
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<tr>
<td>Impounding and purchasing foreign products</td>
<td>30</td>
<td>70</td>
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Table 1: Teenagers’ awareness of the causes and effects of climate change.

Discussion
The results of this research showed the following: only 50% of the participants actually knew the correct definition of climate change as shown in Figure 1, which implies that more should be done to increase teenagers’ awareness of climate change.

From table 1, most respondents were more knowledgeable about the environmental effects of climate change than the health related effects, thus inferring that not enough has been done to link climate change to health. In linking climate change to public health, 60% of the respondents answered incorrectly in associating Leptospirosis with climate change, but 86.7% answered correctly in linking climate change to environmental issues. Once again, this suggests that there has been sufficient education of climate change having an effect on the environment but not on public health.

CONCLUSIONS
The results of the study were inconclusive, as 50% of the respondents had knowledge of climate change. However, although 50% were aware of climate change, 77% of the teenagers did not believe that climate change affected public health. It was also found that 17% of the participants were under the impression that they do not contribute to climate change.

POLICY RECOMMENDATIONS
Based on the findings of the research, it is recommended that:
- More emphasis be placed in the school curriculum on educating youth about the issue of climate change and its effects on public health
- The government implement more community projects to encourage youth involvement in taking care of the environment
- The government grant environmental organizations subsidies to aid in expanding their youth education programmes
- Social media be utilised as an outreach tool to capture youth’s interest in environmental issues such as climate change and its effects on public health

LIMITATION OF THE STUDY
- The limited sample size prevented the collection of additional data to give a more comprehensive result and accurately represent a wider portion of the population.
- The respondents surveyed only represented four of the eight districts in the country. Therefore, findings could not be generalized to represent the entire country.

REFERENCES


Perceived Impact The Weather has on Diet and Exercise Patterns of Cardiac Patients over the Past Ten Years

Heartbeat International of Trinidad & Tobago

Arlene Bharath & Kendall Bissessar

The Arthur Ashe Institute for Urban Health & The University of West Indies, Faculty of Medical Sciences, Trinidad & Tobago

INTRODUCTION

Heartbeat International of Trinidad and Tobago (HBITT) is a non-profit, charitable and humanitarian organization situated at the Eric Williams Medical Sciences Complex. It was founded to aid indigent individuals. Eligible candidates receive pacemakers and defibrillators free of cost. This project was chosen as a cardiac oriented intervention, selected to use the information obtained to educate heart patients and supply information that can be used by other researchers. Studies are centered around weather changes and how it impacts cardiac patients’ diet and exercise habits.

Roberts (2012) and Lancet (2007) stated that the weather also affects the intake of liquids and foods such as watermelon and other vegetables. Watermelon is 92% water and is an excellent way to stay hydrated and keep cool. The weather also affects the exercise habits of individuals. Individuals who exercise outdoors would be less likely to do so if the weather is too hot or too rainy. The weather also affects the time that an individual may exercise such as very early in the morning or late in the evening, when the temperature is cooler.

The study investigates the impact of weather on diet and exercise habits of cardiac patients. These individuals have been HBITT patients for more than 10 years.

HYPOTHESIS

The weather has an impact on the diet and exercise patterns of cardiac patients.

METHODOLOGY

The study used a structured self-administered questionnaire to collect data from a pool of HBITT patients. This sample consisted of approximately 78 cardiac patients, age 14 and older, using non-probability sampling methods. Secondary information was obtained using previous studies taken from records of HBITT as well as various articles, magazines, and internet sites. The data was also analyzed using excel spreadsheets.

RESULTS

When asked if they knew what a heart healthy diet consists of, 56% of individuals were unaware while 44% knew (see Fig. 1). When asked if the weather affected the availability of food, 37% reported ‘yes’ while 63% said no (see Fig. 2).

Change in weather affected the exercise regime of the 74% of individuals while 26% of individuals reported being undisturbed by the weather’s effect on exercise regimen, as seen in Figure 3. Individuals also reported drinking more liquids on a hot day versus a cold day (see Fig. 4).

Figure 1: Knowledge of heart healthy diet.

