

hypothesis

empirical



experiment

**THE UNIVERSITY OF THE WEST INDIES**  
FACULTY OF MEDICAL SCIENCES  
DEPARTMENT OF PARA-CLINICAL SCIENCES  
PUBLIC HEALTH & PRIMARY CARE UNIT

qualitative

review

theoretical

methodology

study

experiment

**18th ANNUAL**

**MEDICAL STUDENTS'**  
research problem  
**RESEARCH DAY**

theoretical

data

discovery

experiment

**Thursday 1<sup>st</sup> October, 2015**

logic

scientific

discovery

findings

**Amphitheatre A & B**

**Eric Williams Medical Sciences Complex Mt. Hope**

results

**8:00am – 4:00pm**

statistic

analysis

testing

theoretical

# Foreword

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The 18<sup>th</sup> Annual Medical Students' Research Day presents an opportunity to the University community and stakeholders to appreciate the work medical and dental students have undertaken as part of the Public Health curriculum during the second year of their medical and dental programmes.

This supplement presents the abstracts from the research undertaken by thirty-six groups of Year 2 Medical and Dental students. The research projects undertaken all have relevance to Public Health and students are advised to share their findings with the relevant stakeholders to inform and improve health policy and practice where applicable.

The Unit of Public Health and Primary Care would like to acknowledge the Head of Department, Dr AVC Rao, the Dean of the Faculty, Professor Terence Seemungal, the Medical Sciences Library, the Ethics Committee, CMSE and supervisors for their time and commitment to the students and the programme.

**The extent to which academic research has influenced policy development in the Caribbean countries of The Bahamas, Guyana and Trinidad and Tobago.**

The Policy Developers: *R Deonarine, A Dev, R Deveaux, J Dhalai, D Dookeran, C Dorsett, N Dowridge, A Earle, E Haqq, S Pooransingh*

**Background:** Based on the 2012 Pan American Health Organization published reports, a descriptive background was constructed for The Bahamas, Guyana and Trinidad and Tobago. This study will focus on the policies of the communicable disease<sup>1</sup> (CD) HIV/AIDS, non-communicable disease (NCD) Type II Diabetes and Hypertension and as a result of globalization which stimulated, the vector-borne diseases of Dengue and Chikungunya in the aforementioned countries

**Objective:** The objectives of this study are (i) to examine pre-established policies related to HIV/AIDS, Type II Diabetes and Hypertension, and Dengue and Chikungunya, in The Bahamas, Guyana, and Trinidad and Tobago and how their formation and revision have been impacted upon by academic research (ii) to examine the ability of published academic research to directly contribute to health care policy (iii) to assess the extent to which there is compliance of related Caribbean policies with standards outlined by the PAHO and (iv) to determine the influence of policies as they relate to amending current issues in healthcare.

**Method:** Through consulting literature specific to understanding the policy development process and the role research can play in guiding that process, our study utilized a questionnaire and contact with personnel in the Ministry of Health-Policy Planning and Development Department- of our countries of study as means of gaining both insight and understanding into the policy-making process. From the answers to the questionnaires and follow-up meetings with these persons, we were able to determine why it is important for the process to be guided by research and at what stages of the process the research might be most effectively applied.

**Results:** The 3 countries indicated that their policy makers are government ministers/members of cabinet and that the sources used in their process are: WHO, PAHO and CDC guidelines. Trinidad and Tobago (T&T) and Guyana (GUY) also included medical professionals as policy makers and government-based academic research as a resource. When finalizing a policy, the countries consider the overall impact, benefits, legal framework, current research and resources available, together with the cost of implementation.

The organizations responsible for providing policy makers with information in the policy-making process are: Bahamas (BAH) - the Ministry of Health; T&T- UWI, PAHO, WHO and CHRC; and GUY- universities and hospitals. Percentage reliance on that research were - BAH: 81-100%, T&T: 61-80% and GUY: 41-60%. The countries indicated that academic research is integral to the policy-making process (especially with regards to our focus diseases) and rated its relevance to the process on a scale from 1-10 as: T&T-8, GUY-8 and BAH-9. The countries stated that while there are not adequate resources for academic research locally, international resources are relevant to their process. Concomitantly, limited financial resources, research tools and human resources were cited as barriers to the wider use of research in the policy-making process. To meet international standards, despite limited fiscal resources: GUY depends on international standards; T&T uses experiments and secondary information; and BAH uses a collaborative approach.

**Conclusion:** Academic research has had an influence on the development and implementation of policies specifically those related to HIV/AIDS, Type II Diabetes and Hypertension and Dengue and Chikungunya in the Caribbean countries of The Bahamas, Guyana and Trinidad and Tobago. Despite, limitations with regards to policy makers, as these are either political or cabinet ministers, and the lack of systems present for incorporating academic research findings into health policies, each country overcomes this by either depending on the use of secondary information and countrywide experiments (Trinidad and Tobago), the adoption and adaptation of guidelines from the WHO/PAHO/CDC and CHRC (Guyana) and the collaboration and synergies with local and international partners (The Bahamas).

## Child Survival in Trinidad. Are we achieving Millennium Development Goal 4?

Eagles: *Q Bacchus, A Badall, V Badasee, A Bahadur, C Bain, H Baksh, K Balfour, B Baptiste, A Bates, K Mungrue*

**Background:** Under five mortality, a research topic that has increased in popularity since the World Summit for Children in 1990 can be seen as a potential indicator of the progress of human development around the world. This is because accurate statistics on child mortality rates not only identify the leading causes of death in children for a particular region, but also assist in developing possible solutions and/ or recommendations to further reduce the rate of child mortality.

**Objective:** The purpose of this study is to use the data obtained from all available sources (vital registration systems, hospitals, and ward records, etc.) for the time period July 2013 to June 2014, to assess the levels and trends of child mortality in Trinidad as well as explore key factors associated with child mortality in the country.

**Method:** A database of mortality in children younger than 5 years in Trinidad from July 2013 to June 2014 was compiled by acquiring the registration number and name of each suitable candidate from the death records. This information was used to obtain the medical record file for each death. Clinical details surrounding the birth and death of each candidate were obtained from each file including date and cause of death. A record of all under-five deaths was obtained from the Trinidad and Tobago Central Statistical Office which was used to calculate under-five mortality rate for this period.

**Results:** Results of findings including gravidity, parity, type of death, APGAR score, maternal age, and birth weight were investigated. These factors were found to affect the risk of under-five mortality in Trinidad. The most common cause of death in under-five children was disorders relating to short gestation and unspecified low birth weight (ICD 10-P02). The under-five mortality rate was calculated to be 18.4 per 1000 live births.

**Conclusion:** Despite the major progress in the reduction of infant mortality rate in Trinidad & Tobago, the goal of reducing under-five mortality by two-thirds is unlikely to be attained by the end of 2015. Further development in Children's Healthcare services specifically for perinatal and neonatal infants is required to improve the health status of the country by achieving lower under-five and infant mortality rates.

## Transitioning from public health to planetary health.

Melting Clocks: *S Bathi, S Bathi, S Bhagoutie, C Bhagwat, O Bhola, A Birbal, E Bissoon, S Blache, S Maharaj, S Pandey*

**Background:** Presently, public health systems face numerous challenges globally despite their successes over the years. This led to the introduction of a new concept called Planetary Health that promises to bridge the gaps in public health by more effectively dealing with these challenges and offering a holistic approach to health that includes all organisms on earth and the environment. The details of planetary health are largely unknown due to lack of data. However it is believed by some that a transition from public health to planetary health is the best way forward for the future.

**Objective:** The objectives of this study are: (i) to analyze the existing structure of the public health system including its limitations and challenges. To critically assess the planetary health concept and ascertain the need for the proposal which has been put forward for a transition from public health to planetary health and (ii) to examine the applicability of planetary health to the Caribbean.

**Method:** A descriptive study, also called a co relational/observational study, was conducted to obtain survey data from a sample of 140 directors/professors of public health organisations and programs of universities/schools in the English-speaking countries of India, Europe, the UK, the US, the Caribbean, New Zealand, Australia and Canada.

**Results:** Public health sectors face many challenges such as insufficient funding (89%) and lack of public awareness (77%). The majority of persons (68%) agree with the definition of planetary health and 84% indicated that it will have a positive impact in their region. Many steps need to be carried out in transitioning to planetary health such as increasing public awareness/education (34%), a joined effort (15%) among all people and worldwide organisations, such as the World Health Organisation & World Bank, and international dialogue among heads of Government (76%). The anticipated challenges in the transition are those such as funding (82%) and lack of Government and corporate support (14%). Planetary health is thought to be feasible in the Caribbean by 77% and it is believed by 60% that organisations from around the world will assist the region in this transition.

**Conclusion:** Overall, planetary health is perceived as being beneficial as the present public health system presents many challenges. However, proper planning must be undertaken in order to determine the steps/strategies needed and how to effectively deal with the challenges that may emerge in the transition. Planetary health may be feasible in the Caribbean Region with the support of international organisations.

4

### **Public's Perception of the risks of donating and receiving blood.**

*The Blood Drivers: S Eligon, K Ellis, L Ernest, H Esack, M Farrow, C Figaro, D Fyzoudeen, N Gajadhar, K Charles*

**Background:** Within Trinidad & Tobago and even worldwide there exists a blood shortage as a result of a lack of voluntary blood donors. The impact of the public's negative perceptions on their willingness to donate is the root cause of this shortage. Many other factors such as age, gender, religion and other demographics also influence the perceptions held by and hence willingness of an individual to donate.

**Objective:** To examine the perceptions of the risk involved in donating and receiving blood and how they contribute to the willingness to voluntarily give/receive blood by the following objectives: To evaluate the public's level of perceived risk related to donating/receiving blood, to assess the variation of these perceptions amongst different demographic groups and to pinpoint the media's role in educating the public on the need for blood donations and whether it will influence voluntary blood donations.

**Method:** The study design involves a cross sectional study of the general public of Trinidad in which data collection was acquired via simple random sampling from members of the general public. Further, this study can be referred to as a Knowledge, attitudes and Practices (KAP) survey, as it aims to collect information via the use of questionnaire on the premise of: Knowledge- What is known about blood transfusions/donations; Attitudes- Reasons for certain attitudes present and how subjects feel about the topic of discussion; and Practices- Observable actions subjects have taken.

