Editorial

Health, Well-Being and Development in the Caribbean

For this second issue of our first volume the Journal of the Department of Behavioural Sciences (JDBS) invited submissions from across disciplines that addressed the theme “Health, Well-Being and Development in the Caribbean.”

A broad definition of health including both physical and mental health was considered. Submissions covered the breadth of the Caribbean and reflected the important consequences health has for people’s social functioning and their quality of life.

While by no means able to cover completely what is a vast field all the papers in this issue nonetheless come together to provide understanding of how social, economic, historical, psychological and cultural processes interact to facilitate particular understandings of physical and mental health, and attendant institutional arrangements and practices in the Caribbean. This is important for improving our localised and regional understandings of health and well-being and how they can be developed.

In the pages that follow researchers working on the Caribbean consider the historical realities of race and mental healthcare in Jamaica; the interaction of local socio-cultural environment and dengue prevention in two Caribbean communities; the pervasiveness of HIV-related stigma in Dominica; the relationship between eating disorders and self esteem in adolescents in Trinidad and Tobago; an investigation into the psychological well-being of individuals over 60 in the Caribbean; and an evaluation of the Trinidad and Tobago national HIV/AIDS strategic plan 2004-2008.

Modern transformations such as globalisation, neoliberalism, and the rapid innovation and use of new and emerging health technologies, all impact on the discourses and personal realities connected with good physical and mental health, and access to health care. The discourses in this issue surround fields such as adolescent health, adult health, mental health and physical health – all distinct yet interlinked through public health systems, cultural environments, and the organisation, financing, delivery and quality of their services within communities and the resulting impact on population health.

This special issue was edited and peer-reviewed by academics and international experts drawn from the University of the West Indies (St. Augustine and Mona), the Pan-American Health Organization (PAHO), and the Ministry of Health in Trinidad and Tobago.

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For further information about the journal including the CFP for Issue 2, Volume 1, please see our web page at: http://journals.sta.uwi.edu/jbs/index.asp

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Editor
MODERNITY, RACE AND MENTAL HEALTH CARE IN JAMAICA, C. 1918-1944

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Revisionist histories of colonialism have presented Empire as a modernising, benevolent and non-discriminatory force. While recent scholarship on Caribbean health and medicine has done much to contest the idea of a modernising and benevolent Empire, it has thus far done little to challenge the claim that there was no institutionalised discrimination in the Empire. By exploring conditions in Jamaica’s mental hospital from 1918 till 1944, this article tries to fill this gap in the scholarship. Based on amongst others official correspondence and newspaper reports, it examines the extent to which dominant ideas of race informed the treatment meted out on the overwhelmingly black patients and staff and explores the colonial government’s response to demands made by black politicians to improve patient care and enhance the promotion opportunities of local staff. Informed by Critical Race Theory, this study argues that not only the colonial government helped to uphold the island’s racial and class status quo by bypassing local staff for promotion and protecting incompetent white senior officers but also black politicians as they failed to call this racial discrimination and worked more to enhance the promotion opportunities and working conditions of local doctors and nurses than improve the care of the patients, who tended to be a lower class and darker shade.

Keywords: Jamaica, mental health, Crown Colony government, racial discrimination, social stratification.

Introduction

Revisionist histories of colonialism have presented Empire as a modernising and benevolent force, as exemplified by Niall Ferguson’s *Empire: How Britain made the Modern World* (2003). Yet there is a growing scholarship on colonial medicine that strongly contests this claim, in particular works on colonial psychiatry (e.g. Vaughan 1991; Sadowsky 1999; Keller 2001; Ernst 2002). Also the more recent work on health and medicine in the Caribbean has done much to challenge the idea of Empire as a modernizing and benevolent force (e.g. De Barros and Stilwell 2003; De Barros, Palmer and Wright 2009).

But while the recent histories on Caribbean health have done much to question the claim that Empire was not a modernising and benevolent force, they have thus far not fully engaged with a second claim made by revisionist histories of colonialism, namely that racial discrimination was not a central force in the exercise of colonial rule. Ronald Hyam, for instance, has argued in his *Britain’s Declining Empire: The Road to Decolonisation* (2006) that „a sense of racial difference certainly permeated many aspects of colonial practice“ but that there was no „institutionalised discrimination“ (Hyam 2006: 38-9). This article will challenge Hyam’s conclusion and lend further support to the argument that Empire was not a modernising and benevolent force by exploring the treatment meted out on the
overwhelmingly black \textsuperscript{1} patients and staff in Jamaica’\textquotesingle s mental hospital from the end of the First World War until 1944. An increase in patients in the immediate post-war period led to overcrowding which did much to raise public concern about the hospital, as did the reports in the \textit{Gleaner}, the leading newspaper in the island, that local staff was bypassed for promotion. Public concern reached a climax in 1944, when the \textit{Gleaner} published the condemning report of a commission (hereafter, the 1942-43 commission) appointed by the governor in 1942 to „enquire into and make recommendations concerning the administration” of the hospital.

Jamaica’\textquotesingle s mental hospital provides a useful case study to test the claim that Empire was a modernising, benevolent and non-discriminatory force not only because it was set up in the 1860s as part of the so-called „civilising mission” – i.e. attempts by the government and local elites to bring African Jamaicans in line with metropolitan norms and values (Moore and Johnson 2004: xiii) – but also because it was a microcosm of Jamaican society. The following will show that both staff and patients in the hospital largely mirrored the island’\textquotesingle s peculiar system of social stratification, in which class and colour were closely entwined. The bottom of the social ladder was occupied by mostly dark-skinned men and women engaged in unskilled or semi-skilled work. The middle rung was made up of predominantly light-skinned Jamaicans and included small planters, teachers, ministers, policemen, postmasters and clerks but also some businessmen and professionals, including doctors. The less than two per cent whites constituted the top and consisted of the very wealthy, such as sugar planters, as well as colonial officials, missionar
dy, owners and managers of small firms and plantation bookkeepers.

This is not the first study, however, to address conditions in Jamaica’\textquotesingle s mental hospital. Margaret Jones (2008) has examined the founding of the hospital in the late nineteenth century, while Leonard Smith (2010) has taken her work further and explored the administration of the hospital in the period up to the onset of the First World War. And more recently, Darcy Hughes Heuring (2011) has moved the discussion of the metal hospital into the interwar years. She has examined the contest – mainly between the government and the elected members of the Legislative Council (LegCo) – over who should take financial and moral responsibility for the hospital’\textquotesingle s patients. Yet like many other historians working on the interwar Caribbean she has paid scant attention to race. Not only has she failed to set out the role that race played in this particular contest but she has also not indicated that racial ideas underpinned patient care and the promotion opportunities of staff.

Based on amongst others Colonial Office correspondence, the hospital’\textquotesingle s annual reports, and verbatim reports of Legislative Council sessions in the \textit{Gleaner},\textsuperscript{ii} this study of conditions in the mental hospital in Jamaica will provide ample evidence that although it was modelled on an English county asylum by 1918 it lagged far behind its metropolitan counterparts, failed to benefit the majority of the population, and discriminated against its predominantly black staff. But this study is not just concerned with the extent to which dominant ideas of race informed the treatment meted out on patients and promotion opportunities of staff but also with the colonial government’\textquotesingle s response to demands made by black members of the Legislative Council (LegCo) to improve patient care and even more so to enhance the promotion opportunities of black staff.

During the period under discussion, African Jamaicans formed the majority of the fourteen elected members of the LegCo. Black politicians used the treatment of patients and staff in the mental hospital not only to rally political support but also to illustrate the shortcomings of Crown Colony government, which had been instituted in the island following the 1865
Morant Bay rebellion. Yet few of them condemned the poor standard of patient care and the bypassing of black doctors and nurses for senior posts as racial discrimination. By engaging with Critical Race Theory (CRT) – a body of work that started in American law schools in the 1980s and examines the ways in which white supremacy is upheld in the post-civil rights era (Delegado and Stefanic 2001) – this study will argue that by remaining silent about racial issues or presenting them as being about something else, black politicians helped the colonial government to uphold the afore-mentioned system of social stratification. In doing so, it raises an issue which many Caribbean historians have thus far shied away from, namely the complicity of African-Caribbean people in a system that helped to uphold white superiority (Brereton 2006).

It needs to be stressed, however, that the power of black elected members of the LegCo to affect change on behalf of patients and staff was limited. Firstly, because ex-officio and nominated members of the LegCo were expected to support the government. Hence motions proposed by elected members were easily lost. Secondly, elected members were excluded from the Privy Council – the executive body –, which the governor had to consult. And thirdly, elected members could not propose financial bills. They did, however, have the right to overturn financial matters proposed by the government if nine of them voted against (Lewis 2004: 92-7; Wrong 1923: 123-35). As this study will show, this right was one of the main methods they used to express their discontent with government policies that discriminated against African Jamaicans.

But not only the black elected members, also government officials, including the white, English superintendents and matrons of the hospital, were silent about race. We shall see, for instance, that they never invoked race to deny the promotion of black doctors or nurses or the hospital’s lack of modern methods of treatment. Yet their frequent references to the sexuality and intelligence of the mostly black patients and staff – which were and still are major markers of racial inferiority (Collins 2005) – more than suggest that racial ideas shaped as much the government’s responses to demands from black politicians to enlarge and modernise the hospital and promote black staff as the island’s finances and other more practical factors.

Patient care

In 1776, a public hospital was set up in Kingston, which included a „lunatic asylum“. In 1843, funds were set aside for the construction of a modern asylum. For various reasons, the new asylum was not completed until 1862. In the same year, an act was passed that set out new rules and regulations for the management and supervision of the asylum (Jones 2008: 302; Carley 1943: 2-3). The superintendents of this new hospital tried to implement the regime that was common in English county asylums but soon failed to do so because of a rapid increase in patients (from 212 in 1870 to 1,000 in 1904), a shortage of staff the lack of a classification system of patients, defective buildings, and various other problems (Smith 2010: 11). Like its metropolitan counterparts, the hospital followed periods of severe overcrowding with building expansions but little else was done to improve patient care in the period leading up the First World War.

From the late 1920s, the term „mental hospital“ was increasingly used to refer to the asylum but it was not until 1938 before this name was formally adopted.\textsuperscript{10} The adoption of the name „mental hospital“ suggests that by the 1920s various improvements had been affected and that the hospital had become less a place of confinement and more one of treatment. After the
War, the hospital did become, like its metropolitan counterparts, a more open community with patients spending less time in the wards. But common modes of treatment used in English county asylums in the interwar years were largely absent in the Jamaican mental hospital. By the early 1940s, some doctors experimented with electro-convulsive therapy but the hospital’s facilities were such that it was very difficult for them to use modern methods of treatment. There were only a few clinical rooms where they could examine and treat patients, which were small and lacked such basic things as a proper examination table. And although the hospital accommodated more than 2000 patients on the eve of the Second World War, it had only two small, poorly equipped operating theatres (*Gleaner*, 14 October and 16 November 1944).

In addition to shock therapy, metropolitan mental hospitals also used occupational therapy to treat early cases of insanity in the interwar years (Jones 1991). The annual reports of the Jamaican mental hospital mention that patients were taking part in „occupational therapy“.

This work, however, far from resembled the occupational therapy of the English county asylums at the time, which was devised by a properly trained occupational therapist, consisted of rug making and various other arts and crafts that valued the creativity of the activity, and served more as a therapeutic agent than a means of rehabilitation (Bennett 1996: 194-6). In Jamaica, patients who were deemed fit to leave the wards were „occupied“ in light work around the hospital. Men were usually employed around the hospital’s farm, gardens, courts and workshops, while women sewed and did kitchen and laundry work (*Gleaner*, 30 December 1933). This „occupational therapy” served less as a means of treatment than as a way to create a self-sustaining hospital (*Gleaner*, 9 October 1944).

And the lack of a system of classification of patients also clearly illustrates that the hospital prioritised confinement. There were no separate buildings for recoverable and chronic cases and patients sentenced by the courts were not segregated. Hence old and weak patients often suffered physical injury and the progress of the recoverable cases was hindered by violent outbursts of the more acute cases of insanity (*Gleaner*, 4 November 1944). Furthermore, the small proportion of patients who managed to recover was not provided with after-care. As a result, many discharged patients failed to get a job, relapsed and soon returned to the hospital (*Gleaner*, 14 November 1944).

But the patient/staff ratio and the amount of money that the government spent on the mental hospital suggest more than anything that the adoption of the term „mental hospital“ in the late 1920s was largely a matter of window dressing. During the period under discussion the number of patients doubled from 1,200 to 2,400 (*Gleaner*, 3 November 1922 and 14 October 1944). The superintendents and government officials argued that this did not reflect an increase in insanity per se but suggested that it was the result of rapid population growth, the increasing ease with which courts sent criminals to the hospital, and the reluctance of African Jamaicans to care for the mentally ill in their family (e.g. *Annual Report* 1928; Board of Visitors, 1931 and 1934; Denham, 1934). Of course by investing little in public health, housing and education, the colonial government was largely to blame for this 50 per cent increase as many patients admitted suffered from insanity that was the result of diseases brought about by poor housing and sanitation and lack of instruction in hygiene (Riley 2005, 76-77 and 101-5), a fact conveniently ignored by the superintendent and government officials.

Although the number of patients doubled during the period under discussion, government expenditure on the hospital rose only by 10 per cent. The fact that the patients did not, and
probably never would, contribute to the island’s economy largely explains why the hospital did not witness the same increase in government funding as the public hospitals. It did not differ in this regard from metropolitan mental hospitals which were also less generously funded than general public hospitals. Yet it could be argued that the funding for the hospital was also informed by racial and class prejudices and did much to uphold the afore-mentioned social structure, as the less than 10 per cent increase in funding benefitted staff more than patients. For instance, the wages of the nurses were re-graded and new accommodation was built for the doctors. Although most of the nurses did not have a school certificate that placed them, like the doctors, in the middle rung of the afore-mentioned social ladder, they too occupied a higher social status than the patients. Annual reports suggest that most of the patients had been „labourers“, „cultivators“, and „domestic servants“ prior to admission (e.g. Annual Report 1920). In other words, the patients came from the lowest tier of the social ladder.

Table 1: staffing at the mental hospital

<table>
<thead>
<tr>
<th></th>
<th>1920</th>
<th>1926</th>
<th>1938</th>
</tr>
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<tbody>
<tr>
<td>1 superintendent</td>
<td>1 superintendent</td>
<td>1 superintendent</td>
<td></td>
</tr>
<tr>
<td>2 doctors</td>
<td>3 doctors</td>
<td>4 doctors</td>
<td></td>
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<tr>
<td>0 matron</td>
<td>1 matron</td>
<td>1 matron</td>
<td></td>
</tr>
<tr>
<td>1 head nurse (female wards)</td>
<td>1 head nurse (female wards)</td>
<td>1 head nurse (female wards)</td>
<td></td>
</tr>
<tr>
<td>1 chief attendant (male wards)</td>
<td>1 chief attendant (male wards)</td>
<td>1 chief attendant (male wards)</td>
<td></td>
</tr>
<tr>
<td>120 male and female nurses</td>
<td>120 male and female nurses</td>
<td>214 male and female nurses</td>
<td></td>
</tr>
<tr>
<td>1 dispenser</td>
<td>1 dispenser</td>
<td>1 dispenser</td>
<td>1 deputy chief attendant</td>
</tr>
</tbody>
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Source: Annual Report 1920; Gleaner, 7 April 1926; Memorandum asylum staff 1938.