DISCUSSION & CONCLUSION

According to Clarke (2013), the guidelines established by the U.S. Department of Agriculture, indicates that the average person’s diet should contain mostly whole grains, fruits, vegetables and fat-free or low-fat dairy products. It’s best to consume meats such as chicken and turkey, along with legumes, eggs, and healthy fats. It is also recommended that portion sizes be limited to control weight gain and reduce risks for cardiovascular.

Studies found that the availability of food was not affected by the weather. Although food was readily accessible, due to the lack of knowledge about the content of a healthy diet, individuals were hindered in maintaining a well-balanced diet.

In agreement with Lancet (2007), the weather also impacts the exercise patterns of individuals, by determining the place, time of day and frequency one exercises. For instance, on hotter and rainy days, individuals preferred to not exercise outdoors. Their liquid intake also increased on hotter days versus rainy days, showing that weather affects the diet/liquids.

CONCLUSION

The weather did impact the diet (liquid and fruits with high water content) and exercise patterns of cardiac patients. Our study showed that the exercise patterns of individuals who did engage in exercise, were disturbed due to rainfall and/or intense heat.

According to McMichael (2006), the weather has impacted diet and exercise over the past ten years. An emerging broader approach addresses a wider spectrum of health risks due to the social, demographic, and economic disruptions of climate change.

RECOMMENDATIONS

- Establish indoor exercise facilities at reasonable membership costs. This is recommended because the heat and rainfall cannot deter an individual once inside an air-conditioned building.
- Educate individuals who do not know what constitutes a healthy diet so that they could access healthy foods.
- Allow for the increased availability of liquids and ‘cooling foods’ such as watermelon and water by vendors, through importing food to have it available year round.

LIMITATIONS OF THE STUDY

1. Patients who were minors and those with speech impairments had to be represented by a relative or guardian during the administering of the questionnaire which resulted in more time allotted to complete the survey.
2. As patients were at the study area primarily for medical attention, many were ill and physically unable to participate in the study.

BIBLIOGRAPHY


PERCEPTION OF WATER QUALITY ISSUES AMONGST USERS OF THE ARIMA WATERSHED

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INTRODUCTION

The Arima Valley is home to 31,301 residents and business owners, (Trinidad and Tobago Human Development Atlas, 2012), most of whom receive their supply of water from the Arima river. Pipe-borne water is provided to residents in the Arima area by the Aqueduct System (WASA) which is the responsibility of the Water and Sewerage Authority of Trinidad and Tobago (WASA). According to the Environmental Protection Agency (EPA) “a watershed is the area of land where all of the water under it or draining from it goes into the same place (EPA, 2012).” There are four quarries and one agricultural estate located north of the Arima Valley. Due to quarrying and agricultural activities on the watershed, water quality in the Arima watershed, presents a threat to the sustainability of this resource and poses a public health challenge particularly to those relying on this watershed as their primary source of water. The presence of these quarries and agricultural estate, presents a challenge to the quality of water accessed by residents and business operators downstream. A study on environmental issues (Perez 2012) highlighted the negative impact of quarrying and agricultural activities on the Arima watershed. The results of the study indicated “increased amounts of total suspended solids in the river water” downstream of the quarries and agricultural estate. Furthermore, a proposal by the Trinidad & Tobago chapter of the Caribbean Youth Environment Network (CYEN-TT), the organization’s formative data highlighted the beliefs of residents of the Arima area that “the high levels of dust, in the valley, due to quarrying activities, especially in the dry season, caused illnesses such as asthma and sinusitis”.

CYEN-TT, a non-profit, voluntary organization aims to empower youth to address socio-economic and environmental issues impacting their communities. Working with CYEN-TT aims to assist communities in preserving and conserving their natural resources. Any compromises to the quality of water in the Arima watershed presents a threat to the sustainability of this resource and poses a public health challenge particularly to those relying on this water shed as their primary source of water.

In order to evaluate the quality of water accessed by residents in the Arima watershed, a study was conducted to assess residents’ perception and knowledge of water quality. The study was developed by the student research team and finalized by CYEN-TT consisting of 22 questions, both open and close-ended. The survey questions were administered in person with the exception of a few, for which the research team piloted an electronic version, administered through the social media tool Facebook. Particular attention was taken to obtain informed consent from study participants, to clarify that researchers were independent of any institution other than CYEN-TT and to ensure that responses were confidential.