**Results:** The sample size of the study was exactly 300 respondents, 27.3% of whom had previously donated blood and only 10.7% of whom had previously received. Of those who had previously donated 36.6% were informed about the process, compared to 22.5% of those who did not donate. A similar trend was seen with those receiving blood. 44% of males agreed that their perception not affect their decision to receive blood as opposed to females (28%). 48.8% possessed tertiary level education are more aware of the blood shortage and who also perceived a lower risk in blood donation than the other educational levels. 66.3% believed that they would not get an infection from blood donation compared to 74.3% who believed that they would get an infection from blood transfusion. Additionally, almost 80% of the respondents believed that the media plays a role in influencing and encouraging individuals to donate in the future.

**Conclusion:** After careful research, the public's perception of the risk of donating and receiving blood was examined and it was found that most respondents were concerned about the risk of transmission of infectious diseases which was an evident indicator of the absence of proper knowledge of the donation and transfusion process. This posed to be a significant contributing factor to the reluctance of an individual to not only donate blood but to also receive it. On the other hand, there were responders who believed that the risks were minimal and despite this, were willing to donate freely. The presence of volunteered donors was not so prominent and it was seen that replacement donation was the predominant means of donation in Trinidad as some individuals expressed that they would only donate for relatives when needed. The use of media as an avenue to convey information with regards to the process of donating and receiving blood can enhance the quantity of donors through the proper dissemination of information to all demographic groups and therefore transform the system from one of replacement donation to that of a volunteered system.

## **The knowledge, attitudes and beliefs of undergraduate medical and dental students towards dental treatment during pregnancy.**

*Oral Guardians: L Deyalsingh, T Ford, T Hector, N Ramlogan, D Ramsahai, M Thorpe, R Balkaran, A Bissoon*

**Background:** Pregnancy is associated with an increased risk of oral conditions such as dental caries, pyogenic granulomas, mobile teeth, gingivitis and periodontitis (Silk et al, 2008). In general, little is known about health care professionals' knowledge and attitudes regarding oral health care during pregnancy (Alves et al 2012) and to the best of our knowledge, there is no such information for undergraduate dental and medical students. Therefore, the knowledge, attitudes and beliefs (KAB) of dental and medical students is important to decrease the paucity of information on this topic.

**Objective:** To determine the knowledge, attitudes and beliefs of undergraduate pre-clinical medical and dental students; at the University of the West Indies, towards dental treatment during pregnancy.

**Method:** All first and second year students attending the University of the West Indies, Schools of Dentistry and Medicine were invited to participate in a self-administered questionnaire. The questionnaire was based on a validated one used in a similar study by Suri et al 2014 and was piloted on the dental interns at the School of Dentistry for item clarity.

**Results:** 277 students participated in the study. Mean age 20.6 years, 53.8 % female, with the major ethnic groups showing 56.2 % Indo-Trinidadian and 21% Mixed. Some (12.3 %) thought that swollen gums were associated with pregnancy, while 28% of participants felt that bleeding gums were not associated with pregnancy. Few (10.9%) thought that oral disease was associated with preterm birth. The majority of participants (61.8%) felt that it was safe to conduct dental examinations during pregnancy however, 27.6% of the participants felt that radiographs were safe during pregnancy. The majority (54%) were uncertain whether pregnancy was associated with tooth decay. More than a third (38.6%) did not believe that pregnancy was associated with tooth loss. More than three quarter of the students (77.9%) were unsure whether oral disease was associated with pre-eclampsia.

**Conclusion:** These data provide the first insight into the knowledge, attitudes and beliefs of pre-clinical, undergraduate dental and medical students on pregnancy and oral health in the Caribbean. The holistic approach of modern day medicine gives direct indication to the importance of correspondence

given that the knowledge of the participants in this study was low, our findings, illustrate the need to educate not only dentists, but also all future health professionals at the preclinical level on the correlation between dental health and pregnancy and the importance of the effects of dental treatment on systemic diseases.

6

## **The effects of poverty on risk taking behaviour .**

*Google MDs: C Lutchmansingh, A Mahabir, C Mahabirsingh, L Mahadeo, K Mahadeo, C Maharaj, M Maharaj, P Maharaj, R Maharaj, F Youssef*

**Background:** It is incontestable that poverty has the ability to affect a person's physical health in terms of diseases. Modern research however has been centralized on the impact of poverty on an individual's psychological health. The burden of poverty restricts an individual's physical and mental dimensions. This may impair judgment and such individuals are prone to impulsive and risky behaviors. Consequently, this can have an antagonist affect on their health.

**Objective:** The aim of this study is (i) to determine if exposure to a poverty prime affects alcohol consumption (ii) to determine if exposure to a rich prime affects alcohol consumption (iii) To determine if poverty prime affects behaviour on the Balloon Analogue Risk Task (BART), a computer measure of real world risk taking behaviour.

**Method:** The study sample consisted of 40 students between the ages of 18-23 from the University of the West Indies, St. Augustine. Students were assigned to either a rich or poor priming group. They were primed with pictures depicting either poor houses or rich houses via the software E-Prime and were given a series of questionnaires to determine their current psychological state. A taste test, using juice and beer, as well as a Balloon Analogue Risk Task were used as a measure of risk taking behavior. All data was analysed with IBM SPSS Statistics Software.

**Results:** Individuals 'primed' to a rich environment drank  $54.4 \pm 10.9$  mls of juice on average, in contrast to  $34.0 \pm 5.9$  mls consumed by those primed to poverty. This difference was not statistically significant,  $p=0.15$ . However, the volume of alcohol consumed was reversed for those primed to a rich environment whereby consumption equaled  $18.5 \pm 3.1$

of alcohol as opposed to the poor primed group that consumed almost twice as much at  $33.1 \pm 7.7$  mls. There is a significant difference between the volume of alcohol drank at the 10% level of significance,  $p=0.06$ . The results recorded for the BART showed the average number of pumps per balloon for the balloons that did not burst was  $30.4 \pm 2.8$  for the 'rich primed' group. For the 'poor primed' group this value was  $27.4 \pm 4.4$  indicating no significant difference between these two groups,  $p= 0.56$

**Conclusion:** Findings of this research deviated towards the conclusion that the wealthy or impoverished environments influenced decision making competence and psychological behaviour. The experiment conducted provided minor but significant evidence supporting the claim of previous research. Poverty negatively influences cognitive function and subsequently decision making, thus, this study can be considered as a step towards gathering more information in order to develop strategies to help eliminate poverty and the consequences associated with poverty.

7

### **The perception of public healthcare vs. private healthcare among doctors, nurses and the public.**

*99 Problems but Public Health Ain't One: D Cleare, D Coeea, C Cooper, C Cooper, D Creary, K Cudjoe, H Daniel, A Dawar, N Debideen, B Deonarine, S Pooransingh.*

**Background:** Most people ardently express their concerns about healthcare and the opinions of public and private institutions vary greatly. This should be assessed to identify areas of improvement.

**Method:** This is a cross sectional study. A questionnaire for doctors and nurses was disseminated via cluster sampling. Another was given to the public by random and convenience sampling.

**Results:** Throughout all sample groups, the majority of persons would attend a private institution in preference of a public when in need of care.. Improvements can be made in both sectors. In the public institutions, respondents saw a need for faster and better service as well as more staff and physical resources. Private healthcare could be improved by lowering price so in lieu of cost, most respondents made this choice.

**Conclusion:** The majority of the doctors, nurses and the public hold the perception that better healthcare can be obtained in private institutions rather than public institutions.

8

### **An assessment of the Pharmacy Regulatory Framework in Trinidad and Tobago.**

*Pharm Police: N Cassim, S Chaitoo, C Chang, C Changoor, A Charles, C Charles, R Charles, T Chattoor, T Choya, A Clarke, S Maharaj*

**Background:** Every individual is entitled to the best standard of healthcare possible. Access to high quality, safe and effective drugs is fundamental to achieving this. The Medicine Regulatory Authority (MRA) in Trinidad and Tobago (T&T) upholds the Pharmacy Regulatory Framework (PRF) and having such a framework is vital in ensuring that pharmaceutical products meet these criteria. The World Health Organization (WHO) last assessed the PRF of T&T in 2012. This study intends to identify gaps present in the current system in 2015, focusing on the Marketing Authorization and Licensing Arms.

**Objective:** The purpose of this study was to conduct an assessment of the Pharmacy Regulatory Framework (PRF) in Trinidad and Tobago. To determine the current gaps within the Market Authorization and Licensing Arms of the MRA in T&T. To make recommendations and to propose an assessment model for improving the existing PRF.

**Method:** An audit was conducted to assess the Marketing Authorization and Licensing arms of the PRF. Primary data was collected using a structured questionnaire adapted from the WHO administered as well as face to face interviews with key informants. Secondary data was collected from archival information. Relevant documents including country profile reports and legal acts as well as other reports of other studies available were used throughout the investigation. Data was analyzed using a qualitative approach.

**Results:** Both performance and knowledge gaps were identified throughout both arms under the sections of legal provisions, guidelines, organization and structure, assessment procedures, human and other resources, records and output, and the availability of information. The identified gaps were addressed using proposed recommendations and a self-design model.

**Conclusion:** Performance and knowledge gaps are present in the current PRF in T&T, signifying the need to implement changes that ensures the safety, quality and efficacy of pharmaceuticals. Infrastructure, transparency, implementation, communication, monitoring and evaluation are pillars in ensuring quality service delivery, and improving public health outcomes. Using these pillars, an assessment model was developed which aims at improving the current regulatory framework.

9

### **Community perception of blood usage.**

Blood Links: *N Alsuran, M Alves, O Andrews, A Angard, D Archer, R Arjoonsingh, D Armorer, S Atwaroo, R Austin, A Baboolal, K Charles*

**Background:** Blood transfusions are done in hospitals everyday to save lives. This blood is obtained from voluntary blood donors that donate blood to be stored. If blood is constantly being used, it needs to be replenished as often as possible. However, in countries such as Trinidad, and other developed and undeveloped countries, there is a shortage of stored blood due to the unwillingness of the population to donate blood. This is due mostly to misinformation about blood donating, as well as, wrong perceptions on the usage of donated blood in the country.

**Objective:** To gain knowledge and understanding on Trinidadians' perception of blood usage. Objectives: to find out what the community thinks about blood usage and hence analyse the data and assess how this perception varies amongst various groups in society.