As table 1 illustrates, the number of staff increased over time. But because the number of nurses and doctors did not increase as rapidly as the number of patients, there was a high patient/staff ratio, which was nearly three times that in metropolitan mental hospital. In the early 1940s, for instance, there was 1 nurse on every 11 patients during the day and 1 nurse in 57 patients during the night and only one doctor on every 600 patients (Gleaner, 21 October 1944). But not only the quantity also the quality of staff made it difficult for the hospital to be more than a place of confinement. The doctors, most of whom had obtained their medical degree from a university in North America, had gained practical experience in mental health but did not have a diploma in psychiatric medicine. The African-Jamaican doctor Uriah Murray, for example, had done two internships in English mental hospitals but never obtained a diploma in psychiatric medicine (Gleaner, 16 November 1944). And with the exception of the matron and head nurse, nursing positions in the hospital did not require a nursing certificate or even an accepted standard of education, such as the Cambridge Junior Examination. From 1927 onwards, nurses could take lectures in mental health and first aid, followed by a junior and a final examination. This lecture course was cancelled by Superintendent Dr Donald Cameron in 1940 on the grounds of „reduced enthusiasm“. That nurses became less enthusiastic about these lectures over time is not surprising, however, because, as the next section will illustrate, Dr Cameron withheld the promotion of nurses who had successfully passed the examinations (Gleaner, 16 October and 22 November 1944).

Considering the high patient/staff ratio, the nurses’ lack of training and their excessively long working hours – 10 hours per day and 65 hours per week –, the less than modern methods of
treatment and overcrowding, which will be discussed further on, it is not surprising that the hospital had a much lower recovery rate than its metropolitan counterparts, which in the early 1930s was less than 20 per cent of all admitted patients (Annual Report 1931). Many white superintendents tried to justify this low rate by presenting mental illness in African Jamaicans largely as a chronic condition. They claimed that most patients had inherited a predisposition to insanity and suffered from „chronic mania“ (e.g. Annual Report 1921). Yet some superintendents and Directors of Medical Services (DMS) saw insanity in African Jamaicans less as an inherent and more as an acquired condition. They, however, did not hold the „civilizing mission“ or other features of colonialism responsible for insanity but lower-class African-Jamaican culture. For instance, acting DMS Gifford saw „religious excitement“ as an important cause of insanity, while superintendent Hewson largely blamed it on the „consanguinity of the parents“, i.e. the sexual mores of lower-class African Jamaicans (Annual Report 1918 and 1928). In fact, even black doctors located insanity largely in African-Jamaican culture. The afore-mentioned Uriah Murray, for instance, mentioned in an article published in 1935 that „our idiots and imbeciles are the result of thoughtless mating“ (Gleaner, 14 February 1935). In doing so, he reinforced one of the main stereotypes of people of African descent: hyper-sexuality. But black Jamaicans were not only seen to be more prone to insanity than whites because of their biology or culture, their insanity was also deemed to be of a different kind. Governor Denham, for example, explained the low recovery rate in terms of the fact that „borderline cases of insanity that account for such a high record of cures in English institutions are rarely considered fit for admission in Jamaica“ (Denham 1938).

Also in terms of its death rate the mental hospital compared unfavourably with its metropolitan counterparts. In the early 1920s, it had a crude death rate of 106.9 per 1,000 patients. As the island-wide crude death rate was 24.8 per 1,000 of the population (Roberts 1957: 185), this rate more than questions the claim that the mental hospital was a benevolent institution. Superintendents tried of course to excuse this high rate of mortality, which was mainly concentrated in the age group 20 to 50. Dr D. T. Williams, for example, argued that it was largely due to „the admission of an unfavourable class of patients, some of whom were moribund on arrival“ (Annual Report 1920). Yet not only did the hospital admit mainly patients under 35 but most of the deaths were caused by diseases triggered or exacerbated by the hospital’s poor diet, overcrowding and lack of sanitation, such as TB, dysentery and pellagra (e.g. annual reports 1920 and 1926). In the early 1940s, patients were usually given a pint of „bush tea“ and a loaf of unbuttered bread for breakfast and supper and for their midday meal, two green bananas and a piece of mackerel, which even the matron had to admit, led many „to go hungry“ (Gleaner, 7 November 1944). As for the wards, they were so overcrowded that many patients had to sleep on the floor. They also lacked washing basins, had only a few showers and about 1 toilet per 30 patients (Gleaner, 14 October, 2 and 4 November 1944). Further facilitating the spread of disease was a lack of clothing and linen. Patients were given two changes of clothing but which were interchangeable between patients and they were not issued with towels but had to dry themselves with rags (Gleaner, 7 November 1944).

Although more than 25% of patients died of pulmonary tuberculosis during the period under discussion, little was done to isolate tuberculosis sufferers. A tuberculosis block was set up in the 1930s but there was not enough space to accommodate all tuberculosis patients and it also lacked the most basic facilities to lower the incidence of tuberculosis, such as antiseptic and brushes for staff to scrub their hands (Gleaner, 4 November 1944). But patients not only suffered from tuberculosis, they were also used as objects of research into tuberculosis. From
1931 till 1942, the mental hospital took part in a tuberculosis project funded by the Rockefeller Foundation. This project aimed first of all to shed light on the epidemiology of tuberculosis, in particular the question whether „Negroes“ were more susceptible to the disease and suffered higher mortality rates than „whites“ (e.g. Putnam, Saward and Opie 1941). And second, it aimed to establish the efficacy of a vaccine of heat-killed tubercle bacilli. This was not the first time, however, that Jamaica was used by American scientists as a „laboratory“, nor did it stand out in this regard from other parts of the region (e.g. Altink 2007; Stepan 1991).

As part of the tuberculosis project, new patients were tested for tuberculosis upon arrival and an X-ray was made of patients who showed a positive reaction to the tuberculin test. Those who tested negative were divided into two groups. One group was given weekly injections with the vaccine, while the others constituted the control group (Annual Report 1932 and 1933). Each group was regularly given tuberculin tests and by the end of the trial, the Rockefeller tuberculosis commission concluded that the vaccinated group suffered lower attack and death rates of tuberculosis than the control group. About 14% of the vaccinated group developed tuberculosis compared to 22% of the control group. And the death rate of those who developed tuberculosis was 11% for the vaccinated group and 18% for the control group. This favourable outcome led it to conduct an island-wide vaccinated-control group study, involving some 4000 people in Kingston and 8000 in rural parishes (Zwerling 1945, 201-4).

Like in wider society, the high incidence of tuberculosis in the mental hospital was closely associated with overcrowding. Just before the outbreak of the First World War, government decided to erect a new ward that would accommodate 100 patients (Gleaner, 20 September 1920). In anticipation of this new ward, the Public Works Department (PWD) pulled down an existing ward but the outbreak of the War prevented it from building the new ward. After the War, the government did not instruct the PDW to work on the new ward, which along with a rapid increase in patients in the immediate post-war period, including many veterans, quickly resulted in overcrowding (Annual Report 1919 and 1920). In the early 1920s, proposals were regularly made by both white and black elected members of the LegCo to extend the hospital or build a new and more modern one outside of Kingston. The government usually responded to such demands with the claim that there were at present „no funds available” (e.g. Gleaner, 21 March 1924). Yet at the same time it allocated large sums to the PWD to build roads and other overhead capital, such as a central sugar factory, that benefitted the island’s economic elite far more than the people. The sums allocated to the PWD for road works, for instance, served to extend and improve existing main roads so that they could carry motor lorry traffic (mainly from plantations to the ports) rather than build new roads that would open up the interior lands and thus allow more African Jamaicans to become small cultivators (Gleaner, 6 March 1924).

It was not until the late 1920s and largely resulting from pressure exerted by a new superintendent before government finally set funds aside for building works. A few months after his arrival in 1926, the English-born superintendent Dr Dale Hewson stated that he had not expected „to find conditions in general so far behind modern mental hospital practice“ and concluded that the hospital was more „a place of incarceration rather than a place for treatment of disease“ (Annual Report 1926). A year later, he submitted a report, which highlighted the overcrowding, insanitary conditions, and lack of competent staff. Following a visit to the hospital, which confirmed Hewson’s observations, Governor Stubbs ordered an investigation into improvements in the hospital which estimated that implementation of
Hewson’s recommendations with regards to staffing and buildings would cost £19,000. Because of financial constraints, it was decided to carry these recommendations out in instalments. In 1927, the government proposed and the LegCo voted in favour of £3,000 for improvements in the buildings. The government expected that the elected members would approve additional funds for improvements in following years (Heuring 2011). Yet they approved only small sums. This should not only be seen in light of the fact that because of their limited powers, their role was largely reduced to that of opposition but also their belief that the insane were unproductive members of society, who competed with others for scarce resources. Or as some black elected members argued, the insane were „economically dead” and money „could be better used elsewhere” (Gleaner, 18 April 1929 and 25 March 1931).

In fact, black elected members were generally less concerned about patients than staff. We shall see further on that they made demands for the promotion of local doctors and vehemently protested against the treatment of nurses. This is not surprising, however, as they stood as independents until the emergence of a party political system in 1938. This necessitated a focus on the interests of the small number of taxpayers in their parish. Hence, black elected members were more inclined to ask for roads, schools, irrigation works etc. than to enlarge a hospital that benefitted not just the whole island but also mostly non-voters. And the fact that it was mainly the sons and daughters of their voters, who became doctors and nurses in the hospital helps to explain why the few times that they raised conditions at the mental hospital it was mainly the working conditions of staff rather than the level of patient care. As doctors and nurses were of a higher social status than the patients, it could be argued that by working more towards the benefit of staff rather than patients, black elected members did little to challenge the existing social structure.

The improvements affected in the late 1920s and early 1930s reveal that it was not just race but also class and gender prejudices that influenced the government’s attitude towards the mental hospital. The first group to benefit from improvements were private and thus upper- or middle-class and mostly white or light-skinned patients. In 1927, a new ward was built for them and they were also given access to a tennis court. In following years, three further private wards were set up, which far exceeded the normal wards in terms of space and sanitation. And although the gender ratio of the patients was roughly equal and superintendents stressed that there was „serious overcrowding” on the female side, the first new normal ward that was built was a male ward and in total four male wards were erected compared to only two for women (Annual Report 1926; Gleaner, 12 April 1937, 24 July 1930 and 21 July 1931).

The world-wide economic depression did much to halt the building work. In 1930, the DMS submitted a request to spend £ 10,600 on new buildings and sanitation works. Initially the government approved his request but eventually asked the LegCo to vote in favour of only £1,000 for an additional ward and £2,000 for sanitation works (Colonial Secretary’s Office overcrowding 1933; Gleaner 4 December 1930). Four years later, Colonial Secretary Jelf visited the hospital and was so „appalled at the overcrowding” that he suggested „to provide immediately the accommodation for which the superintendent asks” (Jelf 1934). Governor Denham thereupon ordered an investigation into the possibility of moving the hospital to another site. Based on commercial considerations rather than a concern for the welfare of the patients – the hospital’s land was valuable as residential property and the investigation recommended a new hospital. The costs involved led the governor to reject this recommendation and order instead improvements that would reduce overcrowding in “the cheapest way possible” (Heuring 2011). As a result, by 1944 the mental hospital had nine
male and eight female wards, each made up of various buildings, scattered across some 120 acres and connected by two miles of dirt road. The majority of the buildings were constructed of brick but the ones added since the late 1920s were made of reinforced concrete. Not only were wards – enclosed units where patients slept, dined, were examined and had their recreation – seriously overcrowded, they also suffered from leaking roofs and flooding during rainy weather because of a lack of a proper drainage system. Most wards also lacked dining sheds so that patients had to eat on the verandas or under trees (Gleaner, 2 November 1944).

The mental hospital, then, was grossly underfunded in the interwar years. The government allocated sums for building work but this did little to counteract overcrowding which was positively correlated to the high mortality rate. And while the government met Dr Hewson’s demand for more staff, the patient/staff ratio along with the quality of staff and their long working hours as well as the superintendents’ lack of interest in modern methods of treatment resulted in a low standard of patient care. As mentioned, the government’s claim that there were „no funds” available for substantial improvements was largely an excuse, as it did make funds available for projects that benefited the mostly white business elite. Although it never openly discriminated against patients and staff, the following section, which focuses on the white senior staff of the hospital in particular their relationship with the mostly locally-born doctors and nurses, also suggests that the government’s attitude towards the mental hospital was influenced more by its racial biases than economics.

**Staffing**

Throughout the period under discussion, the superintendent and matron were „imported” from Britain, while the doctors, the head nurse and other nurses were recruited locally and thus invariably black. Black head nurses were never considered for the post of matron. In 1913, Matron Annie Douglas took up a new post at the public hospital in Kingston. It took until 1926 before the government finally decided to appoint a new matron, which provides another illustration that treatment was not a priority. It did not, however, consider head nurse Munroe, who had acted as matron for more than ten years, but advertised abroad (Gleaner, 3 March 1926). And when the „imported” matron – Harriet Tyler – resigned in August 1938, the post was again advertised abroad because the head nurse had the required ten years of experience but not the necessary certificate in mental nursing (Richards 1938a).

Local doctors were also not considered for promotion to the most senior rank. In 1924, the post of superintendent became vacant. Dr Hugh Bond, an African Jamaican who was engaged in private practice in London but had acted as superintendent and also held a diploma in psychiatric medicine, enquired at the Colonial Office about the vacancy. He was told that the post was already under offer to another candidate. This, however, was a mere excuse. As in the case of other African-Jamaicans doctors whose applications for senior posts in- or outside Jamaica were rejected, skin colour was the deciding factor. A summary of the Colonial Office’s interview with Bond concluded with the words that „although perhaps not a fully blooded negro he is not far short of it” (Notes Senior assistant medical officer).

The person eventually appointed to the post of superintendent was Dr Birch, an Englishman who had previously worked in the hospital. He resigned, however, within a year because the government did not want to implement his suggestions to modernise the hospital (Gleaner, 7 July 1925). He was succeeded by Dr Dale Hewson. When Hewson died in 1937, hope was expressed that a local doctor would be appointed, especially after the Gleaner reported that Dr Hugh Bond had once more applied (Gleaner, 2 March 1937). Yet in October 1937, Dr
Aslett, who lacked experience in tropical medicine, arrived from England. Like Dr Birch, he compared the hospital to its metropolitan counterparts, found it lacking, and resigned within a month (Notes interview with Dr Aslett, 1938).