METHODOLOGY

This study employed a survey methodology (structured) to investigate perception and knowledge of water quality amongst users within the Arima watershed. The assessment tool, which was developed by the student research team and finalized by CYEN-TT consisted of 22 questions, both open and close-ended. The survey questions were administered in person with the exception of a few, for which the research team piloted an electronic version, administered through the social media tool Facebook. Particular attention was taken to obtain informed consent from study participants, to clarify that researchers were independent of any institution other than CYEN-TT and to ensure that responses were confidential.

Using the sample size calculator (www.surveysys.com), and based on the population size of Arima, the study sample size of 96 was determined with a confidence level of 95% and confidence interval of 10. Surveys were administered in the Arima Downtown area known as ‘the dial’, the hub-bub of commercial and transportation activity and Verdant Vale, a rural area, on the outskirts of Arima. All data were collated and analyzed using Microsoft Excel, and then used to test the hypothesis. All ethical considerations inclusive of pre-approval and anonymity were observed.

RESULTS

Seventy-one surveys were administered with a participation rate of 89%. Thirty-seven (37) responses were obtained from the Arima Downtown community and seventeen (17) from the Verdant Vale Community. In addition nine (9) questionnaires were administered through social media (Facebook). Of the total number of respondents, 25 were male and 38 females. Of the 63 participants, 76% indicated that they received pipe-borne water, while the remaining 24% did not receive water via pipes. Of those receiving pipe-borne water (76%), the average number of times water was reported as available via pipe was 3 times per week.

To assess knowledge, researchers attempted to gauge: (1) participants knowledge of their water source; (2) knowledge of key water terminology and (3) knowledge of safe water treatment procedures. Based on the data collected, the largest number of respondents (47%) incorrectly selected WASA as the primary source of water. The correct response, rain was selected by 22% of the respondents. River accounted for 21% and other 10% of the remaining responses.

CONCLUSION

Figure 1 illustrated that 95% of the respondents incorrectly defined the term watershed therefore having little knowledge of the term watershed, while 5% of the respondents provided a correct definition for the term watershed. As seen in figures 2 and 3, of the 63 respondents, the majority (52%) indicated that they did not have a comfortable or very comfortable feeling using the water that they received for cooking or drinking. Of this 52%, 36% were not comfortable at all or very comfortable with the water, they believed that they should treat the water before drinking or using it for cooking. Only 36% of those who originally indicated being comfortable/very comfortable, believed that they did not have to treat the water before cooking/drinking.

RECOMMENDATIONS

Greener efforts are required by WASA to ensure their water quality reports are readily available to the public general to enhance knowledge and increase awareness of water quality issues.

• Programs such as the ‘WASA Design and Build’ which is geared towards promoting purification and conservation of water. Responsible secondary schools should be advertised in a greater way to promote youth involvement with current water issues.

• Stringent policies should be implemented and enforced upon National Quarries and Christophene farmers to prevent run-off of fertilizers and sediments contaminating the water supply and decreasing water quality. Also setting ponds would be useful in preventing water contamination in the river.

LIMITATIONS OF THE STUDY

The results of this study cannot be generalized since the target sample size of 96 (representative of the people residing in Arima) was not met. The study evaluated residents’ perceptions and was not based around actual content.

BIBLIOGRAPHY


THE IMPACTS OF INDUSTRIAL OIL SPILLS ON HUMAN HEALTH AND THE ENVIRONMENT OF THE LA BREA COMMUNITY, TRINIDAD

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INTRODUCTION

According to Wikipedia (2014), oil spill can be defined as the release or leakage of liquid petroleum hydrocarbons into the environment. It usually seeps into adjacent water bodies often presenting a hazard to the affected societies and environment. Trivial discharge of these chemical substances into the atmosphere can pose many threats to both humans and to the natural environment. Humans can acquire a number of health ailments as a result of oil spills and the environment is also adversely affected.

The oil spill which is the focal point of this research project transpired on December 17th 2013, in the Gulf of Paria along the west coast of Trinidad, at a refinery belonging to the national company Petronin. 7435 barrels of high sulphur fuel oil were released into the environment. This event drastically affected the La Brea community located on the south-western side of the island.