**Method:** A KAP study was carried out in north, south, east, west and central Trinidad. Five hundred (500) questionnaires were filled out by members of the community, whom were chosen by random sampling. The participants had to be within the ages of 18-65 and of various ethnicity and backgrounds.

**Results:** It was found that the majority of the community, regardless of their ethnicity, age, occupation or educational level, thought that blood was mostly used to treat surgical patients (87.4%). The least perceived use of blood was thought to be treating criminals (26.2%). Of those that responded it was seen that the participants that had donated blood previously (22.6%) were more knowledgeable about whole blood than the non donor respondents (76.2%).

**Conclusion:** The most common perception of blood usage, in the community, is that blood is most used to treat surgical patients. It was also found that this perception is constant and independent of the demographics of a person.

10

### **Public opinion on donating of DNA samples for genetic research.**

P.O.D.S.S.: *J Oji, C Oliver, P Paltoo, J Pariag, A Persad, A Pheerangee, M Phillips, C Pierre, A Roach*

**Background:** The proliferation of genetic research within the last decade due to recognition of its medical significance and applications has spawned bio banking initiatives worldwide. Nevertheless, a plethora of social, legal and ethical issues have presented as hindrances in the inception of viable genetic research here in the Caribbean. In order to address these issues and move Trinidad and Tobago into an era of Genetics, we must first be aware of public opinion on these issues, as this is the key to initiating their involvement and designing research methods appropriately.

**Objective:** To assess the factors that affect the public's willingness to donate tissue samples for genetic research by weighing which conditions influence their decision to donate, determine their knowledge of genetics, and their attitudes toward genetic research and testing, and some of its social implications.

**Method:** A cross-sectional study involving a Knowledge, Attitude and Practice (KAP) questionnaire survey administered on a sample population of the general public. The sample size was 450 (18<Age<65) persons taken at six public locations throughout Trinidad.

**Results:** Overall the sample (n=450) was moderately educated on general aspects of genetics and heredity, however did not know specifics of gene properties. Only a minority of the participants admitted that they were well-informed on the issues of DNA testing and its significance. Although almost half of the participants were willing to donate, this willingness was conditional on issues such as sample type, privacy issues, use of sample by third party organizations, personal and family member diseases status and where the sample would be analysed.



Generally people had positive attitudes toward genetic research and its implications in medicine but were either neutral or didn't know much about the social implications of genetic testing.

**Conclusion:** This study suggests that in order for the introduction of genetic research and the bio-banking industry into Trinidad, the public must be further educated on relevant issues pertaining genetics which would directly affect their daily lives and allow them to make informed decisions about participating in such research. Although the public recognizes the use of integrating genetic testing into their medical care as a positive medical progress, they remain apprehensive about donating tissue samples due to privacy issues, among other social and legal issues. These findings prove that further research is warranted in order to determine the link between circumstances of tissue sample donation and willingness to donate by the Trinidadian Public.

11

### **An Assessment and Mapping of the Government Procurement of Pharmaceuticals in Trinidad & Tobago.**

8M Pharmaceutical Procurement Team: *D Medina, N Millette, J Mohamed, A Mohammed, F Mohammed, K Mohammed, M Mohammed, M Mohammed, S Maharaj*

**Background:** Inefficiencies at any level of a supply chain affect the end-user and therefore an efficient public sector pharmaceutical supply chain is essential in maintaining the health of patients dependent on the national healthcare system in Trinidad & Tobago.

**Objective:** The purpose of this research project is to assess and map the pharmaceutical supply chain so as to identify the strengths, weaknesses, threats and opportunities that exist, while comparing it to regional and international models with the aim of developing practical improvements for optimizing it to ensure best value for all stakeholders.

**Method:** In order to analyse the supply chain it was divided into three key areas: Procurement, Distribution and Administration. The data was collected via a structured interview with a senior NIPDEC representative, review of publicly published data on the topic and by questionnaires distributed to patients at public hospitals.

**Results:** The findings indicate deficiencies in the procurement and distribution phases of the supply chain, with significant problems being attributed to the lack of proper inventory and logistics management systems, and inadequate financial allocations by the government. Patient satisfaction with the drug therapy and drug availability at the nation's hospital was concluded to be high, however improvements need to be made to improve drug availability to outpatients through the CDAP program.

**Conclusion:** It was concluded that there is room for improvement to the local pharmaceutical supply chain, with the majority of it involving the modernizing and standardizations of the methods used at key aspects of the chain, along with the establishment of a more solid supply chain management framework in order to ensure best value for all stakeholders.

12

### **Patient Satisfaction with health centres across the North Central Regional Health Authority.**

Primary Care Pioneers: *T Hanna, A Hanooman, V Harper, H Harracksingh, K Harracksingh, A Harricharan, S Harridath, S Harrinarine, S Hassranah, R Khan.*

**Background:** It is both important and timely that patient satisfaction levels be determined across the Health Sector in order to identify the gaps that are in the delivery of health care services by the RHAs. The government of Trinidad and Tobago can then use this critical information to meet the needs of our population, thereby improving patient confidence in the public health system. Ultimately, improved patient satisfaction would lead to better outcomes for our population.

**Objective:** To determine patient satisfaction in health centers governed by the NCRHA, in order to enlighten those in authority and thus contribute to the overall development of quality of care in Trinidad and Tobago.

**Method:** A cross-sectional facility-based survey was used to assess satisfaction levels amongst patients who attend the health centers within the NCRHA. Data was collected during the period February to May 2015 via convenience sampling

from seven health centers utilizing a validated self-administered questionnaire (SERVQUAL). Three hundred and thirty patients were interviewed and the data was analyzed using SPSS version 21 and Minitab 17 Statistical Software.

**Results:** 405 questionnaires were distributed of which 330 were completed. The majority of the respondents were between the ages of 41 and 64 years (41.8%). 72.7% of the total was female. 49.4% had a secondary level education. It was found that patients mainly visited the health centers for either a routine checkup (46%) or for treatment (45%). Overall, the level of satisfaction was high, 70.3%, with 43% satisfied and 27.3% very satisfied. The highest level of satisfaction of all surveyed health centers was found at the San Rafael Health Center (80%). However, SJEHC had the highest dissatisfaction level of 13.6%. The only characteristic of the respondents found to have association with satisfaction level was that of age. Those within the age group 65 and over had the greatest satisfaction level of 81.2%.

**Conclusion:** Generally, patient satisfaction in health centers governed by the NCRHA was found to be high, with an overall satisfaction rate of 70.3%.

13

### **Exercise knowledge and behaviour amongst low risk antenatal patients in Trinidad clinics.**

Exercise and Antenatal Experts: *S Samaroo, W Samaroo, V Sankar, K Scott, S Seebarsingh, S Seejattan, S Seejoor, S Seepaul, T Babwah*

**Background:** Exercise during low-risk pregnancies provides many benefits to both the mother and the developing fetus including shortened labour, decreased obstetric intervention and lower birth weights. In this study we intend to investigate the prevalence of exercise among pregnant women in Trinidad and to determine their knowledge of the benefits of exercise. In Trinidad, no previous study was done to evaluate exercise knowledge and behaviour of low risk antenatal patients; thus highlighting the importance for such a research project to be done.

**Objective:** This study intends to obtain data in Trinidad about exercise habits in pregnant women showing the frequency of women who exercise, the frequency of weekly exercise and the intensity of their exercise . Also, to determine the factors

in Trinidad that influences and precludes exercise during pregnancy and to determine the knowledge of low risk antenatal patients about the benefits of exercise during pregnancy.

**Method:** A prospective, cross-sectional study was done with the use of a *de novo* questionnaire consisting of both open and close-ended questions and distributed to low risk antenatal patients. Data was collected from health centres governed by the North Central Regional Health Authority; St. Augustine, Tacarigua, St. Joseph, Chaguanas, Cunupia, Sangre Grande and South West Regional Health Authority; Point Fortin, Penal, Penal Rock Road, La Romaine, Princess Town and Couva.

**Results:** This study revealed that 50.5% of women who exercised before pregnancy were more likely to exercise during their pregnancy. Also, 58.1% of respondents who were familiar with the benefits of exercising during the pregnancy were more likely to exercise. Furthermore, younger pregnant women (ages 18-30) 72.8% were more likely to exercise than older women (>30years). This study also found that 46.3% women in their third trimester of their pregnancy were more likely to exercise than those in an earlier trimester.

**Conclusion:** In conclusion, this study showed that 50.5% of women exercised during pregnancy; 58.1% of these women knew benefits such as easier delivery. However, there were several reasons why women avoided exercising during pregnancy, the most prevalent being, “too tired,” and “too busy.” There is need for the implementation of educational programmes highlighting the benefits of exercise and that high intensity exercise is not detrimental to the foetus.

### **The effects of acute exercise on risk taking behaviour.**

Risky Fitness: *K Seetal, K Sewlal, A Shageer, A Shah, A Sharma, A Sieunarine, K Sieunarine, A Sinanan, S Sinanan, F Youssef*

**Background:** Acute exercise affects decision-making capabilities as well as reduces one's cravings for abusive substances such as tobacco and alcohol.

**Objective:** The aim of this study is to investigate and measure the risk taking propensity among university students using experimental measures.

**Method:** Twenty three male students between the ages of 18-30 years were recruited from the University of the West Indies. Subjects visited an assigned room at UWI Sport and Physical Education Centre (SPEC) during the afternoon period on two occasions, with 1-3 weeks between Visit 1 and Visit 2. They engaged in 30 minutes of either high or low intensity exercise followed by participation in the risk taking task, Balloon Analogue Risk Task (BART). They repeated the experiment at the other intensity on Visit 2.

**Results:** Based on the data collected and its analysis by way of a paired t-test, it can be inferred that the intensities of exercise did not have any effect on the number of pumps applied to the BART.

**Conclusion:** The results from our study revealed that both high and low intensity acute exercises did not affect risk taking. Limited research has been done in this area therefore more time and effort should be allocated in such research in the future.

### **Knowledge attitudes and practices of diet and exercise among occupational sub-groups in Trinidad.**

Medical Stewards: *S Maharaj, V Maharaj, S Mangal, C Manraj, M Maples, K Maraj, L Maraj, I Matamoro, K Maynard, T Mc Cartney, S Pooransingh*

**Background:** Diet and exercise are important influential factors of an individual's health. The World Health Organization (WHO) estimated that over 35 million people per year die of chronic diseases. Research shows close to 60% of Trinidadians and Tobagonians between the ages of 15-64 are obese/ overweight. And 30% are hypertensive and another 25% are diabetic. Raising awareness of health promoting behaviours and their associated benefits is intended to prompt the adoption of a healthy lifestyle. Educating the target population will ideally lead to a decrease of certain risk factors and the occurrences of health related diseases in Trinidad.