After Aslett left, Uriah Murray became acting superintendent. Although Aslett had recommended him for the post of superintendent, Acting Governor Woolley decided to appoint someone from abroad because Murray lacked the „necessary qualifications“. As it would be difficult to find a doctor from abroad with both the relevant qualification and experience in tropical medicine on a salary of only £750 a year, Woolley proposed in the discussion of the budget for 1938-39 to increase the salary to £850. The black elected members fiercely opposed this and argued that whatever Murray lacked in qualifications, he more than made up in experience. Although they could not prevent Woolley from appointing a superintendent from abroad, they showed their discontent by voting against his proposal. Because at least nine voted against, the government was forced to withdraw its proposal and was thus only able to appoint a superintendent from abroad on a salary of £750 (Gleaner, 18 May 1938).

It needs to be stressed that the black elected members used the appointment of a new superintendent also more generally to express their discontent with the bypassing of African Jamaicans for senior posts in government service. Or as member Little argued, there is a „feeling that wherever there is a position that calls for something like a decent salary, every effort is made to leave out the local talent“ (Gleaner, 18 May 1938). Other black elected members equally avoided the words race or colour in their support for Murray and used instead such neutral terms as „locals“, „natives“ or „Jamaicans“. As more than 95 per cent of the population was of African descent, it could be argued that they did not have to bring up race in their attacks on the government’s practice to keep the top of the government service white, as the government would have known implicitly that they were talking about discrimination against non-whites. Yet another explanation why they did not invoke race or colour is that it was not deemed respectable in middle-class Jamaican society to raise „the colour question“ (Richards 2002: 351-7). Some black elected members may have embraced this norm, like other white, middle-class, norms and values, in an attempt to gain acceptance from the white elite. Others, however, may have done so to avoid the vilification meted out on Marcus Garvey and others who preached a race-first ideology. But for whatever reason, by not calling the bypassing of Murray racial discrimination, black elected members did little to challenge the racial hierarchy.

The high turn-over in superintendents may have negatively affected patient care as nurses and doctors constantly had to adjust to new personalities. But what affected patient care even more was the quality of the „imported“ superintendents. Except for Birch, none of the superintendents during the period under consideration had experience in tropical medicine and most were unwilling to gain knowledge of „native psychology“ and local conditions possibly because of their metropolitan orientation and/or racial prejudice. For instance, Dr Donald Cameron, who succeeded Dr Aslett, tried to avoid as much as possible interaction with the predominantly lower-class and dark-skinned patients. He never visited the wards and ordered treatment solely on the basis of case sheets provided by the doctors (Gleaner, 10 and 16 November 1944). His racial prejudices also led Cameron to prevent patients from leaving the hospital after they had been recommended for discharge by one of the doctors. When asked by the 1942-43 commission about this, he claimed that the patients concerned had not yet completed a course of anti-syphilitic treatment. As syphilis was not a prevalent disease in the hospital, it is likely that he never ordered such treatment and that he merely kept these
patients out of spite and mobilised the stereotype of black promiscuity – syphilis is a sexually transmitted infection – to justify his action (Gleaner, 2 November 1944).

But even Dr Hewson, who recommended building works and an increase in staff, was not free from racial prejudices. In 1935, the white Canadian Guy Armstrong was put on trial for murder. He was found guilty but on evidence supplied by Hewson was declared „insane“ and committed to the mental hospital. He was released within a year on evidence again provided by Hewson. Yet Hewson did not support the release of black convicts in the hospital, who had committed far lesser crimes than Armstrong (Gleaner, 5 February 1936 and 20 February 1937, Denham 1937).

And the white matrons too discriminated against the overwhelmingly dark-skinned, patients. For example, Matron Doris White, the successor to Matron Tyler, gave patients castor oil for „no better reason than they curse her“. And she also issued excessive punishments for minor offences. She, for instance, deprived patients who had „picked up ripe fruit“ of their bed or took away their private belongings or withheld from them such privileges as playing cricket (Gleaner, 14 November 1944). And Matron White also acted out of mere spite when she ordered the removal of discarded pieces of canvas that the locally-born head nurse had given to patients who were forced to sleep on the concrete floor because of a lack of beds (Gleaner, 10 November 1944).

But the „imported“ superintendents and matrons were not just prejudiced against patients. Triggered by the black elected member J. A. G. Smith and following a long series of complaints by nurses, a commission chaired by attorney-general Camacho was set up in 1936 to enquire into the dismissal of several nurses for sleeping on a four-week night shift and more generally the discipline in the institution. The Camacho commission concluded that the dismissal was justified on the basis of the rules in place at the time but that there was no justification for the „rough and sometimes insulting manner in which they are spoken to and treated by the superintendent and matron“. It furthermore noted that shifts were too long; that staff had insufficient annual leave and lacked sanitary facilities; and that the patient/staff ratio was too high. The commission was especially critical of the behaviour of Matron Harriet Tyler. It argued that in many cases Dr Dale Hewson had been inclined to leniency but that she had „insisted on punishments being meted out or sentences increased in severity“ (Gleaner, 15 January 1937).

Although the Camacho commission severely criticised Matron Harriet Tyler, it did not recommend her dismissal. In fact, the DMS fully supported her. He told the colonial secretary not to attach too much weight to the commission”s report because „all matrons have acid tongues and few efficient matrons are liked by their staff” (Hallinan 1936). Also attempts by black elected members to reduce the matron”s salary as a means of punishment for her behaviour came to nothing and she was even given an MBE (Gleaner, 30 April 1936 and 10 June 1938). Yet at the same time, some of the nurses who had testified before the Camacho commission were dismissed. And in spite of demands made by black elected members, the nurses who had been dismissed for sleeping were not reinstated, even though the four-week night shift had been repealed (Gleaner, 2 February and 5 May 1937).

The 1942-43 commission was even more outspoken in its criticism of the superintendent (Dr Donald Cameron) and matron (Miss Doris White) than the Camacho commission, which is not surprising considering its make-up. While the Camacho commission consisted of the attorney-general, the commander of the troops and a retired senior civil servant, the 1942-43
commission was made up of George Seymour, the locally-born white custos of St Andrew; Dr Oswald E. Anderson, a black doctor and elected member, who had resigned as Mayor of Kingston in 1938 following his public accusation that there was racial discrimination within the medical department; and nominated member Robert Barker. The commission was set up in response to numerous, publicly-made complaints by staff that recommendations made by the Camacho commission and accepted by the government had not been implemented and that the new superintendent Dr Cameron issued „severe penalties“ for minor offences and was extremely condescending towards them (e.g. Gleaner, 2 September and 12 November 1938: Memorandum asylum staff). As a result, the 1942-43 commission’s remit was much wider than the Camacho’s: „to enquire into and make recommendations concerning the administration of the Jamaica mental hospital”.

The commission produced a majority report written by Seymour and Anderson and a minority report by Barker. The majority report listed some 90 recommendations. Amongst them were various suggestions to increase the quality of staff, which offered opportunities for social mobility, such as providing doctors and the head nurse with opportunities to pursue degrees that would enable them to occupy the most senior posts in the hospital and a three-year nursing training (Gleaner, 7 October 1944). But the majority report also included various proposals that tried more directly to improve patient care, such as adding new buildings, the purchase of specialised equipment, the appointment of a dietician, etc. But it’s most controversial recommendation and which led Barker to produce his minority report was the dismissal of Dr Cameron and Matron White because they had a „lack of sympathetic understanding“ of the staff (Gleaner, 11 October 1944). The majority report stated that the matron held an unhealthy sway over the superintendent. It mentioned various instances in which Matron White had tried to influence Dr Cameron and also stated that Dr Cameron usually took her words against that of the doctors and that he also ignored the doctors” complaints about Matron White’s inappropriate behaviour towards them (Gleaner, 21 November 1944). It is likely that Matron White would not have shown such condescending behaviour towards doctors in a metropolitan mental hospital as they ranked much higher than her.

Yet Seymour and Anderson reserved most of their criticism for Dr Cameron. They stressed in their report that he antagonised staff, in particular the doctors and the head nurse; was not impartial in the exercise of discipline; did not follow just procedure when issuing penalties for offences; and failed to take circumstances into consideration that had caused staff to commit offences in the first place (Gleaner, 18 October and 21 November 1944). For example, he dismissed nurses when a patient under their care escaped. Yet because of a lack of staff and the numerous opportunities for patients to escape, including „occupational therapy”, there was little nurses could do to prevent escape. Furthermore nurses who were accused of such serious offences as the escape of a patient were rarely asked to appear before Dr Cameron. Instead, he usually sent them a note listing the offence and after their reply, issued another note stating that they were dismissed (Gleaner, 8 October 1944). And nurses he did not like, he „perpetually watched and brought up for any error, however trivial”, while others could commit similar or even more serious offences but „were not even reprimanded” (Gleaner, 18 October 1944).

Seymour and Anderson also stressed that Dr Cameron was not impartial when it came to promotions and increments. Various nurses who had attended lecturers, taken the exams and had a clean record were not given increments, while nurses far junior who did not meet these standards were promoted (Gleaner, 22 October 1944). As it was not deemed respectable to
raise „the colour question”, it is not surprising that Seymour and Anderson did not state that it was „shadism” – a preference for a lighter skin – that underpinned Cameron‟s partiality with regards to punishment and promotion, as it was for many of his predecessors (e.g. Lysaught 1937). The majority report, however, does provide evidence that Cameron held negative and stereotypical ideas of people of African descent, including the idea that they were less intelligent than whites. For instance, he told the commission that there was much „dead wood” amongst the nurses, which should be „trimmed off by retirement or dismissals in order to improve the efficiency of the nursing staff”, a fact much disputed by the doctors, who claimed that about two thirds of the nurses were „of fair intelligence and capable of absorbing technical training in general and mental nursing” (Gleaner, 16 October 1944). But Cameron not only questioned the intelligence of the nurses, he also repeatedly told the commission that the doctors lacked certificates in psychiatric medicine and did not „know their work” (e.g. Gleaner, 21 November 1944).

While Robert Barker agreed with Seymour and Anderson that the relationship between the senior and subordinate staff was fraught with friction, he was convinced that the superintendent and matron alone were not to blame for this state of affairs. He stated for instance in his report that the superintendent could not be held responsible for „conditions that were complained of before the he took up office”. Yet he did not completely excuse the superintendent by adding that it was „clear that he has not remedied them [conditions]” (Gleaner, 11 October and 10 November 1944). Barker‟s attempt to excuse the superintendent is not surprising, however, as he was a nominated member of the LegCo and thus expected to support the government. The government had already made attempts to protect Dr Cameron before the commission had completed its work. When the commission discovered in February 1943 that Cameron did not follow just procedure in the case of dismissal, such as refusing nurses to call witnesses, it submitted an interim report to the governor asking him to retry some recent cases of dismissal. Governor Richards not only declined this request but also stated that „there is nothing to show that the discretion of the senior medical officer has been at fault” (Gleaner, 17 October 1944).

After the commission had completed its work, the government continued to protect Dr Cameron. The two reports were submitted to the Privy Council in May 1944. As even Barker‟s report raised questions about Dr Cameron‟s performance, the Privy Council asked to interview both Dr Cameron and the DMS. Dr Cameron tried to exonerate himself first by arguing that the three doctors who had testified before the commission were „the only ones he did not get on with” and that the commission had refused to honour his request to call other witnesses, and second by stressing that „conditions at the institution had affected adversely the work of the medical officers, nurses and subordinate staff”. Dr Cameron also tried hard to excuse Matron White, whom he argued „was highly efficient and the best-informed matron with whom he had worked”. The DMS furthermore convinced the Privy Council that the governor should tell the LegCo that the government did not support the majority report‟s recommendation to dismiss the superintendent and matron. He stated that there „was no doubts as to the efficiency of the matron” and that Dr Cameron had submitted requests to him for improvements but that he had to refuse them because of the financial situation of the colony and the war (Privy Council 1944).

The governor accepted the Privy Councils” advice and told the LegCo that while the government was willing to implement many of the recommendations made in the majority report, including the appointment of a dietician and occupation officer, the institution of an after-care system and greater opportunities for staff training, it would not take steps to
remove the superintendent and matron. And it also argued that „lack of funds” and the war made it impossible to adopt an eight-hour work day and the appointment of more nurses to achieve a nurse/patient ratio of one in eight – other key recommendations made in the majority report (Gleaner, 1 November 1944). In other words, the government failed to endorse those recommendations that impacted most on patient care and the relationship between senior and subordinate staff.

As the majority report incriminated not only senior government officials for conditions in the mental hospital but also the government itself by stressing that between 1900 and 1942 expenditure on the hospital as a percentage of total expenditure increased from only 1.7 to 1.9 per cent (Gleaner, 30 November 1944), the government tried to ensure that the LegCo had as little opportunity as possible to discuss the majority report. Hence it simply informed the LegCo on 31 October 1944 of the recommendations made in the majority report that it was willing to implement. Yet it could not completely avoid discussion of the report. On 9 November, the LegCo discussed the proposal to ask for a grant under the Colonial Development and Welfare Act to set up various „temporary structures” at the hospital with a view to building a complete new and modern hospital in the future. Although it was tabled as the last item of the day, black elected members used this opportunity to raise their concerns about the government‟s handling of the commission‟s findings. They argued that the main problem with the mental hospital was not „buildings but administration” and that by keeping the two main officers in place, both staff and patients would continue to suffer ill-treatment. They were not surprised, however, by the government‟s refusal to endorse the proposal to dismiss the superintendent and matron. For instance, Anderson said that he knew that „friendship existed between officers of the government and the administration of this institution” and that „friends must protect friends” while „sick people must go to ruin and employees must take their chance so that friends might be maintained” He also indirectly accused the government of discriminating against African Jamaicans by comparing the government‟s treatment of this white English superintendent with the way it treated locally-born and thus invariably black doctors in charge of the public hospitals in rural parishes. He mentioned, for instance, that the doctor „in charge of the cattle barn which is the Morant Bay hospital is expected to be up-to-date. If he did not conduct that hospital properly he would have been fired long ago”. And although the other black elected members did not state things as bluntly as Anderson, they too used the discussion about the proposed grant application to show their discontent with the practice of appointing only whites to senior posts in government service. A. B. Lowe, for example, stated that he did not object to white men occupying senior posts in the medical service per se as he realised that many were more qualified than locals but he did not want those „with poor mentality” only those „who are friends”(Gleaner, 10 November 1944).

Not only was the government not persuaded by these arguments to allow for a greater discussion of the majority report, it also accused black elected members of dealing with „the matter in an electioneering spirit” – the first election under universal suffrage was only a few weeks away. Yet we have seen that this was not the first time that elected members complained about the administration of the mental hospital. While the government may have granted a commission to investigate conditions at the hospital in order to stem the discontent of elected members with the system of Crown Colony government, by suppressing a full and open discussion of the majority report, which highlighted the shortcomings of not just the senior white officers but also Crown Colony government itself, it in fact did much to fuel this discontent. In particular, by not dismissing the two white senior officers that were at the
centre of the investigation the government conveyed to black elected members its commitment to uphold the racial status quo.