According to Lennerts (2014), exposure to sulphuric substances can have detrimental effects on human health including neurological effects and behavioural changes, disturbance of blood circulation, heart damage, effects on eyes and eyesight, reproductive failure, damage to immune systems, stomach and gastrointestinal disorder, damage to liver and kidney functions, hearing defects, disturbance of the hormonal metabolism, dermatological effects, suffocation and lung embolism. Along with these ailments, oil spills in general cause several adverse health conditions such as skin irritation, nausea and vomiting, respiratory problems, liver diseases and cancer.

An article by the Government Accountability Project (GAP) (2013) stated that the oil dispersant Corexit 9002, which was used by Petronin to emulsify the crude oil during their clean up, poses severe threat to human health. Common side effects include blood in urine, heart palpitations, kidney damage, liver damage, migraines, multiple chemical sensitivity, neurological damage resulting in memory loss and rapid weight loss. Furthermore, according to the United States, Incident Command System, oil spills cause injury and death to countless marine animals and wildlife and can also cause long term damage to fragile ecosystems such as those within mangroves and coral reefs.

The Oil Workers’ Trade Union, founded in 1937, seeks to ensure that working class individuals are awarded equal rights and fair treatment and that optimum safety conditions are maintained in the work environment. Moreover, this non-government organization has a keen interest in the social conditions within the community, which, in this instance is primarily healthcare. As a result, the organization has invested many resources into investigating of this disaster and its impacts.

HYPOTHESIS

The industrial oil spill has extensive negative impacts on the environment and health in La Brea, Trinidad.

METHODOLOGY

The focus of this preliminary study was to determine the validity of the research hypothesis. The research team worked with the Oil Workers’ Trade Union and carried out a quantitative study. A questionnaire was developed inclusive of sixteen closed ended and one open-ended question. This open-ended question allowed respondents to provide specific additional detailed information.

This research included a pre-study which comprised of secondary data obtained from the internet, reports and newspapers. A session was then granted to the research team and Comrade Cole Keser (an OWTU representative) to obtain an endorsement and consent for distribution of the questionnaires.

Primary data were obtained using 45 questionnaires. Three sites at La Brea were selected and 15 questionnaires were administered at each site. Only one person per household was selected. These locations ensured a wide spread of data, and that the affected residents of the La Brea Community were properly represented. A codebook was developed to analyze the data using Microsoft Excel. Charts, graphs and illustrations were utilized to present the data.

RESULTS

<table>
<thead>
<tr>
<th>Type of Health Ailments</th>
<th>Percentage of Respondents with Health Ailments</th>
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<tbody>
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<td></td>
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</tr>
<tr>
<td>(%) Respiratory</td>
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<tr>
<td>(%) Skin</td>
<td>30</td>
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<tr>
<td>(%) Eye Infection</td>
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<td>(%) Fatigue</td>
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<td>(%) Migraine</td>
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<td>(%) Blood Loss</td>
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DISCUSSION AND CONCLUSION

HEALTH

Before the oil spill, 60% of the sample population reported no health problems and were considered healthy. Immediately after the spill, only 22% of the population reported themselves as still healthy, all of whom lived beyond 2 miles from the affected area. This means that the remaining 77.8% of the population, all of whom lived less than 2 miles away from the spill, reported acquired health problems or had worsened symptoms of ailments after the spill.

PROPERTY

100% of households in Coffee Beach had damages done to either their vehicles(33.3%), clothes(55.6%), and/ or clothing(20%). Two households from other areas also reported having damages to their boats which were tied in the water at the time of the spill.

ENVIRONMENTAL STATE

48% of the sample population described the environment immediately after the spill as severely damaged, 51% described the present state as normal. Of the households less than 2 miles away from the spill, 76.7% of residents described the environment immediately after the spill as severely damaged. Presently, 43.3% said that the environment still hasn't returned to a normal or minimally damaged state.

POLICY RECOMMENDATIONS

In order to prevent similar incidents in the future, steps to minimize disastrous events posing a threat to human health. Also, contingency plans established to clean up oil spills should exclude harmful oil dispersants such as Corexit 9500A, which poses a threat to human and animal life.