**Objective:** The objectives of this study are (i) to compare the differences in knowledge, attitudes and practices towards diet and exercise amongst occupational sub groups, (ii) to identify barriers in the workplace which hinder healthy dietary practices and exercise, (iii) to assess the degree to which knowledge of healthy dietary practices and exercise is translated into the practice of such, (iv) to deduce the impact knowledge of dietary practices and exercise has on one's attitude to such behaviours and (v) to determine how one's attitude towards diet and exercise influences lifestyle practices.

**Method:** A cross-sectional study was conducted which encompassed 600 anonymous persons who fell into two broad categories; Health Oriented Professions and Non Health Oriented Professions. A stratified sampling method was employed where the data was obtained using a questionnaire based on the Likert scale. The data collected was analysed by using a statistical analysis program (SPSS).

**Results:** Convenience was deemed the most influential factor in purchasing of fast foods with 61% of the population either agreeing or strongly agreeing with this. Results reveal an ideal exercise knowledge score of 13 with both groups scoring greater than the ideal. Likewise, both groups displayed positive exercise attitudes, with scores ranging from 19-24, which is not distant from the mean of 28.

However, both groups presented with exercise practice scores ranging from 29 to 33. These are considerably lower than the mean score of 42. All groups agree that enjoyment and body image are the leading factors influencing their desire to exercise.

**Conclusion:** Diet and exercise are two important factors that influence an individual's health status. This research paper served to determine the relationship between knowledge, attitudes and practices of diet and exercise amongst occupational subgroups in Trinidad. The research determined that there was a good foundation of knowledge on diet and exercise in both medical and non-medical subgroups. However it was shown that although the participants possess the knowledge to make proper and healthy lifestyle choices this is not always practiced. It was observed that participants of the medical subgroup were more likely to practice better lifestyle habits than those of non-medical subgroup.

16

### **The establishment of segmental fat and central fat in children aged 8-13 in Trinidad.**

M.O.M. – Monitoring Obesity of Minors: *S Ramdass, S Ramdhanie, D Ramlal, A Ramlogan, N Ramnarine, T Ramnarine, S Rampaul, V Singh.*

**Background:** Childhood obesity is a health issue worldwide. Although Body Mass Index (BMI) is a standard indicator of obesity, there are limitations that may compromise the accuracy of information. Body fat and muscle distribution may differ significantly yet result in identical BMIs. Central adiposity is implicated in long term metabolic syndrome & its consequences. Central adiposity is easy to measure using impedance devices. The Tanita monitor measures the amount of fat in the four limbs and the trunk (abdomen and thorax). Comparing patient's central adiposity against a normal may be a valid indicator of long term health.

**Objective:** This project seeks to establish the normal ranges of central and segmental body fat percentage in children ages 8-13 years using a Tanita Body Composition Monitor.

**Method:** The first step of the research study involved obtaining permission from Principals and parents of various private primary schools located throughout Trinidad via consent forms. The height of each student was measured and then each student stood on the bioimpedance meter generating values for weight, total and segmental body fat distribution. Total and central body fat was analysed. Information on date of birth was also recorded.

**Results:** 1200 students met the criteria for eligibility as a result of age, of which 921 were excluded due to absence on day of sampling or denial of consent. Therefore, data were collected from 279 children ages 8-13. Using the United States CDC (2000) BMI classification, 41 were underweight, 144 were normal weight, 48 were overweight and 46 were obese. Additionally, the mean total fat of male and female students was 20% and 26% respectively, and central fat was 15% & 6% respectfully.

**Conclusion:** The mean total and central body fat among boys and girls aged 8-13 in Trinidad as 20% and 26, 15% and 6% respectively, in keeping with internationally reported data. These values can be used to classify a child's health status on the basis of central body fat rather than a sole comparison of BMI. This holistic approach allows for more effective prevention, treatment and diagnosis of childhood obesity, thus lowering the likelihood of developing lifestyle diseases.

### **Bronchial Asthma and Obesity in Trinidad.**

Lungevity: *D Harripersad, C Rampersad, J Croft, I Ramsaroop, C Ramsingh, M Ramsoomair, S Rasmine, K Rattan, T Razark, L Pinto Pereira, S Sakhamuri*

**Background:** The association between Asthma Control and Obesity of patients in Trinidad is poorly addressed; there has been a notable increase in the incidence of asthma, as well as in the prevalence of obesity.

**Objective:** The aim of this study was to measure symptomatic control of bronchial asthma by patients in different weight classes according to Body Mass Index (BMI).

**Method:** This quantitative cross-sectional study involved (365) adult patients (ages 18 and over) with a physician's diagnosis of asthma, who received prescribed bronchodilators within the past year, irrespective of gender or ethnicity. Two questionnaires were used to determine the level of asthma control, and asthma related quality of life of the patients. The Asthma Control Test (ACT), a 5-question survey assessed the level of asthma control and the Mini Asthma Quality of Life Questionnaire (Mini AQLQ), a 15-question survey graded the asthma related quality of life. Data obtained was analyzed to determine associations between obesity and asthma control, and associated comorbidities, asthma risk factors, and impairment of quality of life.

**Results:** Participants were predominantly female (81.9%, n=299), and majority of the asthmatics were age 65+ (37%, n=135). Most participants were of Indo-Trinidadian ethnicity (61.9%, n=226), and obese 40.5% (n=148). Of the total sample size, 66.0% (n=241) had uncontrolled asthma.

Chi-Square analysis revealed associations between BMI Status and both Gender (Chi-Square=17.854; df=3;  $p \leq 0.001$ ) and Age (Chi-Square=31.899; df=15;  $p=0.007$ ); Associations between both Obesity (Chi-Square=19.026; df=5;  $p=0.002$ ) and Central Obesity (Chi-Square=27.091; df = 5;  $p \leq 0.001$ ) with Age were found. Associations between Asthma Control Status with Obesity (Chi-Square=5.810; df=1;  $p=0.016$ ) and Central Obesity (Chi-Square=9.563; df=1;  $p=0.002$ ) were also noted. A significant association between Mini Asthma Quality of Life (Mini AQLQ) scores and Obesity (Chi-Square=6.627; df=2;  $p=0.036$ ). Additionally, Asthma related Quality of Life of participants was influenced by ethnicity; and major hindrances to Asthma Control included Obstructive Sleep

Apnea (OSA), Allergic Rhinitis (AR), and Trigger Factor #4 (TF4 – anxiety, stress, overworking).

**Conclusion:** Obesity, whether general obesity or central obesity, greatly influences the level of control of asthma. Ethnicity and obesity also influences the quality of life of asthmatics. Finally, major hindrances to asthma control were found to be OSA, AR, and TF4.

### **Prevalence of diabetes, obesity and dyslipidemia in persons within high and low income groups living in North and South Trinidad.**

D.D.I.G: Diabetes and Dyslipidemia Investigation Group: *C Ragoonath, Y Ragunanan, A Rahman, V Rahming, D Rajh, A Ramai, S Rambadan, N Ramdass, S Nayak.*

**Background:** Diabetes Mellitus, Obesity and Dyslipidemia are metabolic disorders characterized by similar risk factors, complications and outcomes including stroke, Insulin resistance, MI and even death. Studies have indicated that impoverished and Low income areas of developing countries are more prone to developing obesity which when uncontrolled can lead to Diabetes Mellitus and Dyslipidemia.

**Objective:** The study is aimed to equate the prevalence of diabetes mellitus, Obesity and Dyslipidemia in High and Low Income Groups of North and South Trinidad, determine factors that contribute to its prevalence and find links between diabetes mellitus, dyslipidemia and obesity.

**Method:** A cross sectional analysis was completed among 200 participants that visited the Eric Williams Medical Sciences Complex (EWMSC) and San Fernando General Hospital (SFGH) where the mean differences between Fasting glucose, Lipid Profile, BMI, waist and Hip ratio and Blood pressure of diabetic and nondiabetic participants were acquired using questionnaires and analyzed using SPSS.

**Results:** Residents of South showed a higher rate of people with Diabetes and Dyslipidemia at 68.6% and 52% compared to 28.6% and 27% respectively for North Those from North Trinidad showed a higher prevalence of Obesity at 45.9% with Higher Income levels.

**Conclusion:** A significant correlation was found between cholesterol, LDL and triglycerides which lead to the conclusion that obesity is caused by dyslipidemia. Also, lower income and stress can result in dyslipidemia and obesity.

19

**Amongst children identified in Trinidad and Tobago's population as having metabolic syndrome spectrum disorders, which growth chart (UK 1990 vs. CDC 2000 vs. WHO 2007) would most correctly identify their risk of pathology.**

*“Syndrome-X” Men United: A Singh, S Singh, S Singh, V Singh, Y Singh, U Soechit, A Sookdeo, V Singh*

**Background:** Metabolic syndrome is a cluster of conditions which includes hypertension; hyperglycaemia and dyslipidemia (elevated triglycerides, low HDL and elevated LDL) associated with obesity and can lead to cerebrovascular and cardiovascular disease. Children who have features of metabolic syndrome are more likely to become adults who have metabolic syndrome. This may result in earlier morbidity and mortality.

**Objective:** The purpose of this study was to determine which growth chart amongst the UK 1990, CDC 2000 and WHO 2007, best identifies the pathology of the spectrum disorders associated with metabolic syndrome.

**Method:** Files were obtained for fifty-four patients who attended a Lifestyle Clinic at the Eric Williams Medical Science Complex. The patient's age, sex, height, weight, cholesterol and sugar levels were recorded. BMI was calculated and categorized according to the charts and correlated with other metabolic syndrome features. In the UK 1990 chart, weight and height centiles differ and the BMI centile was first calculated after which it was read off a BMI centile grid. Diagnostic test calculators were used to determine the sensitivity and specificity of the data collected. Sensitivity in this project referred to the probability that an obese child will be diagnosed with metabolic syndrome when a feature of metabolic syndrome is present. Specificity referred to the probability that an obese child will not be diagnosed as having metabolic syndrome despite having a feature of it. Positive predictive value meant that when obesity was present so was metabolic syndrome.