Conclusion

This case study of conditions in the Jamaican mental hospital in the decades leading up to the first election under universal suffrage has provided evidence to contest the claim that Empire was a modernising, benevolent and non-discriminatory force. Although patients spent more time outside the wards, the hospital remained throughout the period under discussion a place of confinement rather than treatment. For instance, it did not, like its metropolitan counterparts, employ an occupational officer. And shock therapy was only used on an experimental basis and administered by the doctors because the superintendent had no interest in employing such modern methods of treatment. Because of this lack of modernisation, the hospital failed to benefit the majority of its patients, who were poor and mostly dark-skinned. When the government finally agreed to enlarge the hospital, it was not these patients but the small number of private, i.e. middle-class, patients, who were the first to benefit. Although more normal wards were added in the late 1920s and early 1930s, building work failed to keep step with the increase in patients so that normal wards were heavily overcrowded. This largely explains the hospital’s high mortality rate, which above all contests the idea of Empire as a benevolent force.

Underinvestment in mental health care was a phenomenon not unique to Jamaica. Also in the metropole, mental hospitals received less funding than general public hospitals because patients were not „normal”, i.e. not contributing to the economy. Yet in Jamaica as in African colonies (Vaughan 1991), the colonial governments underinvested in mental health care because the patients were doubly abnormal – insane and black. Although they never openly discriminated against patients, racial biases did influence the government’s and the white senior officers’ attitudes towards them, as is clearly illustrated by Matron White’s decision to take away privileges from patients for such things as „picking up ripe fruit” and Dr Cameron’s refusal to discharge certain patients.

And racial prejudices also underpinned the government’s and white senior officers’ attitudes towards the local and thus invariably black staff. By turning down requests for promotion on the grounds of „lack of qualifications” and appointing white men and women who lacked „the necessary experience” to senior posts and also by withholding opportunities for local staff to get promoted, such as study leave for doctors and lecture courses for nurses, the government and white senior officers helped to uphold the island’s peculiar system of social stratification. But to sustain this system, the government also had to protect the white senior officers against attacks by the black elected members of the LegCo. Hence it ensured that there were yes-men on the two commissions that investigated conditions in the hospital. And when these commissions found incriminating evidence against the white senior officers, the government went out of its way to keep them in post. It, for instance, rejected the recommendation to dismiss Superintendent Cameron and Matron White on the grounds that:

. . . it has been impossible, owing to the war, to remedy the unsatisfactory conditions that have obtained at the mental hospital for some years which are due mainly to overcrowding and inadequacy of personnel and equipment, concerning which several representations have been made by the Director of Medical Services, and the Senior Medical Officer, it is considered that the latter Officer and Matron cannot be held sufficiently responsible for these conditions to justify the acceptance of this recommendation (Gleaner, 1 November 1944).
Yet the sheer fact that black elected members managed to get a commission of investigation in spite of their limited powers illustrates that they were considered by the government as a force to be reckoned with. And their attempts to openly discuss the findings of the two commissions and even more so their attempts to mete out some form of punishment on the white senior officers, indicate the black members’ commitment to replace Crown Colony government with representative or even fully responsible government. But as they were more concerned with the promotion opportunities of staff than patient care, black elected members themselves also worked to uphold the peculiar system of social stratification. And they did so too by not condemning as racial discrimination the bypassing of Murray for the post of superintendent or Dr Cameron’s decision to withhold increments from certain nurses.

This case study, then, has revealed some uncomfortable truths. It has shown not only that Empire was marked by institutional racism but also the complicity of the colonised in their own submission. Although these truths are not surprising, it is important for scholars to bring them out in the open because, as Stephen Steinberg has argued with regards to the study of American racism, „failing to recognize and condemn oppression, or calling it by its right name, allows oppression to go unchallenged” (Steinberg 2007: 84).

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The term „black” is used here to denote Jamaicans of African descent.

The paper was paid £600 a year by the government for its Council reporters in order to economise on the costs of Hansard reporters.

This happened with the passing of the Mental Hospital Amendment Act, which was based on the 1930 metropolitan Mental Treatment Act that turned „lunatic asylums” in Britain officially into mental hospitals.

Until the early 1930s, the term Superintending Medical Officer was used for the head of the medical department. The term DMS, however, is used throughout this study to refer to this person.

As pulmonary tuberculosis, the most common case of tuberculosis in interwar Jamaica, is a bacterial disease transmitted from person to person through droplets coughed, sneezed, or spit by people with an active case of the disease, it spreads easily in overcrowded residential areas and also in institutions that are marked by overcrowding, such as prisons and hospitals (Riley 2005: 97-8).

In the interwar years, no more than 10 per cent of the population paid enough taxes on property or had a sufficient high income to qualify for the vote (Wrong 1923: 130).
FIBROIDS: A SILENT HEALTH PROBLEM AFFECTING WOMEN IN TRINIDAD AND TOBAGO

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Uterine fibroids are described as benign tumours of the womb. Conventional medicine states that only 20% of women have fibroids when they reach the age of menopause. This figure is not however representative of the Caribbean community, where the statistics are much higher. In Trinidad and Tobago, women between the ages of 25-44 show the highest incidence of fibroids, which are the most common tumour for women’s admission to hospital. This paper examines the experiences of Trinidadian women with fibroids and argues that like HIV/AIDS, hypertension, diabetes or cancer, the occurrence of fibroids among women needs to be promoted as a public health concern.

The paper reviews the incidence and prevalence of fibroids internationally and within Trinidad and Tobago, and surveys current research findings for fibroids. Case studies that demonstrate the effects of fibroids on women and their quality of life illustrate the urgency of this issue. The article concludes by identifying a research agenda to develop preventative interventions for fibroids, and calls for building public awareness among the population of urgent matter involving women’s health in Trinidad and Tobago.

Keywords: fibroids, women’s health, Black women, Trinidad and Tobago

Introduction

The health of women is an issue that requires focused attention today. Many concerns dominate the public agenda. Cancer, in particular breast and cervical cancer, affect women in Trinidad and Tobago. Diabetes, osteoporosis, complications of labour and delivery, and HIV/AIDS dominate health articles in newspapers and the general public is sensitised to prevalence, prevention and treatment of these various conditions. Uterine fibroids do not enjoy the same level of public awareness. Yet among women of Trinidad and Tobago, fibroids is an area of concern that is discussed among women in closed circles. Fibroids affect a larger proportion of Trinidad and Tobago women more than cancer, and HIV/AIDS. Fibroids usually do not occur before puberty and shrink after menopause. So frequent is its occurrence for women in Trinidad and Tobago, it has been described as a “rite of passage” along the biological timeline of growth phases (i.e. puberty → fibroids → menopause) in many women. Fibroids are perceived by the medical
profession as benign and harmless, and a problem that can be easily handled through surgical intervention for severe cases.

Uterine fibroids, medically termed leiomyoma uteri, are benign tumours of the smooth muscle of the uterus (Simms-Stewart & Fletcher 2012). They can range from one or two centimetres in length to uterine growths weighing over sixty (60) pounds. Fibroids may be located within the wall of the uterus to increase its size, expand towards the uterine surface, grow towards the uterine cavity or grow as a long stalk-like structure extending into the vagina (Cotran, Kumar and Collins 1999). Fibroids cause severe abdominal pain, excessive bleeding, constipation, involuntary urination, asymptomatic pelvic masses, infertility, preterm labor, and spontaneous abortion, but rarely cause cancer (Sunkara et al. 2010) and are the most cited indication for hysterectomies (Cardozo et al. 2012). Fibroid growth is stimulated by the sex hormones estrogen and progesterone (Rein, Barbieri and Friedman 1995), and may distort the uterine surface. Black women have more fibroids (Amant et al. 2003) and larger uteri that accounts for the higher incidence of complications. They are also diagnosed at an earlier age with more symptomatic tumors (Peddada et al. 2008).

Fibroids have a major impact on the quality of life that women enjoy in Trinidad and Tobago. It is important to recognise that the “lived” experiences of many women with fibroids are painful and very embarrassing. Many women with fibroids suffer in silence and only rarely is there public mention of this topic. This paper provides a brief review of the current research on fibroids. Using information provided from interviews with medical practitioners and women with fibroids, it explains the experiences of women and the perspectives of the medical profession towards fibroids as a health condition. It concludes with a justification for fibroids to be considered a public health concern. This paper hopes to raise public awareness of this problem and encourage further research to develop appropriate alternative approaches for non-surgical treatment and prevention of this condition.

The “lived” experiences of women with fibroids

The following three (3) case studies illustrate the perspectives of women with fibroids.

Case Study 1 - Alison

Alison, a single parent with one child, was a 36-year old clerical assistant with a major corporation. At about thirty two (32) years she experienced heavy menstrual bleeding, pain around her uterus and extension of her stomach. When her period was due she was careful to dress appropriately so that there was no leakage. Given these sensitive changes taking place in her body, she decided to consult her medical doctor who diagnosed fibroids.

The doctor recommended the surgical removal of the fibroid via a myomectomy, a surgical procedure, considering her age, interest in having more children and desire to keep her womb. After the surgery, Alison felt great. However, she had no sensation where the incision was made. She did report that before and after the operation there was no negative effect on her relationships with her child, friends, family, employment or social activities.
She considered having fibroids to have been a “learning experience” in which she recognised the importance of being alert to changes in one’s body, keeping physically active and maintaining good health. She noted that there needed to be greater emphasis on educating women about fibroids because it seems to be very prevalent in Black women, both young and old, whether or not they have children.

**Case Study 2 - Dora’s Story**

Dora was a 49-year old divorcee, with a 24-year old daughter, who lived in the eastern area of Trinidad. A trained primary school teacher by profession, she had recently been promoted at her workplace. Dora had benefited from the free education provided for the nation in the sixties and seventies. She was also very active in cultural groups in the community.

At age thirty, she experienced heavy, irregular menstruation and constant back pain. Her gynaecologist diagnosed fibroids. During this period Dora often felt exhausted and frequently was absent from work. She withdrew from netball, a sport that she played since teenage years.

Five years after being diagnosed with fibroids, Dora had a hysterectomy. Her husband at the time did not understand what she was experiencing, and accused her of not wanting to have any children for him. After frequent quarrels they divorced.

**Case Study 3 - Mary-Anne’s Story**

Mary-Anne was a 36-year old university student with a sixteen year old son. After the relationship with her child’s father ended due to domestic violence and her partner’s infidelity, Mary–Anne concentrated on raising a good son and being independent. Her son was successful in the Caribbean Examination Council examination and became gainfully employed. After her son’s father, Mary-Anne did not pursue another relationship. She was very proud of having an organised and disciplined life where she adequately provided for her child, parents and herself. Mary-Anne was only able to enter university as a mature student due to these responsibilities, and she self-financed her tuition.

After entering campus she had to take days-off from classes and tutorials because of complications related to fibroids. She had difficulty concentrating and always felt weak and exhausted. She dropped out for a semester to attend to her medical condition.

Her constant question was “What could I have done to have avoided this? I have tried so hard to be careful.” Mary-Anne later died. It was not established if her death was related to fibroids.

The voices of women with fibroids come through these three cases illustrating the effect on the lives of women who develop symptoms. It affects their work life, reducing productivity through absenteeism and lowered morale. Family life can be more difficult for women with symptoms from fibroids. Their relationships with male partners may be strained and the feelings of tiredness inhibit activities with children. Mary-Anne’s story reinforces the point that educational and career development can be hindered by fibroids. Dora’s contribution to sport and youth development was curtailed during the time that she was incapacitated by fibroids. The ability of
women to be fully involved in productive, reproductive and social life directly relates to the progress of the society and the country. Fibroids may not be as fatal a disease as cancer or AIDS. Neither are the effects as striking and emotionally disturbing as the social diseases of suicide or murder. Their gradual development almost makes them invisible to the general public. Nevertheless, they are affecting the quality of life that Trinidad and Tobago women can enjoy.

Women, themselves, discuss fibroids in private settings. Even though as many as seventy (70) per cent of African women over forty (40) years have fibroids in the New World, there remains a public silence on this topic. A reason for this silence relates to the fact that a discussion of fibroids necessitates mention of the womb and other intimacy aspects surrounding human sexuality. Human sexuality is frequently kept out of discussions on social issues in public forums. Women also lack the courage to contradict established views of the status quo, and fail to voice their personal sufferings.

The perspectives of medical doctors

Interviews with medical doctors in Trinidad and Tobago reinforce the views of health practitioners that are not “seriously concerned” about this condition. In cases where women are affected by heavy menstrual bleeding or pressure of the uterus on the bladder, the only option offered is surgical intervention. Medical emphases on women’s health prioritise breast and cervical cancer as key health issues affecting women. Even with gynaecologists there remains a silence on fibroids and its impact on women.

When asked about prevention or the causes of fibroids, responses were varied. One doctor proposed that women are not having enough children. He suggested that compared to mothers of yesteryear and their ancestors, there has been a reduction in the fertility rate which therefore influenced the production of fibroids in women today. This argument may help to explain why women without children or only one child develop fibroids, however the evidence shows that women with three or more children also have fibroids.

From all reports one pattern is clear. The doctors confirmed the literature statements that fibroids are most prevalent in women of African descent in the New World. Not only in Trinidad and Tobago has this pattern been observed. It was noted that as many as seventy–five per cent (75%) of African descended women over thirty (30) years are affected. East Indians have the next highest incidence level followed by Asians such as Chinese. Caucasians are the least affected, rarely reaching more than twenty-five per cent for women descended from that ethnic group. This indicates that there may be genetic links to the presence of fibroids. No evolutionary advantage has been identified for the presence of fibroids in women. The widespread presence in the African ethnic group may relate to generations of in-breeding in small populations. Fibroids are known to run in families. No cultural patterns are attributed to causing fibroids.

The doctors had no responses to questions of prevention. Other than surgical procedures such as embolization, there is no advice for the many young women who will be affected by fibroids in the future. Women in Trinidad and Tobago as young as fifteen years have been found to have fibroids. Will there be continued denial of the effect of fibroids on women? Surgical procedures are expensive, time consuming, and have associated risks: infection, damage to other organs, and
exposure to anaesthesia. Recovery from a hysterectomy can take four to six (4-6) weeks. This results in absenteeism from work and studies, and quality time away from family.

**Review of current information and data on fibroids**

Fibroids are the most common tumors seen in women between 25 to 44 and 45 to 64 age groups in Trinidad and Tobago. Incidence rates are based on discharge data from the Ministry of Health Annual Statistical Report, 2005 (Tables 1 and 2). The true incidence/prevalence is under-reported as the condition is probably not diagnosed in many women.