LIMITATIONS OF THE STUDY

- A number of participants were illiterate and thus the questionnaire had to be administered orally.
- Some residents of La Brea were hesitant to disclose information as the subject matter was sensitive to them.
- The participants bias towards the issue at hand may have influenced their answers to the questions and their objectivity may have been compromised.

BIBLIOGRAPHY


INTRODUCTION

Climate change, as defined by the ENSGA Technology group, states that “climate change is a long-term change in the distribution of weather patterns over periods of time that range from decades to millions of years.” (Rajkumar, 2011) By this definition, the Earth’s behavior can cause problems in society due to the uncertainties changing being experienced. The Global Humanitarian Forum (GHF) reported a 2010 model that 31.5% of people die due to climate change every year, and they predict this will rise to 1 in 3 by the year 2030.

According to Center for Climate and Energy solutions, a vector-borne disease is “a pathogen that results from an infection transmitted to humans and other animals by blood-feeding arthropods such as mosquitoes, ticks, and fleas. Injuries of vector-borne diseases include Dengue fever, viral encephalitis, Lyme disease, and malaria.” (solutions, 2012)

Trinidad and Tobago experienced two occasions, a dry season and a rainy season. Increased rainfall due to climate change allows more breeding sites and increased water of vector population (DoN, 2016). There is increased water survival due to increased humidity. Increased water survival allows for increased transmission and vector host-seeking and vector transmission. In another study, however, blooming sites may also be washed away by heavy rainfall. As a result of these increased vulnerabilities for water build up, there is an increased opportunity for mosquitoes to breed. This also makes available a chance for an increased spread of mosquito-borne diseases.

HYPOTHESIS

Increased rainfall due to climate change increases the opportunities for breeding grounds for mosquitoes, which may in turn increase the chances of the spread of mosquito-borne diseases.

METHODOLOGY

The primary data were collected using quantitative methods, participant observation, and map analysis. The questionnaire was administered to residents and business personnel of South West, Trinidad. The population at this southwestern district is approximately 20,000 residents and the sample size was 30 respondents. The questionnaire consisted of 17 questions, and by using a map, the respondents were able to identify locations where they have been visited to mosquito-breeding sites.

RESULTS

Of the 30 questionnaire respondents, 44% were males and 56% were females. 91% of the respondents felt between the age category of 16-50, while 8% of the respondents were 50 years or over. 35% of the respondents studied up to a tertiary level of education, while 66% of the respondents completed studies at the secondary level.

In figure 1, we can see that 43% of the respondents reported that they have noticed more intense rain this rainy season as compared to last year. The remaining 57% were unsure of whether a change in intensity actually occurred. Although the larger population stated that they observed an intensification of this year’s rainy season as compared to last year, it is possible that changes were not very prominent on the basis that 39% did not agree, and that 18% were totally unsure. This implies that there was not much change in observation.

In figure 2, we can see that 48% of the respondents reported that they have noticed more intense rainfall causing more breeding grounds for mosquitoes. The remaining 52% were unsure of whether the rainfall intensity caused more breeding grounds for mosquitoes. It was understood that they had this perception by taste of observation, as it is easier to notice more mosquitoes in their residential area present this rainy season.

In figure 3, we can see that 53% of respondents believed that there was heavier rain, 27% observed increased frequency of mosquitoes, and 23% observed increased frequency of rainstorms. 78% of the respondents said yes, 19% reported that they did not observe this, while 14% were unsure of whether the changes were caused by rainfall.

CONCLUSION

Based on the findings of this study, the intense rainfall that caused widespread flooding because of the year-long wet season will increase the breeding grounds of mosquitoes, thus increasing the mosquito population. With an increased mosquito population, it will make the mosquito-borne diseases more likely. The hypothesis was therefore proved.

RECOMMENDATIONS

- Residents should spray regularly to prevent mosquitoes which may carry diseases in their area.
- Dwellers should clean and clear essential sources like the water collection in the area.
- Animals identified on map.
- Have eradication programs in communities, schools or villages to inform the public about mosquito-borne diseases and proper eradication methods.
- Cover or remove any open containers from the area.

LIMITATIONS OF THE STUDY

The target group, to which the research was distributed, only had 20 participants; it was not very representative of the research area.

Meet with respondents to answer the questionnaire and discuss the research.

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