Negative predictive value suggested that metabolic syndrome was not present when obesity was not present.

**Results:** The CDC 2000 analysis showed a lower Sensitivity value of 83.3% for the male population and 72.2% for the female population whereas the UK 1990 and WHO 2007 analyses both showed higher sensitivities of 94.7% for males. The UK 1990 analysis showed 100% sensitivity for females and the WHO 2007 analysis showed 82.4% sensitivity for females, both of which were relatively higher than the CDC values obtained. The Positive Predictive value for the sample population of CDC for males had the highest value of 78.9% and for females the second highest value of 76.5% when compared with the UK 1990 and WHO 2007 which both gave values of 66.7% for males, the UK 1990 showed 82.6% positive predictive value for females and the WHO 2007 showed 73.3% for females. (Table 13 and Table 14).

**Conclusion:** It was concluded that the CDC growth chart is the best tool for use in clinics to best identify children as having metabolic syndrome or at risk of developing the condition.

## **Knowledge of Asthma and Asthmatic Student Management Among School Teachers in Trinidad and Tobago.**

*Free Radicals: F Abdool, S Abdool, K Acosta, C Adderley, S Ajodah, A Ali, A Ali, A Ali, A Ali, W Labastide, G Legall*

**Background:** Asthma is a life threatening condition that often manifests in childhood but can affect persons of all age groups. Asthma, if not properly controlled in the school aged population, can lead to general poor health and student absenteeism which can be detrimental to students' education. It can also hamper students' ability to perform physical activity and exercise effectively. As school-aged children spend the majority of their time under the supervision of teachers, it is vital that teachers possess some knowledge, competence and confidence in managing children with health conditions such as asthma.

**Objective:** To assess level of knowledge of asthma among pre-school to secondary school teachers in Trinidad and Tobago, and third perception of their self-reported ability to manage students with asthma.

**Method:** A cross-sectional observational study was conducted among pre-school, primary school and secondary school teachers to assess level of knowledge of asthma and their self-reported capacity to manage it in the classroom. The sample size was 384, and the data collection instrument was a 31-item self-completed questionnaire which measured selected demographic variables and key items of asthma knowledge, awareness of asthma among students, and competence and confidence with regards to managing students with asthma.

**Results:** At the end of data collection, only 227 teachers; i.e., 59.1% of the intended sample returned the completed questionnaire. Of these only 20.7% of teachers had a good knowledge of asthma; the remainder being fairly knowledgeable (59.0%) or having poor knowledge (20.3%); with level of knowledge being independent of demographic status (age; sex), years of experience as a teacher, type of school (pre/ primary/ secondary school), family history of asthma, school district, class level taught and whether or not teacher had special training in asthma management.

**Conclusion:** The study demonstrates deficiencies and disparities in the teachers' knowledge of asthma and management capabilities. However, it does indicate willingness on the part of the teachers to be more informed and display greater diligence than their present competence affords.

## **Incidence of Mesothelioma in Trinidad and Tobago during the period 2009-2014, and the demographic, etiologic and pathological characteristics of each case.**

*Team Inspiration: J Juman, R Kalliecharan, R Kanhai, A Karan, C Khan, F Khan, T Seemungal*

**Background:** Mesothelioma is a fatal cancer of the serosal surfaces of the lung, abdominopelvic cavity and its viscera. The disease has a poor prognosis, with a median survival time after diagnosis of 333 days, is frequently misdiagnosed with 1 in 5 cases being overlooked and takes a considerably long time to develop, with a latency period ranging between 10-50 years. Due to this long latency period, there is expected to be a peak in mesothelioma incidence between the period of 2010-2020. Furthermore, because mesothelioma is mainly an occupation related cancer, the financial implications of its diagnosis are large. Despite this, there is little information on this disease available in Trinidad and Tobago and in the Caribbean.

**Objective:** The aim of this study is to determine the incidence of mesothelioma between the period of 2009-2014, and the etiologic, pathologic and demographic characteristics of each case, and its comparison to the incidence of mesothelioma in the years prior, to determine any changing trends and common features of mesothelioma within Trinidad and Tobago.

**Method:** This study is a retrospective case series study that utilized existing patient records from the Cancer Registry, Death Registry and Chest Unit of the Eric Williams Medical Sciences Complex, Death Registry of San Fernando General Hospital, Death Registry of Port Of Spain General Hospital, Death Registry of Sangre Grande Hospital, records of the St. James Medical Complex National Radiotherapy Centre, records of Brian Lara Cancer Centre, records of Southern Medical, and the records of pathologists, private physicians and private hospitals, a list of whom will be included in the study. The data was submitted for analysis using the Statistical Program for Social Sciences (SPSS).

**Results:** Results from this study show that the incidence of mesothelioma between 1995-2007 is 0.891 per million per annum, and between 2009-2014 is 1.004 per million per annum. Between 1995-2007, mesothelioma was far more common in patients of African descents, was most commonly localized to the pleura, was more common in males and most common in the 45-54 age group. Between 2009-2014, it was more common in females and was evenly distributed amongst all age groups. However, there was a very low survival time for mesothelioma after diagnosis.

**Conclusion:** The incidence of mesothelioma in 2009-2014 of 1.004 per million per annum is higher than the incidence in 1995-2007 of 0.891 per million per annum. Demographic information about mesothelioma in Trinidad and Tobago did not follow the global statistic, showing a higher number of cases in African descents, higher number of female cases of mesothelioma in 2009-2014 and a remarkably low survival time after diagnosis.

22

### **The prevalence of suspected Sleep Apnea among diagnosed COPD patients, Overlap syndrome.**

*BREATHE: The Vitals: A Ali, E Ali, I Ali, K Ali, S Ali, S Ali, I Almarales, A Hosein, S Jaggernaut.*

**Background:** Chronic obstructive pulmonary disease (COPD) and Sleep Apnea represent two prevalent chronic respiratory disorders and if present simultaneously it is termed Overlap Syndrome. COPD is one of the leading causes of death worldwide. Advisably COPD patients should be screened for Sleep Apnea as it can be treated and managed.

**Objective:** The purpose of this study is to determine the prevalence of suspected Sleep Apnea among diagnosed COPD patients. Results from this study will establish links between COPD and Sleep Apnea (overlap syndrome) facilitating easier management and treatment.

**Method:** A de novo pilot-tested questionnaire was administered in the data collection process. Data was also collected using the Spirometry Database. This study was conducted over a period of five (5) months in Mt Hope Hospital where the largest chest clinic in Trinidad is located.

**Results:** Data was collected and subsequently analysed using the IBM SPSS Statistics Software. 94 patients were interviewed with 75.5% being male. 35.1% of patients interviewed were within the age group of 60-69 with 3.2% being over 90 years of age. BMI values were only obtained for 81 patients of whom 48.4% were overweight and 28.4% underweight. Additionally, 58.5% of patients interviewed were Indo-Trinidadian. Data collected showed 64.9% of patients smoked 50 pack years or less while 18.1% smoked over 50 pack years. 86.2% of the patients stated that their family did not have a history of Sleep Apnea.

34% of patients had a neck circumference in excess of 17 inches. Spirometry was only obtained for 45 out of 94 patients. Of these 45 people, 21.3% presented values consistent with moderate stage of COPD. 74.5% of patients presented a normal Epworth Score with 6.4% presenting scores in the severe stage.

**Conclusion:** The aim of our study was to find a correlation between suspected Sleep Apnea among patients diagnosed with COPD in the largest chest clinic in Trinidad. Previous studies obtained concluded that most COPD patients exhibited poor sleep quality however this contradicted our results, which showed 74.5% of patients, had a normal Epworth score. 25.5% of the patients were suspected Sleep Apnea cases, showing some relationship between factors such as BMI, neck circumference, ethnicity and pack years. Consistent with prior literature this study identified that COPD severity increases with age and also that no relationships exist between current smokers and their Epworth Score.



### **Changes in Drug Use Among Uncontrolled Diabetics in Primary Healthcare Facilities: A Retrospective Study.**

Uncontrolled Diabetics: *K Bobb, T Boodoosingh, H Boppana, V Bradshaw, C Brathwaite, K Bristol, R Brown, M Browne, K Butler, R Cabral, Y Clement.*

**Background:** Virtually no studies in Trinidad and Tobago have adequately addressed the issue of prescribed drug use in diabetic populations. Thus, this unique study seeks to uncover the changes in drug use among uncontrolled diabetics and how other factors such as lifestyle affect their diabetes management. Furthermore, it will attempt to unearth whether or not physicians have been following international standard in relation to their prescriptive behaviours.

**Objective:** The aim of this study is to acquire a better understanding of the changes in drug use among uncontrolled diabetics in primary health care facilities, using a retrospective study method.

**Method:** A retrospective study was conducted, after gaining approval, within selected primary health care facilities spread out amongst the Regional Health Authorities (RHAs) in Trinidad during the period May 2015 to August 2015. Questionnaires and data extraction forms were the two main instruments used in gathering data. Diabetic patients, aged 18 or older, were selected on the basis that they were currently taking 2 anti-diabetic drugs and that they were members of the health center for more than 4 years.

**Results:** A total of 236 diabetic patients were interviewed, the majority population being female, between the ages of 50 to 79, of East-Indian descent, and having a BMI value greater than 25, signifying an overweight and obese population. Polytherapy was found to be the most dominant form of treatment with Metformin and Gliclazide being the most frequent pair of drugs prescribed. The most frequent prescriptive change was found to be an addition of Gliclazide to a pre-existing dosage of Metformin.

**Conclusion:** The findings indicate that physicians adhered to the Global Guideline for Type 2 Diabetes as evidenced by an increase in use of polytherapy treatments, reflected by a parallel decrease in monotherapy treatments, with progression of the disease.

### **A 5-year review of the frequency of HbA<sub>1c</sub> test requests and glycaemic control for diabetes patients visiting Lifestyle Disease Clinics in NCRHA.**

The Sweet Life of Diabetes: *M Moore, S Morgan, C Motee, D Motilal, A Mouttet, S Nanan, S Narine, S Narine, V Ochalal, N Ojar, C Ezenwaka.*

#### **Background:**

According to the World Health Organization (WHO) report, diabetes is one of the top four non-communicable diseases responsible for deaths worldwide, with increasing prevalence annually(1). A considerable epidemic in Trinidad and Tobago, it stands as the second leading cause of death locally(2), where the prevalence is approximately twice the global average. This has proved a financial burden on national resources, as annual government expenditure per diabetic person is approximately US \$1 121(3). Additionally, poorly controlled diabetes results in further complications such as cardiovascular disease and kidney failure.