Incidence by hospital discharge data by diagnosis

<table>
<thead>
<tr>
<th>Year</th>
<th>Diagnosis</th>
<th>All Ages</th>
<th>Age at Admission in Years</th>
<th>Average Length of Stay</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>Uterine</td>
<td>621</td>
<td>6</td>
<td>4.4</td>
</tr>
<tr>
<td>2005</td>
<td>Leiomyoma</td>
<td>676</td>
<td>1</td>
<td>4.4</td>
</tr>
</tbody>
</table>

Table 1. Discharges for Uterine Leiomyoma by Age Group and Length of Stay at All Hospitals

Excerpt from Republic of Trinidad and Tobago Ministry of Health Annual Statistical Report 2004 – 2005

<table>
<thead>
<tr>
<th>Institution</th>
<th>Population</th>
<th>2004</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port of Spain General Hospital</td>
<td>256</td>
<td>214</td>
<td></td>
</tr>
<tr>
<td>San Fernando General Hospital</td>
<td>200</td>
<td>260</td>
<td></td>
</tr>
<tr>
<td>Sangre Grande Regional Hospital</td>
<td>62</td>
<td>62</td>
<td></td>
</tr>
<tr>
<td>Point Fortin Regional Hospital</td>
<td>47</td>
<td>42</td>
<td></td>
</tr>
<tr>
<td>Tobago Regional Hospital</td>
<td>51</td>
<td>94</td>
<td></td>
</tr>
</tbody>
</table>

| Total       | 616 | 672 |

**NB.** Data from Eric Williams Medical Sciences Complex and Mt Hope Women’s Hospital are missing from this list.

Excerpt from Republic of Trinidad and Tobago Ministry of Health Annual Statistical Report, 2004 – 2005.

**Review of the literature on fibroids**

In order to explain the presence of fibroids, a brief literature search revealed that several researchers detected chromosomal defects that facilitate the growth of existing tumors or genetic mutations that initiate tissue growth (Marshall et al. 1997). Fibroids within the same woman have different growth rates within the same hormonal environment (Peddada et al. 2008) as solitary tumors grow faster than multiple tumors sharing a uterus possibly because of less competition for uterine blood. A hereditary predisposition also occurs in families (Vikhlyaeva, Khodzhaeva and Fantchenko 1995). Surprisingly, spontaneous fibroids regress in some premenopausal women as
shrinkage usually occurs after menopause. Although current practice encourages ultrasound or pelvic examination at 6 months to evaluate growth (Katz and Lentz 2007), the follow-up assessment may be extended as growth is less than 20% in 6 months, with a median rate of 9%.

**Lifestyle risk factors**

**Non-modifiable risk factors**

Black women cannot alter factors such as age, age at menarche (Marshall et al. 1998), and ethnicity. Fibroid risk decreases as the age of menarche increases and increased weight prior to puberty is strongly linked to early menarche, which can be delayed by exercise (Claessenssens et al. 2003). Importantly, the greater fibroid burden observed in black women decline minimally with increasing age (Wise, Palmer, Stewart and Rosenberg 2005). An early-onset fibroid risk was observed in women with identical twins possibly due to a greater likelihood of fetal growth restriction (Peddada et al. 2008).

**Modifiable risk factors**

Body mass index (BMI, a measure of total body fat) may influence the risk of fibroids through changes in sex hormone metabolism and bioavailability (Wise et al. 2005a). There is an inverse association between BMI and circulating levels of sex hormone-binding globulin (SHBGs). Decreased SHBGs may increase the proportion of free estrogen available for biologic activity. Obesity is associated with an increased concentration of estriol estrogens which have a greater attraction for binding to uterine muscle than catechol estrogens. Also, central obesity, independent of BMI, is associated with hormonal and metabolic changes (altered estrogen metabolism, insulin resistance, elevated blood glucose concentrations (hyperinsulinemia), and decreased SHBG levels in premenopausal women (Wise et al. 2005a). Insulin is also associated with down regulation of SHBG and up regulation of insulin-like growth factor-1 (ILGF-1), both of which can influence tumor development by promoting myometrial proliferation or enhanced ovarian hormone secretion. Hence higher BMI might be associated with greater symptomatology. The influence of elevated adult BMI and weight gain has a greater impact among child-bearing (parous) women then nulliparous women. Epidemiologic studies show that parous women are at lower risk of fibroids due to long-term reduction in hormones (including prolactin) associated with myoma growth (Terry, De Vivo, Hankinson and Missmer 2010). Similarly, The Black Women’s Health Study and the Nurses’ Health Study found that parity appeared to protect against uterine fibroids (Marshall et al. 1998).

Black women had an increased risk of early-onset fibroids in association with early-life factors, such as in utero gestational diabetes (D’Aloisio, Baird, DeRoo and Sandler 2012). In utero exposure to diabetes influences later risk of fibroids pertaining to the genes that regulate fibroid pathogenesis (D’Aloisio, Baird, DeRoo, & Sandler, 2010). Blacks in the United States have greater rates of type 2 and gestational diabetes (Savitz, Janevic, Engel, Kaufman and Herring 2008) and are more likely to have in utero exposure to hyperinsulinemia and hyperglycemia. Thus, in utero exposure to maternal diabetes may contribute to the elevated fibroid burden among U.S. black women. Long-term consumption of excess simple carbohydrates may lead to prolonged hyperinsulinemia and insulin resistance in the liver, muscle, and fat tissues. Studies of
blood samples from nondiabetic adults show that high concentrations of insulin correlate with increased free circulating concentrations of IGF-I and decreased SHBGs, thereby increasing estradiol levels (Radin, Palmer, Rosenberg, Kumanyika and Wise 2010).

Black women who exercised vigorously for at least 4 hours per week showed decreased tumor onset (Baird, Dunson, Hill, Cousins and Schechtman 2006) as exercise reduces circulating sex hormones and insulin levels. The concentration of circulating estrogen might also be reduced by exercise-induced increases in SHBGs. Any decrease in menstrual cycling (at menopause) reduces the risk of fibroids by lowering levels of circulating sex hormones.

Many authors identified various risks associated with fibroids. The glycemic index (GI), an indicator of a food’s insulin demand, quantifies the capacity of food to raise postprandial (after a meal) blood glucose concentrations (Radin et al. 2010). Glycemic load (GL), the product of food’s GI multiplied by grams of carbohydrate in a serving, provides a more complete measure of the portion’s effect on postprandial blood glucose. Positive associations of GI were observed with fibroid risk overall and of GL with fibroids in younger women (Radin et al. 2010). It was observed that females who were fed soy formula at infancy had longer menstrual bleeding and greater pain when menstruating (Strom et al. 2001), both of which are symptoms of fibroids. Soy formula might influence later risk of fibroids because of the high concentration of estrogenic isoflavones they contain (D’Aloisio et al. 2010). The risk of fibroids was positively associated with current consumption of alcohol, particularly beer (Wise et al. 2004). High dairy intake was inversely associated with fibroid risk among black symptomatic women (Wise, Radin, Palmer, Kumanyika and Rosenberg, 2010).

Treatment

Treatment is individualized based on the severity of symptoms, size and location of fibroid lesions, age, proximity to menopause, and desire for children (Sabry and Al-Hendy 2012).

The goal of treatment is to relieve symptoms using any of the following:

- **Vitamin D analogues** may be used to prevent fibroids as there is a strong correlation between lower concentrations of Vitamin D and fibroid severity (Bläuer, Rovio, Ylikomi and Heinonen 2009).

- **Green tea** contains bioflavonoids that potentially block each stage in the pathogenesis of fibroids (Zhang et al. 2010b).

- **Gonadotropin-releasing hormone (GnRH) antagonists** suppress the release of gonadotropins and the sex hormones (Samant, Hong, Croston, Rivier and Rivier 2005), but have adverse side effects.

- **Selective estrogen receptor modulators** have the potential to prevent ovarian stimulation (Lingxia, Taixiang and Xiaoyan 2007). These drugs also have adverse side effects and are contraindicated in certain females with a prior history of stroke, etc.
Aromatase inhibitors (AIs) suppress estrogen production. Aromatase is expressed to a greater extent in fibroids of black women (Ishikawa et al. 2009). AIs may be considered in women who want to avoid surgical intervention to preserve fertility (Parsanezhad et al. 2010), but may cause bone loss with prolonged use.

Acupuncture (Zhang, Peng, Clarke and Liu 2010a).

Many other novel agents (that inhibit steroidogenesis and with anti-estrogen/- progesterone receptor properties) to shrink fibroids are in development (De Leo, laMarca, Morgante, Severi, and Petraglia 2001; La Marca et al. 2004; Yoshida et al. 2010).

Surgery (Edwards et al., 2007; Sabry and Al-Hendy 2012). The surgical management options consist of dilation and curettage (D&C), resectoscopic endometrial ablation techniquesi, myomectomyii, hysterectomyiii and uterine artery embolisationiv.

This summary review of preliminary clinical studies of fibroids has not revealed definite answers to the concerns of Mary-Anne and Alison for advice on how to prevent fibroids or at least reduce the occurrence. The information in the “modifiable lifestyle risk factors” section alludes to associations with fibroids that may be explored. These include minimising the incidence of (gestational) diabetes, avoiding the use of soy products as infant formula and the consumption of alcohol. The importance of exercise, consumption of high fibre foods with a low glycemic-index/-load, Vitamin D, exercise, green tea, and use of a high dairy intake are positively linked to a reduced occurrence of fibroids. These insights require more research on larger populations before they can be recommended as preventative measures for fibroids.

Conclusion

The last ten years has shown more interest by the research community into understanding fibroids and their effect on women. The Black Women’s Health Study, Wise et al., D’Aloisio et al. provide direction for further work. These efforts could be supported by public recognition of the urgency of this problem for women, and particularly for Black women. Methods of prevention and early detection have been identified for AIDS, cancer and diabetes. Changed sexual lifestyles, based on monogamy, abstinence and condom use contribute to reducing HIV/AIDS. Most women would at some time have received a pamphlet explaining the importance and method of self-examination for the early identification of breast cancer. Children’s television programmes have advertisements that promote the importance of eating five fruits and vegetables each day to reduce the occurrence of cancer. What advice is there to prevent fibroids?

Alison and Mary-Anne stated that they wanted to know how to avoid fibroids. Alison wanted more education on fibroids for women. However, what form is this education to take? It has not been possible to identify distinct causal relationships for fibroids that can be prevented. In a world with so many advances in science and technology, it remains a mystery that there does not exist any deep understanding of why so many women, especially those of African and East Indian descent develop fibroids, particularly those that result in hysterectomies. This is one area affecting women of colour that sorely needs attention.
This article argues that fibroids are a public health concern. While not being a communicable disease like malaria, HIV or polio; nor is it a lifestyle sickness like type 2 diabetes, it is a major form of disease affecting women in the age group 25-64 in Trinidad and Tobago. Easily one third (1/3) of these women would require surgical intervention in the form of a hysterectomy, myomectomy or embolization.

Women must express their feelings and experiences of having fibroids. They need to show that even though fibroids are not as life threatening as HIV and cancer, they do affect one’s well-being and it is therefore essential to develop an understanding of how to prevent and/or reduce their occurrence. Fibroids affect women during their reproductive years. A collective consciousness of women, similar to that which identified domestic violence as a major social problem where women previously suffered in silence must take place. Women’s groups must advocate for medical research into the prevention of fibroids. Non-surgical treatment must also form part of the research in this area. In an era when we are seeing the informed control of many diseases it is surprising that there have been limited advances in this area. The well-being of future generations of girls and women will be compromised unless there is an urgent response to this situation that affects the majority of our women.

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This procedure entails the transcervical resection of the endometrium and has been the standard cure for menorrhagia for many years. The primary risk is uterine perforation.

Used for women who wish to maintain their uterus and/or fertility. It entails the removal of a single or few myomas or fibroids.

The removal of the womb is considered the definitive cure for fibroids.

Uterine artery embolization is a procedure that works well for women who do not want a myomectomy or a hysterectomy. It consists of blocking the blood supply to the uterine body.
HIV/AIDS-RELATED STIGMA AND DISCRIMINATION IN THE COMMONWEALTH OF DOMINICA: ANALYSIS OF SURVEY RESULTS

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The objective of this paper is to ascertain the pervasiveness of HIV/AIDS-related Stigma and Discrimination (HSAD) in the Commonwealth of Dominica. Since HSAD is manifested at different levels – individual, group and societal, the paper focuses on the indicators that measure the socio-cognitive aspects of HSAD from the perspective of the different age groups within the general population based on the results from a Knowledge, Attitudes, Beliefs and Practices (KABP) survey.

Indicative data on perceived and experienced stigma are presented through the responses given to questions about reactions to and perceptions of persons whose HIV positive status is known. Other survey data collected were based on questions concerning the individual’s willingness to have casual interactions with persons living with HIV/AIDS (PLWHA). Results show that the level of perceived or anticipated stigma is higher among persons in the youngest age cohort of 15 to 19 years compared to members in older age groups. This age group also displayed more discriminating attitudes when questioned about various possible interactions with PLWHA, than respondents in the other age categories.

The social and economic implications of HSAD, which include loss of jobs, higher health care and social costs, increased levels of depression and other mental health
effects are discussed within the socioeconomic context of the Commonwealth of Dominica.

**Keywords:** HIV/AIDS, KABP, perceived stigma, experienced stigma, socioeconomic implications

**Introduction**

HIV/AIDS was first diagnosed in the Commonwealth of Dominica, a Small Island Developing State (SIDS) located in the Caribbean, in 1987. The country has an estimated population of 71,293 (Central Statistical Office, 2011) and up to the end of 2009, there was a cumulative figure of 350 reported cases, of which 70% were male. The prevalence rate was 0.75% and the epidemic is described as a concentrated one that is driven mainly by the risk factors associated with men who have sex with men. However, epidemiological bridging or the mixing of high-risk individuals with the general population has resulted in an epidemic that is becoming more generalized as seen by a decline in the male to female ratio of new infections (UNGASS 2010).

An emerging, generalized HIV/AIDS epidemic affects the social and economic situation of a country through four main channels—Production, Allocation, Distribution and Regeneration. Through the production channel, it is manifested by decreases in the availability and productivity of labour and the accumulation of human capital which encompasses education, training, experience and knowledge embedded in individuals (Kwon, 2009). Secondly, as resources are allocated to HIV/AIDS related programmes, they become unavailable for alternative, production activities, the opportunity cost being the value of the lost output of goods or services. With respect to the distribution channel, HIV/AIDS widens the gap between the high and low income groups as persons in the poorer quintiles are made worse off due to job loss and increased health care costs (Casale and Whiteside, 2006). Finally, the regeneration channel, which determines a country’s sustainable growth and development over time relates to investment in human and physical capital and new technology. As countries and individuals are required to increase spending on HIV/AIDS services, savings and investment eventually decrease thus undermining an economy’s ability to expand.