As HbA<sub>1c</sub> test results display the average plasma glucose level for the previous 2–3 months, it can indicate the degree of control of glucose metabolism(7), thus facilitating improvement of glycaemic control(15). It is therefore imperative, in a country with a previously recorded average HbA<sub>1c</sub> level of 8.5% (normal range: between 6.5% and 7% (12)), that the frequency at which these tests are performed per diabetic patient per annum is determined to be consistently optimal.

**Objective:** To determine the adequacy of glycaemic control in type 2 diabetes mellitus in Trinidad by assessing the frequency of the HbA<sub>1c</sub> test requested for the patients over a five year period.

**Method:** The study was a five year (2009-2013) retrospective investigation where the past medical history of patients, diagnosed with diabetes mellitus prior to 2009, were reviewed for the following variables: frequency of HbA<sub>1c</sub> tests (as well as readings (%)), Fasting blood glucose levels (mg/dl), Random Blood Glucose levels (mg/dl), gender, age (years), ethnicity, height (cm) and weight (kg). These were recorded on specialised data recording sheets at the seven health facilities visited in the North Central region of Trinidad, then transferred to an SPSS database. Averages for each variable were calculated, and statistical analysis on quantitative and qualitative data were carried out using appropriate statistical tests [Crosstabs, T-tests (Independent

Variable), Oneway ANOVA + Post Hoc-Bonferroni (Alpha 0.05) ] in PASW SPSS (Version 18), where descriptive analysis was implemented for all measures with 95% confidence levels where appropriate. Data was interpreted and discussed. Patient Confidentiality was maintained throughout.

**Results:** The total means for all HbA1c averages were higher than the normal range (2009:  $6.83 \pm 1.9\%$ , 2010:  $8.34 \pm 2.1\%$ , 2011:  $7.61 \pm 1.8\%$ , 2012:  $6.87 \pm 1.7\%$ , 2013:  $6.98 \pm 1.9\%$ ), (NOTE: The normal range noticed for HbA1c in labs in this study is 4.2%-6.5%). These figures were strongly correlated with RBG levels as the both rose and fell in accordance with one another, with a peak in 2010. (2009:  $178.82 \pm 58.4$  mg/dl, 2010:  $192.11 \pm 64.6$  mg/dl, 2011:  $184.27 \pm 63.8$  mg/dl, 2012:  $180.28 \pm 60.5$  mg/dl, 2013:  $184.50 \pm 68.0$  mg/dl) This neatly demonstrated that RBG levels do influence the level of glycosylated haemoglobin and thus is a useful indication of glycaemic control. However, there was no correlation of HbA1c or RBG averages with frequency of requests, as the frequency showed a continual increase over the 5 year period (2009:  $0.19 \pm 0.4$ , 2010:  $0.21 \pm 0.4$ , 2011:  $0.32 \pm 0.5$ , 2012:  $0.43 \pm 0.6$ , 2013:  $0.46 \pm 0.6$ ). Statistical Analysis showed variance among the frequency of requests where the lowest was found in Arouca (2009, 2010, 2011) and Chaguanas (2012, 2013), while the highest was at Talparo (2009, 2011, 2012) and San Raphael (2010, 2013).

**Conclusion:** In conclusion, from the 6 health centres in the NCRHA of Trinidad and Tobago visited mainly females (67.3%) as opposed to males (32.7%) visit their health centre for the management of their diabetes. There are no significant differences for random blood glucose (RBG) for patients of the different health centres. There were however differences between the HbA1c (glycated haemoglobin) test results frequencies. There was an increase in the total number of HbA1c request made from 2009 to 2013 with most patients only receiving 1 test per year. There needs to be an increase in the number of the HbA1c test request being made by doctors to effectively manage diabetes in Trinidad and Tobago. The recommended number is every 3-4 months which is 3-4 tests per year per patient with diabetes. This is to ensure the patient maintains normal glycated haemoglobin of 6.5-7%.

## **Determining the occurrence of resistant hypertension in Trinidad.**

*Area 51: J Tannis, J Thackoor, T Todd, R Tom Pack, T Torres, A Toussaint, K Tull, T Villaroel, K Mungrue*

**Background:** The eighth Joint National Committee (JNC 8) has defined resistant hypertension (RH) as the failure to achieve a target blood pressure (BP) of  $< 140/90$  mmHg despite the concurrent use of three antihypertensive agents, one of which must be a diuretic, or controlled BP with the use of four or more drugs of different classes. The estimated prevalence of RH among US adults has increased from 5.5% in 1988 to 12% in 2012.

**Objective:** The aim of this study was to measure the occurrence of RH in patients attending primary health care facilities in Trinidad and Tobago.

**Method:** This observational study consisted of 391 hypertensive patients sampled from five randomly chosen health centres from each regional health authority (RHA) in Trinidad. Information was collected in the form of questionnaires and data collection sheets to explore each patient's history of hypertension, possible predisposing factors, management regime, barriers to optimal BP control and the presence or absence of RH.

**Results:** Out of 391 patients with hypertension, 64 (16.4%) met the criteria for RH. RH was found to be more prevalent in patients between the ages of 61-70, females and patients of African descent. Half of the patients classified as resistant hypertensive were obese. We found that difficulty in maintaining a low salt diet and regular exercise were major factors reported to hinder BP control. The most common comorbidity was found to be type 2 diabetes mellitus (T2DM).

**Conclusion:** In conclusion the occurrence of RH in patients attending primary health care facilities in Trinidad was found to be 16%.

**Changes in drugs use in among uncontrolled hypertensive patients at public primary healthcare facilities: A retrospective study.**

*P.R.I.L.: V Joseph, S Warner, M Wilford, C Wills, K Wilson, B Wong, K Wright, H Yacoob, Y Clement*

**Background:** Hypertension is characterized by having a blood pressure  $\geq 140/90$  mmHg consistently and can lead to other serious health complications. The prevalence of high blood pressure in Trinidad and Tobago is high, with approximately 1 in 4 persons living with the disease. Guidelines have been released by international organizations to use when treating hypertensive cases. This study investigates the treatment of uncontrolled hypertension by monitoring the changes in the drug(s) used to treat hypertensive patients in Trinidad.

**Objective:** To determine the drugs used in the initial treatment of hypertensive patients, deduce whether there is a preference for the antihypertensive drugs prescribed and whether the drugs used are in accordance with international studies.

**Method:** A retrospective, cross-sectional study using random stratified sampling was conducted at 14 primary health centres in the South West, North West and North Central regions of Trinidad using questionnaires, data extraction sheets and patient files.

**Results:** A total of 136 hypertensive patients participated in the study. Most patients received the initial drug combination of Bendrofluazide and Enalapril (16.9%) followed by Enalapril (12%) and Bendrofluazide (6%). Though the Enalapril-Bendrofluazide combination was most favored, the drugs of choice varied between respective health centers. The most frequently used drugs were Bendrofluazide (thiazide diuretics), Enalapril (ACE inhibitor), Nifedipine (calcium antagonist), Lisinopril (ACE inhibitor) and Atenolol (beta blocker).

**Conclusion:** Initial treatment of hypertensive patients most frequently consisted of angiotensin converting enzyme (ACE) inhibitors and thiazide diuretics which were mainly Enalapril and Bendrofluazide respectively. ACE inhibitors and thiazide diuretics also were the preferred classes of drugs used by healthcare practitioners within our sample population.

The hypertensive drug therapies of most patients ranged from moderate to minimal over the five year period under study and 2.2% of patients experienced total change of their treatment and 16.2% had no change. The results of this study found that the drug therapies used to treat hypertensive patients in Trinidad are consistent with international guidelines.

27

**The Use of Caffeine Containing Products among Adults aged 21-60 years old in Trinidad.**

*D'Caffeinators: R Ganga, S Ganga, A Garib, C Ghisywan, K Goberdhan, S Gobin, S Gobin, A Gooljar, S Gosein, S Gowrie-Sankar, T Babwah*

**Background:** Adults are known to consume a wide variety of caffeine - containing products on a daily basis. Caffeine is found in commonly used products such as beverages, snacks and medications. Side effects due to overconsumption and the relationship between the quantities of caffeine consumed and the related side effects experienced are currently understudied.

**Objective:** To determine some of the most commonly utilized sources of caffeine by adults aged 21-60 years across Trinidad, with their patterns of usage, possible side effects and the existence of a dose-dependent relationship between caffeine use and the associated side effects like palpitations, sleep disturbances, tremors, headaches and depression.

**Method:** This was a convenient, cross-sectional study comprising adults of both genders, 21-60 years old, excluding individuals less than 21 years and older than 60 years. This criteria was maintained since caffeine metabolism has been found to be different in the adolescent and elderly as compared to the adult population.

**Results:** Persons who consumed 115-219 mg of caffeine in 24hrs are more likely to have depression and tremors, while those who consumed greater than 220 mg developed a higher incidence of insomnia and nausea. Palpitations, insomnia and tremors were also found to be more prevalent in males.

Most persons in this study who complained of side effects such as palpitations, anxiety, tremors, polyuria and restlessness experienced their symptoms within 6 hours of consumption. Finally, 66.95% of participants ingested caffeine from energy drinks specifically, with 20% coming from beverages, and 10.65% and 1.9% coming from medication and snacks respectively.

**Conclusion:** This research study proves that there is a definitive link between caffeine consumption and its related side effects. Certain variables such as age and gender present heavy likelihoods for developing these symptoms, especially with respect to the caffeine dose ingested.

28

### **Knowledge, attitudes and practices of general practitioners in Trinidad towards the management of Hyperthyroidism.**

*Thyroid Terrors: C Kanhai, S Sookhai, J Sooknanan, A Sookram, V Sookram, S Soongoon, J Spann, D Stewart, S Sudama, A Surujbally, S Motilal, S Teelucksingh.*

**Background:** Hyperthyroidism related cases are very prevalent in Trinidad and Tobago. However, the attitudes towards the treatment of such cases has evolved over the past 15 years, as has the availability of Scintigraphy and iodine treatment.

**Objective:** To evaluate general practitioners (GPs) management and therapeutic choices for a standard patient with hyperthyroidism using clinical scenarios and questions pertaining to the availability and preference of various treatment methods. The results of this study will be compared to a similar study carried out between December 1999 and March 2000.

**Method:** The study was conducted from May 2015 to June 2015 throughout the island of Trinidad. A questionnaire was distributed to 270 randomly selected GPs registered with the Medical Board of Trinidad and Tobago (MBTT).

**Results:** The study saw a 60% response rate. Like the past study, this study evaluated the choice of laboratory tests and the therapeutic choices for a standard patient with hyperthyroidism. The most popular choice to elucidate a diagnosis of hyperthyroidism, was both ultrasound and thyroid scintigraphy (40.5%). All of the respondents requested biochemical confirmation but the range of tests varied widely. Medical treatment (85.5%) with antithyroid drugs (ATD) was the most popular choice for treatment. Treatment with ATD drugs was the most popular choice for a middle-aged female and male, with moderate hyperthyroidism presenting with her first episode (69.2% and 61.6% respectively). For a relapsing middle-aged woman and teenage girl with the history of ATD drug treatment, GP's chose to refer to a specialist (68.6% and 79.9% respectively). Additionally, in the elderly, a referral to a specialist was chosen the most (63.5%).

**Conclusion:** The study and its findings highlighted both similarities and differences from the study conducted previously. The most preferred therapeutic option of GPs when treating first time hyperthyroid episodes in this study was ATD. This was the same in the study 15 years ago. However, GPs today preferred to refer patients with relapsing hyperthyroidism and first time elderly hyperthyroid patients to specialists. Moreover, there is need to encourage GPs to attend continuing medical education with regards to hyperthyroidism as this will increase their knowledge about a medical condition present in Caribbean society.

### **An evaluation of the factors related to patient satisfaction with removable prostheses.**

*Denture Doctors: D Dixon, C Harrison, A Hosein, V Maharaj, K Manzano, J Rolle, J Warner*

**Background:** A large proportion of the population in Trinidad and Tobago are partially dentate or edentulous. Dentures are still a common method of tooth replacement despite the advent of new techniques. A large number of removable prostheses are fabricated at The UWI School of Dentistry every year. However, there is no evidence available on how the use of dentures in daily life are perceived by the patients who wear them. There is a need for an account of patient satisfaction and the factors related to this.

**Objective:** The objective of this study was to evaluate the factors contributing to patients' satisfaction with dentures inserted between January 2005 to January 2015 at the UWI School of Dentistry.

**Method:** Patients were identified from a database of dentures fabricated from the UWI Dental School Laboratory. Patient files were accessed and analyzed. Patients were contacted via telephone and informed of study and verbal consent acquired. Subjects were assessed using a standard questionnaire and a standard clinical examination was carried out. A total of 200 patients were found. The criteria for inclusion in this study were that the subjects were 40-80 years old, dentures were worn for at least 1 year, dentures were made at the UWI dental school and that dentures were worn for at least 8 hours per day. The criteria for exclusion in this study were implant retained/supported dentures, systemic diseases affecting oral function and temporomandibular joint disorder. A total of 89 patients met the criteria and were available for assessment but only 61 showed up and were evaluated.

**Results:** Generally, with respect to age, most patients were between 71 and 80 years of age with the minority falling between 41 to 50 years. Age vs retention of upper arch prostheses data analysis shows a *p value* less than 0.47. Following the Chi-squared test, this would indicate that the relationship between age and retention were independent factors. The female percentile was greater than the male by a small margin with female patients making up 57.4% and males 42.6%. This accounts for 33.3% of the surveyed population. From the data collected of gender vs comfort we have obtained a *p value* of less than 3.69.

The Chi-squared test indicated that the relationship of gender vs comfort was insignificant due to the small patient pool and the introduction of a second manipulated variable; unequal male:female. Comfort, which was revealed by means of the questionnaire to be very important to patient satisfaction, was scored to be either very good or very poor by males and generally poor by females. As age increased so did the patient's experiences with dental prostheses. Further research is required to determine the cause of the nonfunctional prosthesis.

**Conclusion:** Patient satisfaction was evaluated for prostheses fabricated by the UWI School of Dentistry Adult Polyclinic. Most factors like comfort were found to be independent of age, gender and other demographics.

30

### **Surface roughness of newer denture base materials following chair-side adjustment and re-polishing compared to conventional lathe polishing.**

*Toothfairies: N Khan, R Khan, A Mahabir, A Maharaj, D Manning, A Mohammed, I Sagewan, S Marchan*

**Background:** Almost invariably, dentures need to be adjusted chair-side to improve patient comfort. After dentures have been adjusted at chair side, the surface can become rough. This roughness in the surface can increase surface free energy and create crevices that can attract microorganisms. Furthermore, food particles can lodge in these areas, becoming a substrate for microorganisms. This results in plaque formation, which is detrimental to the surface of dentures and can cause gingival inflammation. Thus it is important to polish denture bases after chair side adjustments.

**Objective:** The aim of this study was to assess the surface characteristics of newer flexible thermoplastic based denture base materials i.e. Valplast, Duraflex, DuraCetal compared to traditional heat cured Polymethylmethacrylate (PMMA) after chair side adjustment and re-polishing with either silicone tips impregnated with silicone carbide or flour pumice on a rag-wheel.

**Method:** Thirty specimens (n=30) of each material were fabricated, finished and polished following the manufacturers' instructions. Ten specimens of each group served as the control where no further instrumentation was performed. The remaining 20 specimens were adjusted with an acrylic bur in a uni-directional manner to mimic chair side adjustment. 10 specimens each were randomly divided into two groups and re-polishing was completed with silicone carbide impregnated in silicone tips on a slow speed handpiece or flour pumice on a rag-wheel on a lathe. Surface characteristics were assessed using contact surface profilometry.

**Results:** Mean  $R_a$  readings ranged from 0.26 (DuraFlex control) to 1.30 (Valplast control) while mean  $R_{max}$  readings ranged from 1.88 (DuraFlex Control) to 8.44 (Valplast control). Statistical tests revealed that interaction of both factors were significant ( $F=68.95$   $p<0.05$  for  $R_a$  and  $F=87.84$  and  $p<0.05$  for  $R_{max}$ ) for both of the tested parameters. Post hoc tests revealed that Valplast control samples were significantly rougher than all the other tested specimens for  $R_a$  and polishing with either of the polishing regimens did not significantly improve  $R_a$ . Re-polishing of PMMA, with either chair side silicones, pumice and rag-wheel produced significantly improved surfaces in terms of  $R_a$ , with both polishing regimens producing similar results. Adjustment and re-polishing of both DuraFlex and DuraCetal resulted in significant increases in  $R_a$ .

**Conclusion:** Valplast samples regardless of surface instrumentation (control or re-polished) have roughness values greater than the critical values of 0.7-1.0  $\mu\text{m}$  quoted in the literature to be the threshold at which plaque accumulation is initiated on restorative surfaces.

## Assessment of the Need for Multidisciplinary Team Approach to Cleft Lip and Palate and the Barriers to Care.

*A Biting Chance: D Baptiste, L Bewaji, L Hallet, A Paramsook, A Samaroo, V Sooklal, J Voisin, C Naraynsingh*

**Background:** Cleft lip/palate presents with complications from as early as birth until the end of growth and treatment requires a team of specialists including a paediatrician, plastic surgeon, otolaryngologist, maxillofacial surgeon, orthodontist, dentist, speech-language pathologist, audiologist and psychologist. Each aspect is vitally necessary, but the complexity of treatment may present some barriers to the holistic care of the patient.

**Objective:** The ideal approach to treating cleft lip and palate is multidisciplinary. This paper explores the incidence and treatment approach to cleft lip and palate at EWMSC, in particular patient access to multidisciplinary care. It also attempts to identify the barriers to holistic treatment from the perspective of health care providers as well as caregivers and patients. The level of knowledge that patients and/or care givers have about the entirety of care is also assessed.

**Method:** The study population included patients with cleft lip and/or palate and excluded patients with other facial clefts. It also included specialists (ENT, Orofacial/Plastic surgeons, dentists, orthodontists, neonatologists, paediatricians) and allied health care providers (neonatal nurses, audiologists, speech therapists and psychologists) at the EWMSC. Questionnaires were used to collect information from the different groups.

**Results:** Most patients (77.4%) were aware of the treatment schedule and that various clinicians would be needed to achieve the most optimal outcome. In the sampled population of patients the three top reasons for not being able to access the required clinicians were because they did not know they were all necessary (46.7%), they didn't think they were necessary (30%) and they didn't have adequate funds (23.3%). Of the 13 clinicians that participated 12 believe that there is a need for a centralized cleft care centre. The main challenges pointed out by the clinicians were the availability of resources and clinicians (46.2%) and the level of patient education (46.2%).

**Conclusion:** Although patients have been receiving multidisciplinary care, there is no multidisciplinary team operating in Trinidad and Tobago. There is need for centralization of treatment as this will help to ensure that patients receive care from the various clinicians that have been deemed to be necessary for proper treatment of cleft lip and palate.

### **Depression in students at the University of the West Indies, St. Augustine Campus.**

*Dopamine Effect: S Hassranah, A Hazel, T Hernandez, A Hosein, A Hosein, G Indoi, S Iswarawaka, R Jack, C Jagessar, A Jaggernaut, E Haqq*

**Background:** Depression is a mental illness that increasingly continues to plague tertiary level students. As such, it is of utmost importance that it be studied thoroughly, to gain additional information on this aspect of mental health and to supplement the inadequate literature that currently exists on this topic, both locally and regionally.

**Objective:** The objective of this research was to determine the prevalence of depression among medical students in comparison with the non-medical students, belonging to the faculties of Engineering, Food and Agriculture, Humanities and Education, Law, Science and Technology and Social Sciences at the University of the West Indies, St. Augustine. The impact of stigma associated with depression and awareness of the symptoms of personal depression were also investigated.

**Method:** A cross sectional study utilizing convenience sampling was carried out over a 5-month period from January to May 2015. A self-administered questionnaire based on the Centre for Epidemiological Studies Depression Scale-Revised (CESD-R) was formulated and distributed to a total of 1020 students throughout the various faculties at the University of the West Indies, St. Augustine.