The fact that an important component of the nation’s future and current stock of human capital is resident in the age groups 15 to 49 years suggests that HIV/AIDS and HSAD may negatively impact on the production and regeneration ability of an economy, thereby decreasing the returns on current investments in education and training. In a country that is highly susceptible to exogenous shocks (Easter 1999) and with 29% of its population living in poverty (Kairi Consultants Ltd, 2010) there is little room for error when it comes to the efficient allocation and utilization of resources.

The recognition of HIV/AIDS as an almost predictable shock to a country’s sustainable economic growth and development has led to the implementation of initiatives and programmes that aim primarily to prevent new infections and increase the life expectancy of PLWHA. However, availability of such services does not imply access and one of the major impediments to effective HIV/AIDS programme uptake continues to be stigma and discrimination (Parker and Aggleton, 2003). HIV/AIDS-related Stigma and Discrimination (HSAD) is defined by UNAIDS...
(2007,9) as a ‘process of devaluation of people either living with or associated with HIV and AIDS...Discrimination follows stigma and is the unfair and unjust treatment of an individual based on his or her real or perceived HIV status’. Stigma, which tends to manifest itself as homophobia in Jamaica, has resulted in more than two-thirds of newly diagnosed cases of AIDS in 2002 arising from delayed testing in the progression of the disease. It also meant death for the remaining one-third as patients failed to seek care for their disease (UNAIDS, 2007).

Whilst the prevalence of HIV/AIDS has socioeconomic implications, this is compounded by the existence of HSAD since the resources spent on HIV/AIDS prevention and treatment programmes may reap little return if these services are not utilized. As Dominica, like other countries, adopts a knowledge-based approach to the HIV/AIDS response initiative there is a need for information on the various types of stigma and discrimination that exists. This will guide the development of programmes that remove HSAD as a barrier to access as well as improve access even in the presence of HSAD.

**Methodology**

The attitudes, beliefs and practices towards persons infected with or thought to be infected with HIV/AIDS are presented, based on the results from a Knowledge, Attitudes, Beliefs and Practices (KABP) survey conducted in Dominica in 2011. This paper focuses on the indicators that measure the socio-cognitive aspects of HSAD from the perspective of the different age groups in the Commonwealth of Dominica and discusses the socioeconomic implications.

A two-stage, stratified sampling process was employed to select the sample population for this survey. In order to ensure that the sample was representative of the population, a list of all Enumeration Districts (ED) which included the total numbers of households, buildings, dwellings and persons (male and female) was developed for each parish in Dominica based on the most recent census data. Each ED was measured in terms of clusters of households and had a probability of selection that was proportional to its size which ensured the sample would be self-weighting. A sample of households from the selected EDs was then generated followed by the selection of one person per household using the Kish grid to reduce bias.

The survey enumerated 1,177 persons between the ages of 15 to 49 years. Approximately 57% of the respondents (n=669) were female and 43% (n=509) were male. The largest age group was the 25 to 39 year olds which represented 38% of the sample (n=449). The second largest age group was the 40 to 49 year olds which accounted for 27% (n=318) followed by persons in the 15 to 19 years group which made up almost 18% of the sample (n=211). The remaining 13% were persons who fell within the 20 to 24 years group (n=158).

In order to ensure confidentiality, completed questionnaires were placed in sealed envelopes and signed across the seal by the enumerator in the presence of the respondent. Intelligent Character Recognition (ICR) scanning and VBA programming were used to capture the data electronically. This minimised data entry time and errors. Data cleaning, variable construction, cross-tabulations and other statistical analyses were done in Microsoft SQL Server 2005.
Results of the (KABP) survey in the Commonwealth of Dominica

Knowledge of HIV/AIDS

The data revealed that almost all respondents surveyed (n=1,163; 99%) had heard of both HIV and AIDS. Respondents obtained information about HIV and AIDS from multiple sources. The media were the most popular sources, with radio being identified by 68% of the respondents (n=801), followed by local television (n=662; 56%). Health care and social workers, a category which included either a doctor, nurse or social worker, were also identified as sources of information by approximately 63% (n=745) of respondents altogether.

About 53% of the sample (n=620) thought HIV/AIDS was very serious in Dominica with a further 6% (n=70) that felt it had reached a crisis level. It is noteworthy that some myths persist as it relates to the modes of transmission of HIV. Giving blood and having a blood test done was selected by almost 60% and 30% of the respondents (n=701; n=352) respectively, followed by kissing a PLWHA by 27% (n=316). Less than 10% of respondents identified the following activities as modes of HIV transmission: sharing food and drink with an HIV positive person (n=79; 7%); using the same glass as a PLWHA (n=97; 8%); mosquito bites (n=109; 9%); using the same toilet as an HIV positive person (n=98; 8% ) and being sneezed/coughed on by a PLWHA (n=98; 8%).

Table 1 shows that in most cases, there was a higher frequency in the selection of these modes of HIV transmission by the younger age groups of 15 to 19 years and 20 to 24 years than persons in the older age cohorts of 25 to 39 years and 40 to 49 years.

<table>
<thead>
<tr>
<th>Ways of Contracting the HIV Virus</th>
<th>15-19</th>
<th>20-24</th>
<th>25-39</th>
<th>40-49</th>
<th>Not Stated</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Respondents</td>
<td>211</td>
<td>158</td>
<td>449</td>
<td>318</td>
<td>41</td>
<td>1177</td>
</tr>
<tr>
<td>%</td>
<td>15.8</td>
<td>12.3</td>
<td>3.9</td>
<td>11.1</td>
<td>7.3</td>
<td>9.2</td>
</tr>
<tr>
<td>Mosquito bite</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communion cup</td>
<td>11.0</td>
<td>8.8</td>
<td>2.7</td>
<td>7.8</td>
<td>0</td>
<td>6.3</td>
</tr>
<tr>
<td>Giving blood</td>
<td>62.5</td>
<td>76.9</td>
<td>56.3</td>
<td>58.2</td>
<td>18.6</td>
<td>59.5</td>
</tr>
<tr>
<td>Having a blood test</td>
<td>33.5</td>
<td>28.0</td>
<td>24.3</td>
<td>37.5</td>
<td>18.6</td>
<td>29.9</td>
</tr>
<tr>
<td>Shaking hands with PLHA</td>
<td>2.1</td>
<td>2.6</td>
<td>0.6</td>
<td>3.0</td>
<td>0</td>
<td>1.8</td>
</tr>
<tr>
<td>Hugging HIV positive person</td>
<td>0.7</td>
<td>1.3</td>
<td>0.6</td>
<td>0.9</td>
<td>0</td>
<td>0.8</td>
</tr>
<tr>
<td>Kissing HIV positive person</td>
<td>40.2</td>
<td>29.8</td>
<td>24.1</td>
<td>22.3</td>
<td>11.1</td>
<td>26.8</td>
</tr>
<tr>
<td>Drinking from same glass as PLHA</td>
<td>12.9</td>
<td>8.7</td>
<td>5.2</td>
<td>10.3</td>
<td>0</td>
<td>8.3</td>
</tr>
<tr>
<td>Coughed/sneezed on by PLHA</td>
<td>14.3</td>
<td>6.6</td>
<td>4</td>
<td>12.4</td>
<td>0</td>
<td>8.4</td>
</tr>
<tr>
<td>Eating food/drink prepared by PLHA</td>
<td>14.1</td>
<td>10.6</td>
<td>6.5</td>
<td>9.5</td>
<td>0</td>
<td>9.0</td>
</tr>
<tr>
<td>Using same toilet as PLHA</td>
<td>10.2</td>
<td>10.5</td>
<td>5.1</td>
<td>11.7</td>
<td>0</td>
<td>8.4</td>
</tr>
<tr>
<td>Sharing needle with PLHA</td>
<td>93.2</td>
<td>93.8</td>
<td>88.9</td>
<td>86.1</td>
<td>92.7</td>
<td>89.7</td>
</tr>
<tr>
<td>Having unprotected sex with PLHA</td>
<td>94.3</td>
<td>98.6</td>
<td>92.9</td>
<td>89.2</td>
<td>78.1</td>
<td>92.4</td>
</tr>
<tr>
<td>Sharing food with PLHA</td>
<td>10.6</td>
<td>4.5</td>
<td>3.7</td>
<td>9.2</td>
<td>7.3</td>
<td>6.7</td>
</tr>
<tr>
<td>None of the above</td>
<td>0</td>
<td>1.4</td>
<td>0</td>
<td>2.2</td>
<td>0</td>
<td>0.8</td>
</tr>
<tr>
<td>Refuse to answer</td>
<td>0</td>
<td>0</td>
<td>1.0</td>
<td>0.9</td>
<td>0</td>
<td>0.6</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>
The three top modes of HIV transmission identified from a given list by respondents were

i) having unprotected sex with an HIV positive person (n=1,087; 92%),
ii) sharing needles with an HIV positive person (n=1,056; 90%) and
iii) giving blood (n= 706; 60%).

The majority (n=1139; 97%) of respondents knew that HIV could be transmitted from one person to another through sexual intercourse. Other modes of HIV transmission identified were

i) blood transfusions (n=711; 60%),
ii) injecting drugs (n=501; 43%) and
iii) mother to child transmission (n=294; 25%).

**Stigma and Discrimination**

**Friend or Relative with HIV/AIDS**

Approximately 32% of the sample population surveyed (n=374), knew someone who was infected with HIV. Another 4% (n=45) were not sure if they knew someone infected with HIV, while about 64% of the respondents (n=759) did not know anyone who had been infected with HIV. Thirty six percent of those (n=152) who knew a PLWHA, stated that this person was a relative/friend. When cross-tabulated by age, the data shows that more than twice the number of persons between the ages 40 to 49 (n=109; 53%) knew a PLWHA or someone who had died from AIDS-related causes than persons in the 15 to 19 age group (n=54; 24%).

When asked the question, „Should HIV/AIDS Status of Family Members be Kept a Secret?“, 57% (n=674) said yes. Of those who responded yes, 26% of these respondents (n=307) indicated fear, 28% (n=331) indicated shame and 21% stated ostracism/discrimination (n=240) as the reasons for not disclosing the HIV status of a family member.

An average of 68% (n=143) of persons in the age group 15 to 19 years and 20 to 24 years (n=109) said that the HIV status of a family member should be kept a secrets compared to an average of about 51% of persons in the age groups 25 to 39 (n=248) and 40 to 49 (n=155). This is indicative of the level of perceived stigma by the younger age groups compared to those in the older age categories.

Almost 70% of the sample (n=823) indicated that they would care for a male relative of their household, if he was infected with HIV. On the other hand, 16% (n=187) indicated they would not do so. The trend is repeated with reference to a female relative that is a member of the household with 73% (n=855) in favour of caring for a female relative and 14% (n=165) not being in favour of doing so.

**HIV Services at Health Facilities**

Perceived or anticipated stigma reflects the respondents’ views on the level of HIV-related stigma in a particular community or country based on their willing or unwillingness to access HIV-related services at generally or at particular sites. With respect to HIV testing, 46% of the respondents (n=547) were able to name an HIV testing site, of which 46% (n=242) named a
hospital, 32% (n=164) named the health centre and 13% (n=69) identified the community health clinic as testing sites.

Seventy-nine percent (n=433) stated that they would go to one of these sites for an HIV test whilst 16% (n=88) said they would not. The main reasons identified for not going to these sites for an HIV test were lack of confidentiality (n=41; 35%) and knowing someone who worked there (n=17; 15%).

Sites for treatment and care services were identified by 68% of persons surveyed (n=805), of which 90% (n=723) identified the hospital. However, when asked if they would choose public or private care if given an option, 84% (n= 993) opted for private care.

Overall, 68% of the respondents (n=800) were willing to have the same medical personnel who treat PLWHA address their medical needs, while 23% (n=271) did not support it. With respect to the different age groups, a lower percentage, 56% (n=116;) of respondents in the 15 to 19 age group were willing to receive treatment from the same medical personnel that treated PLWHA when compared to 73% (n=327) of persons in the age group 25 to 39 year and 71% (n=226) of the 40 to 49 year olds.

In terms of willingness to stay in the same Primary Health Care (PHC) facilities with PLWHA, roughly 61% (n=718) were in favour or doing so, while 30% (n=353) were not. On the basis of age, 43% the respondents (n=91) in the younger age groups of 15 to 19 years and 49% (n=77) of those 20 to 24 years were willing to share PHC facilities with PLWHA compared to 68% (n=305) and 66% (n=210) of the persons in the age groups 25 to 39 years and 40 to 49 years respectively.

Sixty eight percent of the respondents (n=800) expressed willingness in having PLWHA accessing their medications at PHC facilities and 23% (n=271) did not support this suggestion. Again, persons in the younger age groups were less supportive of this than the older age cohorts. For the 15 to 19 year olds, 61% (n=129) stated their willingness compared to 72% (n=229) of respondents in the age group 40 to 49 years.

On the topic of children of PLWHA being treated at the same clinics as other children, 47% (n=553) were in favour of this and 43% (n=506) were not. The younger respondents once more displayed less willingness to support such an initiative with 59% of the 15 to 19 year olds (n=124) compared to 35% of the 40 to 49 year olds (n=112).
Table 2: Attitudes With Respect to Sharing Health Care Personnel and Facilities with PLWHA

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<td>449</td>
<td>318</td>
<td>41</td>
<td>1177</td>
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<td>72.9</td>
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</tr>
<tr>
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</table>

Casual Contact with PLWHA
HSAD was also assessed by the sample population’s responses to questions about social interactions with PLWHA as the unwillingness to interact with PLWHA is a primary area used to measure stigma (Nyblade and MacQuarrie, 2006).

In Dominica, 59% of the sample (n=699) reported that they would be willing to share meals with a PLWHA while about 33% of the sample (n=386) indicated that they would not be willing to do so. Twenty-five percent (n=294; 25%) of the sample indicated that they would purchase food from a food seller or shop keeper that they knew to be infected with HIV. Of the remainder of the sample, 64% (n=748) indicated that they would not do so while about 9% (n=102) and 3% (n=34) respectively either did not know or did not state their view.
Table 3: Attitudes With Respect to Casual Contact with PLWHA

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<th>25-39</th>
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<td>211</td>
<td>158</td>
<td>449</td>
<td>318</td>
<td>41</td>
<td>1177</td>
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<td></td>
</tr>
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</tbody>
</table>

When it came to working with an infected co-worker, 75% of the sample (n=883) indicated that they would be willing to do so while 16% (n=189) stated they would not want to work with a PLWHA. The respondents in the group 15 to 19 years were less comfortable working with someone with HIV – 57% (n=120), compared to persons on the older age groups of 20 to 24 years, 25 to 39 years and 40 to 49 years – 79% (n=125), 81% (n=364) and 75% (n=238), respectively indicated they would work with a PLWHA.

Just over eighty percent of the respondents (n=936) believed that a male teacher infected with HIV should be allowed to continue teaching while 17% (n=195) indicated that such teachers should not be allowed to continue teaching. Similarly, 80% of the respondents (n=942) believed that a female teacher should be allowed to continue teaching while and roughly16% (n=185) did not think that this should be allowed. Again, a higher percentage of the 15 to 19 year olds (n=45; 21%) and the 40 to 49 year olds (n=64; 20%) displayed negative attitudes with respect to allowing a PLWHA to continue as a teacher than those in the other age categories.

The majority of the sample (n=963; 82%) indicated that students infected with the virus should be allowed to continue in school. Those who disagreed amounted to 13% of the respondents (n=157). Just less than 5% (n=58) indicated that they did not know or did not state their views. Notably, a higher proportion of respondents in the youngest and oldest age groups, 15 to 19 years and 40 to 49 years were opposed than persons in the other age groups.
Table 4: Attitudes With Respect to Casual Contact with PLWHA in School

<table>
<thead>
<tr>
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<th>40-49</th>
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<td>%</td>
<td>%</td>
<td>%</td>
<td></td>
<td>%</td>
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<tr>
<td>Should HIV Infected</td>
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<td></td>
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<tr>
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<tr>
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Discussion

More persons in the younger age group of 15 to 19 years displayed attitudes of HIV/AIDS-related stigma and discrimination in Dominica than the other groups and as such a higher percentage of respondents in this groups (68%) were inclined to keep the HIV status of a family member a secret compared to about 51% of the 40 to 49 year olds. This may result in persons in the former age cohort to delay getting tested for HIV or not access treatment and care if needed, all of which contribute to higher morbidity and mortality rates.

On the issue of sharing health care facilities with PLWHA, 61% of the sample indicated their agreement with a lower percentage of respondents in the 15 to 19 age group (43%) willing to do so than those in the 40 to 49 year age group (66%). Whilst HIV testing and counselling is available in the seven health districts in Dominica (UNGASS 2010), programmes which address the issue of HSAD at the general population level and targeted to the 15 to 19 years age group is needed to improve access.

The fear of casual transmission of HIV has been linked to the unwillingness of person to interact casually with PLWHA in the community, at the workplace or in school. The data in Dominica indicates that only a minimal amount of persons (<10%) believe that HIV can be transmitted by casual contact such as sharing food and drink, mosquito bites or sharing a toilet. However, despite this, a relatively small proportion of the sample was willing to purchase food from a PLWHA (25%) and an even smaller percentage of those in the 15 to 19 years age group (19%).
With respect to interaction with PLWHA in schools, an interesting coincidence in the data suggests a pattern with the 15 to 19 year olds and the 40 to 49 year olds. A higher percentage of persons in these age groups (20%; 18% respectively) indicated that a student who has HIV/AIDS should not be allowed to attend school. This trend was repeated when asked if an infected teacher should continue teaching. Persons in these two age groups, 15 to 19 years and 40 to 49 years, represent a subset of the school age population and parents. The fact that 100% of schools in Dominica provide life skills-based HIV education (UNGASS, 2010) implies that a review of this programme is needed. Additionally, the feasibility of HIV/AIDS education and information programmes that target parents should be investigated.

**Conclusion**

The findings of the KABP provided insightful information on perceived HIV-related stigma in Dominica by the various age groups. However, data on actual incidences and acts of discrimination experienced by PLWHA or perceived to be living with HIV/AIDS were not collected. The data from this survey can provide the baseline data for the evaluation of programmes aimed at reducing HSAD in Dominica as well as guide the design of these programmes as Dominica continues to roll out activities that meet the objectives of its 2010 to 2014 HIV/AIDS Strategic Response Plan. The opportunity cost of the resources required to develop and implement these programmes should also be reviewed as it may mean a reduction of resources available for activities such as training of staff, research in technology, infrastructure development and other investment spending that has a direct impact on economic growth.

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This paper presents a detailed review of the Trinidad and Tobago HIV/AIDS National Strategic Plan 2004-2008 (NSP), over the period 2004 to 2010. The NSP was developed to initiate an expanded response to the disease as well as to function as a decisive intervention in reducing the incidence and prevalence of the disease. The reality is that the NSP was developed within the context of the potential threat of HIV and AIDS to the socioeconomic base. The Plan was resourced based on the results of analyses which argued that the benefits of implementing the Plan outweighed the cost of so doing. This paper addresses the question of whether it made socioeconomic sense to invest the level of resources that were allocated to the HIV/AIDS NSP over the period 2004-2008.
The assessment included an evaluation of the costs and consequences of the interventions. Additionally, a comparison of the goals and objectives of the NSP and the actual results achieved was undertaken, so as to determine the impact of the plan.

The results show that the NSP achieved some of its objectives, particularly in the priority area of prevention. However, closer analyses indicate that the NSP was formulated against a weak health system platform, which proved to be a major challenge. In light of the challenges encountered in achieving the objectives, it is recommended that health sector reform measures be implemented to further curb the spread of HIV/AIDS in Trinidad and Tobago.

**Keywords:** HIV/AIDS; National Strategic Plan; Trinidad and Tobago; Socioeconomic Assessment.

**Introduction**

HIV/AIDS poses a serious threat to the Republic of Trinidad and Tobago, not only because of its social effects on the health of the population, but also because of its potentially devastating economic impact (Camara, Russell-Brown, Henry et al. 2001). Since the first case of HIV/AIDS was recorded in Trinidad and Tobago in 1983 and up to 2004, a number of interventions were implemented. However, many of these interventions were arguably short-sighted and uncoordinated which in turn stymied their potential impact (HEU 2001). As a result, they failed to achieve many of their planned objectives. A cross-cutting challenge to most of those interventions was the lack of effective monitoring and evaluation. A further concern, of almost equal weighting, was the incompatibility of some interventions with the socioeconomic and cultural environment.

In light of these shortcomings, the first Five-Year National HIV/AIDS Strategic Plan for Trinidad and Tobago was developed for the period January 2004 to December 2008 and aimed to provide a comprehensive response to the disease. The NSP was guided by “...the principles of inclusion, sustainability, accountability and respect for human rights” (Office of the Prime Minister 2003: 17). The main objective of the NSP was to build on existing programmes and initiatives in an attempt “...to reduce the incidence of HIV infections in Trinidad and Tobago (as well as) to mitigate the negative impacts of HIV/AIDS on persons infected and affected in Trinidad and Tobago” (Office of the Prime Minister 2003: 16).

A multisectoral approach involving a collaborative response by both the private and public sectors on five priority areas was identified as necessary for achieving the NSP’s outlined goals. These five priority areas were: prevention; treatment, care and support; advocacy and human rights; surveillance and research; and programme management, coordination and evaluation.

The objective of this paper is to assess the effectiveness of the NSP in combating HIV/AIDS in Trinidad and Tobago.
Literature Review

The Trinidad and Tobago NSP was designed and implemented against the backdrop of the UNAIDS’ warning that, “...While it is difficult to predict the future spread of the epidemic, the impact in terms of morbidity and mortality in the next decade is clear. In the absence of effective treatment and care, an additional 15 million people currently infected with HIV will develop AIDS and die in the next five years” (UNAIDS 2001).

Globally there were an estimated 34 million individuals living with HIV in 2010, 2.7 million new infections and 1.8 million deaths due to AIDS in the same year (WHO et al 2011). The Caribbean has the second highest adult HIV prevalence rate in the world (1%) following Sub-Saharan Africa where the rate is 5%. There are an estimated 200,000 persons living with HIV in the Caribbean, 70% of whom reside in Haiti and the Dominican Republic. In 2010, approximately 12,000 persons in the Caribbean were newly infected with HIV and 9,000 persons died from AIDS-related causes (WHO et al 2011).

While the HIV/AIDS situation in the region may appear to be severe, a number of improvements have occurred over the course of the last decade (2001-2010) and should be noted. To begin with, there has been a one-third decline in the number of persons newly infected with HIV over the stated period from 19,000 to 12,000. The number of persons living with HIV has also exhibited a slight decrease from 210,000 to 200,000. The number of persons dying from AIDS-related causes has also fallen significantly from 18,000 to 9,000; a 50% decline. This can be attributed to increased access to Antiretroviral (ARV) therapy. The reduction in HIV incidence coupled with increased access to Prevention of Mother-to-Child Transmission (PMTCT) services has resulted in a 60% decrease (2,900 to 1,200) in the number of children that are newly infected with HIV as well as a 47% decrease (1,900 to 1,000) in the number of children dying from AIDS-related causes between 2001 and 2010 (WHO et al 2011).

The first case of HIV/AIDS was detected in Trinidad and Tobago in 1983. Almost three decades later, the total number of confirmed HIV cases stands at 20,255 while the number of AIDS cases and AIDS-related deaths stand at 6,208 and 3,845 respectively (NACC 2010). In addition, there has been a minor increase in the HIV prevalence rate in Trinidad and Tobago from 1.2% in 2006 to 1.5% in 2009 (NACC 2010). This rate is expected to increase even further to 2% by 2015 partly as a result of improvements in treatment services (Fearon, Kollipara and Pratt 2010). It should also be noted that the number of new infections has levelled off to an estimated 1,400 annually (NACC 2010). While the data presented above is valuable, it is believed that the actual number of HIV-infected persons in Trinidad and Tobago is gravely underestimated due to a number of factors including stigma and discrimination (CAREC 2004; NACC 2010).

Heterosexual activity has been recorded as the primary mode of HIV transmission in Trinidad and Tobago as well as a number of other Caribbean countries. When disaggregated by age and sex it was found that most of the new female HIV positive cases occurred among the 20-24 age group while most of the new male HIV positive cases occurred among the 45-49 age group (NACC 2010). As at 2009, it was observed that 76% of all new HIV positive cases occur within the 15 to 44 age group (NACC 2010). Nicholls et al (1998) projected that if nothing was done to
curb this HIV/AIDS trend among the working age population by 2005, HIV/AIDS would have reduced the labour supply by 5.2%, with a consequential reduction of national savings by 10.3% and investment by 15.6%. These are important variables in determining long term economic growth and of great significance is the opportunity cost of treating an HIV/AIDS patient. In the absence of HIV/AIDS, it is argued that these financial resources could have been put towards more productive activities in the country.

Methodology

Drummond et al (1997) define economic evaluation as the comparative analysis of alternative courses of action in terms of both their costs and consequences. There are four main methods of economic evaluation that can be utilized to appraise health care programmes namely; cost-minimisation analysis (CMA); cost-effectiveness analysis (CEA); cost-utility analysis (CUA); and cost-benefit analysis (CBA). Economic evaluation deals with both inputs and outputs, that is, the costs and consequences of activities. For the purposes of this paper, we conduct a review of the Trinidad and Tobago National HIV/AIDS Strategic Plan 2004-2008 focusing on the cost of implementing the Plan, the resultant outputs compared to articulated targets. The costs and consequences of the proposed interventions were evaluated and the goals and objectives outlined in the NSP were compared to the actual results to determine whether the plan did in fact achieve its stated goals. The assessment was conducted by examining each of the five priority areas paying particular attention to the strategic objectives and the expected outcomes and evaluating whether these targets were met in an effective and efficient manner. Secondary data was also collected to help improve the understanding of the issue of HIV/AIDS in Trinidad and Tobago.

Results

The targets/expected outcomes and actual achievements under each of the five priority areas of the NSP will now be presented in tabular format.

Prevention

Priority Area I focused on the dissemination of information to the general population on HIV/AIDS and approaches to prevent infection. Six (6) strategic objectives were identified: (i) the promotion of safe and healthy sexual behaviours among the general population; (ii) the promotion of healthy sexual attitudes, behaviours and practices among vulnerable and/or high-risk groups; (iii) reduction in the rate of Mother-to-Child-Transmission (MTCT); (iv) increase in the population’s knowledge of sero-status; (v) reduction in the possibility of post-exposure infection; and (vi) improvement in the management and control of conventional sexually transmitted infections (CSTIs). Table 1 details the targets and expected outcomes and records the major accomplishments in preventing the spread of the disease.

This area of the NSP addressed the issue of MTCT in detail stating that the aim of the MTCT programme was the reduction and eventual elimination of HIV/AIDS among children. Figure 1 tracks the progress of the country in the prevention of mother-to-child-transmission. Furthermore, while HIV/AIDS transmission through substance abuse and blood transfusion is
rare in Trinidad and Tobago, the NSP identified the need to target and continue addressing these issues.

Figure 1: Percentage of Antenatal Care Attendees Tested for HIV/AIDS in Trinidad and Tobago (2000-2008)

Table 1: Targets of the National Strategic Plan versus Actual Achievements
(Priority Area I – Prevention)

<table>
<thead>
<tr>
<th>Targets/Expected Outcomes</th>
<th>Achievements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased % of the pop. correctly identify ways of preventing the sexual transmission of HIV and who reject major misconceptions about HIV transmission (90% by 2005 and 95% by 2007)</td>
<td>Increase in awareness of 77% of general pop. regarding the mode of HIV transmission Educated 90% of the 15-49 year old pop. on controlling the spread of HIV</td>
</tr>
<tr>
<td>≥ 50% increase in the number of young people aged 15-24 years RCU during sexual intercourse with a non-regular partner</td>
<td>In 2009, 35.1% of males and 30.7% of females RCU in all sexual encounters</td>
</tr>
<tr>
<td>≥ 75% increase in the proportion of CSWs and MSM RCU during their last sexual experience and in all sexual experiences with non-regular sex partners in a week’s recall period</td>
<td>n.a.</td>
</tr>
<tr>
<td>A 50% reduction in the reported HIV incidence rate among prisoners and substance abusers</td>
<td>n.a.</td>
</tr>
<tr>
<td>A 50% increase in the number of HIV-free babies born to HIV-infected mothers</td>
<td>The PMTCT prog. has had 97.9% of mothers accessing care in the public sector tested for HIV by 2008 The number of HIV exposed infants becoming infected has decreased as a result of free ARV medication prophylaxis</td>
</tr>
<tr>
<td>≥ 40% of the 15-49 aged pop. accessing VCT services by the end of 2007</td>
<td>Funds were allocated to 52 faith-based/ civil society organizations to develop education and counselling progs. HIV progs. were expanded into private and public sector workplaces (refer to Figure 1 below)</td>
</tr>
<tr>
<td>A 90% increase in the proportion of health facilities reporting adequate availability of drugs for post-exposure prophylaxis for health personnel in both the public and private sector</td>
<td>n.a.</td>
</tr>
<tr>
<td>≥ 60% increase in the number of CSTI cases reported, counselled, managed and monitored</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

CSWs: Commercial Sex Workers MSM: Men who have Sex with Men pop: population RCU: reporting condom use VCT: Voluntary Counselling and Testing prog(s): programmes(s) n.a.: not available.

Source: Adapted from the UNGASS Country Progress Report – Trinidad and Tobago (2010).

**Treatment, Care and Support**

Priority Area II dealt with treatment, care and support. The NSP recognized the role of treatment in destigmatizing the disease and making prevention programmes more effective. Three strategic objectives were identified: (i) improved access to treatment and care of HIV/AIDS; (ii) reduction in the incidence of HIV/AIDS–Tuberculosis co-infection; and (iii) the creation of a
supportive environment for the infected and affected. Table 2 details the, targets and actual achievements.