**Results:** The study showed that 40.2% of medical students were depressed in comparison to 39.3% of non-medical students; Law students were found to be the most depressed overall (50%). The factors statistically associated with depression were religion, smoking, alcohol consumption, illicit drug use and being previously diagnosed for depression. 51.4% of Muslims were found to be depressed, which was the highest rate amongst the religious groupings. Additionally 69.5% of respondents thought that they could recognize the symptoms of personal depression, however 53.5% of them misdiagnosed themselves as not being depressed. 24.9% of respondents believe that there is a stigma attached to seeking help for depression; 37.8% were unaware of the available counseling resources. The overall prevalence of depression at the campus was found to be 39.8%.

**Conclusion:** In conclusion, it was seen that the prevalence of depression among the medical and non-medical students was almost equal, but rates varied by the individual faculty, with Law being the most depressed amongst them. The majority of the respondents were unable to recognize symptoms of personal depression and were also unaware of the available counseling resources, indicating the need for educational reform on the aforementioned topic. It was also seen that a large percentage of depressed individuals were aware of the resources, but were still reluctant to make use of them, reinforcing some of their beliefs that stigma is attached to seeking help for depression.

### **A questionnaire based study on Dementia and associated risk factors in subjects from residential care homes and clinics in Trinidad and Tobago.**

*A.D.T.: J Jaggernaut, K Jaggernaut, K Jitendra, D Johnson, Q Johnson, T Johnson, S Joseph, T Joseph, R Rambaran*

**Background:** Dementia, being a progressive condition encompasses a number of cognitive diseases that affects mostly elderly persons worldwide. The Caribbean has one of the highest prevalence rates for this distressing condition. Dementia does not have a specific cause however there are a myriad of risk factors that contribute to its development. The lack of awareness and understanding of Dementia contributes to its stigmatization in most countries including Trinidad.

**Objective:** To assess the current state of dementia within elderly homes in Trinidad, to increase its awareness and to identify risk factors in ethnic groups in Trinidad. It seeks to compare the efficiency of what is currently being done in Trinidad and Tobago to that regionally and globally. Data from this study can be used as a base for future work and further studies in the field of Dementia.

**Method:** A retrospective design was used for this study, using resident recall and records, nurse caregivers, physicians and family members. Questionnaires were distributed in an interview format to residents and all other data required was collected from caregivers and patient files. The study sample consisted of those above the age of 50 years either with a confirmed diagnosis of dementia or showcasing signs of cognitive impairment.

Questionnaires consisted of closed ended and direct questions along with a 6 Item Cognitive Impairment test (6-CIT).

**Results:** A total of 56 persons, 38 females and 18 males from 8 elderly cares homes experiencing memory loss were used for this study. There were 28 persons (50% of the test subjects) formally diagnosed with dementia. Of these persons 71% (n=20) were females and the other 29% (n=8) were males (table 1). For those individuals that have been formally diagnosed with dementia only 2 (7%) have been receiving treatment/therapy for dementia, 16 (57%) have not been receiving treatment for dementia. The remaining 36% of individuals that were formally diagnosed with dementia could not confirm or deny receiving dementia therapy.

**Conclusion:** At a national level, a lack of awareness infrastructure exists preventing the necessary support early in the progression of the disease. More work and education needs to occur in the field of dementia in Trinidad. Cognitive impairment test have proven useful in identifying persons who should be screened for possible dementias, both in the early and late onset categories.

34

### **The relationship between age at diagnosis and stage of breast cancer in Trinidadian women.**

Team de Facto: *I Khan, A Knowles, N Kungebeharrysingh, L La Borde, R Lalchan, A Lalla, S Lewis, H Lightbourne, S Lutchman, W Lutchman, W Mohammed.*

**Background:** Breast cancer is the most frequent cancer diagnosed worldwide and makes up 23% of female cancers. Trinidad and Tobago (TT), like other developing countries, faces certain challenges regarding the management of breast cancer including young age of patients and late stage of disease at diagnosis. These factors contribute to TT experiencing the highest death rates due to breast cancer in the Caribbean.

**Objective:** The purpose of the study is to determine the age and stage of disease of patients at initial diagnosis of breast cancer. The information gathered will help us to better understand breast cancer in TT so that it can be prevented and properly treated.

**Method:** Data was gathered from breast cancer patient's records at the San Fernando General Hospital and the Eric Williams Medical Sciences Complex, Mt. Hope. Data from a study group of 150 patients between the ages of 18 and 95 years was obtained for analysis. Data collection began March 25th, 2015 and ended June 23rd, 2015. Microsoft Excel and IBM SPSS Statistics were used for data analysis. Staging was done using the American Joint Committee on Cancer; Breast Cancer Staging Form.

**Results:** Data reveals that 30.7% (n=46) of patients diagnosed with breast cancer are aged 50 years old and younger. However, the 61-65 age group makes up 24.7%, the largest percentage, of breast cancer diagnoses in TT. Breast cancer in its most advanced stages, Stage 3 and 4, make up 48.0% (n=72) - nearly half - of breast cancer diagnosis. Stage 3c breast cancer occurred only in women between the ages of 31-45 years. The most frequently diagnosed stage, stage 2a, occurs most in the 61-65 (n= 13) age group but affects women across age groups 26-85 years. No statistical correlation (p=0.224) between stage of breast cancer with age at diagnosis was observed.

**Conclusion:** Breast cancer screening measures should be intensified for women between the ages of 31-45, as young women are developing tumors with less favorable prognostic characteristics than older women. Additionally, as the disease burden is highest in the 61-65 age group, screening measures should be targeted to postmenopausal women. Such measures include mammograms, clinical breast exams, and MRIs in women with a high risk of breast cancer. It is also important to raise public awareness of breast cancer risk in especially in the aforementioned age-groups as self breast exams can lead to an earlier stage at diagnosis.



## **Prostate cancer- Pathology, Screening and Epidemiology in Trinidad.**

*House of M: N Mohammed, S Mohammed, S Mohammed, S Mohammed, W Mohammed, A Mohan, S Umakanthan.*

**Background:** Prostate cancer is the most prevalent carcinoma found in males as well as the most prevalent carcinoma found in the overall population of Trinidad. According to the Pan American Health Organization, Trinidad has one of the highest incidence and mortality rates of Prostate Cancer in the region. Factors such as age, ethnicity, diet, family and drug history all play a role in Prostate Cancer epidemiology and thus will be assessed in this study.

**Objective:** The purpose of this research study is to investigate the usefulness of PSA values and DRE findings/screening findings, determine the histopathological features of Prostate Cancer and correlate with the screening findings, and evaluate the role of positive family history, dietary patterns and drug history in proven cases of prostate cancer.

**Method:** Clinical records from the Mt Hope Hospital were used to identify prospective candidates for the study. Data collection sheets were then used to collect clinically based information (PSA values and DRE findings) as well as the histopathological results from reports requested. Additionally, a questionnaire was asked via telephone to each suitable candidate in order to obtain their respective family history, dietary patterns and drug history. The data was then analyzed and appropriate correlations were made.

**Results:** Of 35 prostate cancer patients majority (62.86%) were of African ethnicity. The most common age range at which patients were first diagnosed was found to be between ages 70-75, which accounted for 31.43%. The median age range for diagnosis was 65-70 years old. Most of the patients were found to have PSA values in the range 10-20 ng/ml range (22.9%) while 5.7% of the sample had normal PSA values less than 3. 25.74% of the sample had a family history of prostate cancer, with 20.02% being first degree relatives and 5.72% being second-degree relatives. 8.58% and 5.72% of the sample with first degree and second degree relatives respectively were diagnosed before the aforementioned average diagnostic age range indicating that men with a family history of prostate cancer are more prone to developing the disease at an earlier age.

**Conclusion:** The results suggest that attention should be given to educating men especially those of African ethnicity, about prostate cancer so as to raise awareness. Males, over the age of 40, with first degree relatives diagnosed with prostate cancer should undergo regular (yearly) screening examinations and be educated about their risk factors. More research into the effect of diet and the increased risk of developing prostate cancer is warranted especially in Trinidad and Tobago where the local cuisine is of unique varieties. In depth research into the advantages of NSAID and statin use daily in the management of prostate cancer is warranted as the results suggest great potential. Finally, DRE and PSA findings should always be used concurrently as each is unreliable on its own.

## **Coping Strategies in Women Diagnosed with Breast Cancer.**

R.O.S.E.: *J Reis-Ramsaroop, S Richard, V Roopchan, K Roopchand, C Rouse, M Salim, A Roach*

**Background:** Breast Cancer is the leading cause of death, by cancer, in Trinidad and Tobago. It is a significant stressor which affects the lives of both the women and their families. Many of these women use either positive or negative coping strategies which then affects their prognosis. In Trinidad and Tobago, there has been no research done on the coping strategies of women diagnosed with breast cancer and so there is an urgent need to understand these mechanisms in order to improve their prognosis and quality of life.

**Objective:** The aim of this study is to (i) thoroughly investigate the various coping mechanisms being utilized by women diagnosed with breast cancer in order to improve their quality of life (ii) determine from the data collected both the negative and positive aspects of these coping strategies and (iii) to recommend based on efficacy, the implementation of these coping strategies at the oncology clinics throughout Trinidad and Tobago.

**Method:** This was a cross sectional study which was conducted within the oncology and breast cancer clinics within North Central Regional Health Authority (NCRHA), South-West Regional Health Authority (SWRHA) and St. James Medical Complex (NWRHA). The investigation of the coping mechanisms used by breast cancer patients was done using Brief COPE and Beck Depression Inventory II questionnaires which was administered to a total of 90 women, aged 18 and over who were diagnosed with breast cancer.

**Results:** The majority of the women with breast cancer used mainly religion, acceptance, emotional support and active coping as their coping strategies. Substance use, self-blame and behavioural disengagement was not popular amongst the women. Most of the women also suffered from minimal to mild depression with few suffering from moderate to severe depression.

**Conclusion:** The findings of the study indicate that women with breast cancer who are struggling to cope with their diagnosis should employ coping strategies that will help to reduce their stress and improve their prognosis such as planning, acceptance and emotional support from families and friends. Therefore, efforts should be made to encourage both private and public hospitals and oncology clinics throughout Trinidad and Tobago in implementing counselling programs and Peer-to-Peer Mentoring including online support groups and patient networks that would bring patients together and allow them to share their experiences for the benefit of those who are struggling to cope.