**Table 2: Targets of the National Strategic Plan versus Actual Achievements**  
(Priority Area II – Treatment, Care and Support)

<table>
<thead>
<tr>
<th>Targets/Expected Outcomes</th>
<th>Achievements</th>
</tr>
</thead>
</table>
| ≥ 6,000 People Living with HIV/AIDS (PLWHA) receiving free ARV therapy and HIV/AIDS care over the period 2003-2007 | In 2007, 5,075 HIV/AIDS patients were receiving treatment and care, with 2,592 on ARV therapy  
In 2009, a total of 6,646 patients were accessing treatment and care with 3,592 on ARV therapy  
Reduction in inpatient costs as a result of significant increases in expenditure on ARV therapy from 2002-2009  
205 children in Trinidad and Tobago currently accessing treatment and care |
| At least a 50% increase in the number of health practitioners trained in HIV/AIDS treatment and care at primary, secondary and tertiary levels | An additional 558 health personnel trained in the care of PLWHA                                                                                                                                              |
| ≥ 90% increase in the number of health facilities with adequate supply of drugs for treating Opportunistic Infections (OIs) | n.a.                                                                                                                                                                                                       |
| Reduction in incidence of HIV/AIDS-TB co-infection by 30% over the period 2004-2008         | TB/HIV deaths showed a steady decrease from 43.8% (2005) to 23.2% (2009)  
In 2008, there were 322 registered TB cases of which 73 (22.7%) were HIV positive |
| An increase in the number of HIV/AIDS service organizations with enhanced ability to respond to the needs of their clients | Civil society continues to provide care for PLWHA                                                                                                                                                           |
| A referral system between HIV/AIDS service organizations, public and non-governmental organizations (NGOs) for the provision of social support fully developed and operational | n.a.                                                                                                                                                                                                       |
| At least 75% of PLWHA and 50% of persons affected by HIV/AIDS receive supportive counselling | HIV/AIDS counselling and testing policy finalized, approved and disseminated between 2008 and 2009                                                                                                           |

.a.: not available.
Source: Adapted from the UNGASS Country Progress Report – Trinidad and Tobago (2010).

While it is true that much was accomplished in treatment, care and support, more could have been accomplished in Priority Area II at the end of the NSP period of 2008. For example, many persons, particularly among the most at risk population segments remained reluctant to access testing and treatment and care services. Moreover, policy guidelines for service delivery were neither readily available nor diligently adhered to and access to ARV therapy services in the public health sector remained centralized.
Advocacy and Human Rights; Surveillance and Research; Programme Management, Coordination and Evaluation

Priority Area III (Advocacy and Human Rights) focused mainly on reducing discrimination against persons infected with the disease and protecting human rights. Two strategic objectives were identified: (i) the reduction of stigma and discrimination against PLWHA; and (ii) guarantee of human rights for PLWHA and other groups affected by HIV/AIDS. At the end of the period, one of the gaps under this priority area was the limited availability and unwillingness of some clinicians to provide HIV/AIDS care and treatment services.

In providing interventions to deal with the HIV/AIDS epidemic, there is a need for on-going surveillance to determine the effectiveness of programmes. Priority Area IV (Surveillance and Research) had two main objectives: (i) surveillance system strengthening; and (ii) undertaking and participating in effective clinical and behavioural research on HIV/AIDS and related issues.

While some studies were executed and yielded epidemiological data, by the end of the strategic planning period, there continued to be an absence of a comprehensive surveillance system for HIV/AIDS with coverage of both the public and private sectors.

Priority Area V (Programme Management, Coordination and Evaluation) fell under the auspices of the National AIDS Coordinating Committee (NACC) and included: mobilizing national commitment, developing an appropriate management structure, adequate and sustained resources to support implementation of the plan and of utmost importance, monitoring the implementation of the response. The strategic objectives were: (i) to achieve national commitment, support and ownership of the expanded strategic response to HIV/AIDS; (ii) to monitor the implementation of the expanded response; and (iii) to build capacity among critical stakeholders in the expanded national response.

Table 3 (overleaf) shows the targets and actual achievements related to priority areas III, IV and V.
### Table 3: Targets of the National Strategic Plan versus Actual Achievements (Priority Areas III, IV and V)

<table>
<thead>
<tr>
<th>Targets/Expected Outcomes</th>
<th>Achievements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Priority Area III – Advocacy and Human Rights</strong></td>
<td></td>
</tr>
<tr>
<td>≥ 90% increase in the proportion of health care providers with positive attitudes towards HIV positive persons</td>
<td>*KAPB survey (2007) showed that 80% of the pop. adopted an accepting attitude toward PLWHA</td>
</tr>
<tr>
<td><em>At least 50% of the general population having an accepting attitude towards HIV+ persons</em></td>
<td>*The Human Rights Desk has been in operation and 80 complaints have been investigated since November 2006</td>
</tr>
<tr>
<td><em>At least 50% reduction in the number of cases of HRAs against PLWHA</em></td>
<td>*Implementation of a national workplace policy for PLWHA covering the GoTT and private sector in April 2008</td>
</tr>
<tr>
<td><em>At least 50% of all public and private sector organizations have implemented workplace policies</em></td>
<td>*A review has been undertaken of the impact of laws in T&amp;T on PLWHA</td>
</tr>
<tr>
<td><em>Enactment of legislation to prevent HIV/AIDS discrimination</em></td>
<td>The Draft National Policy on HIV/AIDS has been prepared</td>
</tr>
<tr>
<td>Enactment of legislation to prevent human rights abuses against PLWHA and other groups affected by HIV/AIDS</td>
<td></td>
</tr>
</tbody>
</table>

**Priority Area IV – Surveillance and Research**

<table>
<thead>
<tr>
<th>Targets/Expected Outcomes</th>
<th>Achievements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accurate and timely epidemiological data for the entire health sector produced and disseminated to key stakeholders every quarter from 2004</td>
<td>Research projects undertaken include the KAPB Survey (2007) and the Management of Sexual Relationships of Young Women in Trinidad (2009)</td>
</tr>
<tr>
<td>Evidence of a national policy-driven research agenda and the dissemination of results from these projects</td>
<td>Evaluation studies of educational material and campaigns and focus group testing have been conducted to aid the improvement of the material</td>
</tr>
<tr>
<td>Improved ability to develop targeted HIV/AIDS education messages and other intervention strategies</td>
<td>The WB funded the pilot testing of a computer-based HIV/AIDS surveillance system in 8 HIV treatment and surveillance sites</td>
</tr>
</tbody>
</table>

**Priority Area V – Programme Management, Coordination and Evaluation**

<table>
<thead>
<tr>
<th>Targets/Expected Outcomes</th>
<th>Achievements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enactment of legislation for the operationalizing of the NACC</td>
<td></td>
</tr>
<tr>
<td>Annual budgetary allocation to the NACC from 2003</td>
<td></td>
</tr>
<tr>
<td>Individual sectors developing and implementing sector-specific HIV/AIDS work plans</td>
<td>T&amp;T has produced biennial national monitoring reports on the status of the HIV/AIDS epidemic</td>
</tr>
<tr>
<td>Development of NSP monitoring indicators</td>
<td></td>
</tr>
<tr>
<td>Annual evaluation reports delivered to the national community</td>
<td></td>
</tr>
<tr>
<td><strong>NACC staff trained to perform their functions effectively and efficiently</strong></td>
<td></td>
</tr>
<tr>
<td>Critical sectors are empowered to effectively administer programmes and activities at the level of the community</td>
<td></td>
</tr>
<tr>
<td>Ongoing training is provided to community-based stakeholders</td>
<td>Cabinet approved the employment of HIV co-coordinators in all Government Ministries and Departments</td>
</tr>
</tbody>
</table>

HRA: Human Rights Abuse  T&T: Trinidad and Tobago  WB: World Bank
Source: Adapted from the UNGASS Country Progress Report – Trinidad and Tobago (2010).
Cost of Implementing the NSP: Projected versus Actual Expenditure

The estimated cost of implementing the NSP, covering all priority areas and their targeted objectives, over a five year period (2004-2008) was TT$569.06 million (US$90.32 million). However, actual expenditure exceeded the estimates in four of the priority areas—the exception was Priority Area II (refer to Table 4). Given the significance of Priority Area II in the budget (65% of allocations), under-spending in this area dominated over-spending in the other areas and resulted in overall actual spending on implementation of the Plan being approximately 27.84% less than budgeted.

### Table 4: Projected Cost versus Actual Expenditure on NSP Implementation (2004-2008, $ Millions)

<table>
<thead>
<tr>
<th>Priority Area</th>
<th>Projected TT$</th>
<th>Projected US$</th>
<th>Actual TT$</th>
<th>Actual US$</th>
<th>Variance (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I.  Prevention</td>
<td>132.67</td>
<td>21.06</td>
<td>142.4</td>
<td>22.06</td>
<td>7.33</td>
</tr>
<tr>
<td>II. Treatment, Care and Support</td>
<td>369.62</td>
<td>58.67</td>
<td>156.48</td>
<td>24.84</td>
<td>-57.66</td>
</tr>
<tr>
<td>III. Advocacy and Human Rights</td>
<td>3.21</td>
<td>0.51</td>
<td>8</td>
<td>1.27</td>
<td>149.22</td>
</tr>
<tr>
<td>IV. Surveillance and Research</td>
<td>26.01</td>
<td>4.13</td>
<td>32.68</td>
<td>5.19</td>
<td>25.64</td>
</tr>
<tr>
<td>V. Programme Management, Coordination and Evaluation</td>
<td>37.55</td>
<td>5.96</td>
<td>71.1</td>
<td>11.28</td>
<td>89.35</td>
</tr>
<tr>
<td>Total</td>
<td>569.06</td>
<td>90.32</td>
<td>410.66</td>
<td>65.18</td>
<td>-27.84</td>
</tr>
</tbody>
</table>

Source: Adapted from the UNGASS Country Progress Report – Trinidad and Tobago (2010).

In the case of Priority Area II – Treatment, Care and Support, ARV therapy accounted for the largest cost under this priority area and it was also the single most expensive component of the entire NSP budget (standing at 25.7% of the total NSP budget) as well as of actual expenditure. The NSP provided projections based on an ARV therapy cost of US$1200 per person for the years covering the strategic plan which amounted to a total cost of US$23.19 million.

It should be noted however, that the actual spending on ARV therapy was much lower than projected. While the estimates stated that 19,327 patients would be on ARV therapy, in reality, only 9,450 patients were by the end of the period. There may be several contributory factors that led to the shortfall in the numbers treated, including infrastructural limitations, reluctance of persons to obtain treatment and delays in implementation of the treatment programme. Overall therefore, NSP spending on ARV therapy totalled US$11.34 million, just half of the budgeted expenditure. Details are provided in Table 5.
Table 5: Projected and Actual Number of Patients on ARV and Cost of ARV Therapy (2004-2008)

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Patients on ARV Therapy</th>
<th>Cost (US$ Millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Projected</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 1 - 2004</td>
<td>1800</td>
<td>2.16</td>
</tr>
<tr>
<td>Year 2 - 2005</td>
<td>2350</td>
<td>2.82</td>
</tr>
<tr>
<td>Year 3 - 2006</td>
<td>3230</td>
<td>3.88</td>
</tr>
<tr>
<td>Year 4 - 2007</td>
<td>4695</td>
<td>5.63</td>
</tr>
<tr>
<td>Year 5 - 2008</td>
<td>7252</td>
<td>8.7</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>19,327</strong></td>
</tr>
<tr>
<td><strong>Actual</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 1 - 2004</td>
<td>1100</td>
<td>1.32</td>
</tr>
<tr>
<td>Year 2 - 2005</td>
<td>1450</td>
<td>1.74</td>
</tr>
<tr>
<td>Year 3 - 2006</td>
<td>1900</td>
<td>2.28</td>
</tr>
<tr>
<td>Year 4 - 2007</td>
<td>2300</td>
<td>2.76</td>
</tr>
<tr>
<td>Year 5 - 2008</td>
<td>2700</td>
<td>3.24</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>9,450</strong></td>
</tr>
</tbody>
</table>


Expenditure under Priority Area III – Advocacy and Human Rights, the least costly priority area of the NSP and Priority Area V – Programme Management, Coordination and Evaluation was almost double what was budgeted in the NSP. Spending on Priority Area IV – Surveillance and Research also exceeded the amount budgeted. This situation may be reflective of an underestimation of the cost of systems that needed to be put in place to bolster the weak framework into which the NSP was implemented and upon which the Prevention and Treatment and Care areas were to be built.

**Discussion**

**Overview**

Between 2006 and 2009 the prevalence rate rose from 1.2% to 1.5% (NACC 2010). This gradual increase can be attributed to the fact that ARV therapy was instituted in 2002 as well as individuals engaging in safer sexual practices and increases in the number of unreported cases. The success of the NSP in the area of prevention is a critical factor in the low incidence rate of the disease and the success in that area is commendable. Given that the expanded national response was set against the backdrop that the disease had serious implications for the economy, it is important that studies be done to identify how the number of persons receiving free ARV
medication translates into productive life years. This is important. With respect to the treatment of opportunistic infections (OIs), which require proper diagnosis and management, more personnel and equipment are required to treat these infections in an effort to reduce the frequency.

**Youth**

Although a lot has been accomplished in the education of the general public and vulnerable/high-risk groups with respect to safety in sexual practices, there have been challenges in effecting behaviour change especially among the youth. An indicative factor in the context of Trinidad and Tobago is the number of teenage pregnancies which shows that many youths are still engaging in unsafe sexual practices. An intervention which may be deemed useful is the introduction of Sex Education into school curricula.

While the NSP has identified the use of “youth-friendly” health services in dealing with STIs, and has highlighted the use of peer groups as an intervention which, in the experience of the developed countries, has had a greater impact than condom campaigns, the need for more specificity as to what those services and initiatives are is warranted. With the prevailing sexual patterns among youths, focus should be placed on practical and comprehensive services targeted towards changing some of these risky behaviour patterns.

**At Risk Populations**

The guiding principles of the NSP namely inclusion, sustainability, accountability and respect for human rights work in close tandem with the five priority areas which constitute this comprehensive response to the HIV/AIDS epidemic. Inclusion was defined in terms of reflecting the views of all major sectors with particular interest being placed on PLWHA, youth and women. However, inclusion should also reflect the views of MSMs and CSWs. Important here is the stigma attached to CSWs, MSMs and homosexuals (although the NSP has not used the term homosexuals), which may be reflected in the data collected as these individuals may not admit to their sexual orientation for fear of being discriminated against.

Additionally, considering the illegality of prostitution, it is difficult to estimate the extent of CSWs. The issue of CSWs, MSMs and homosexuals are a part of our reality and should be addressed because changing circumstances in the external environment can impact on the spread of the disease. Identified in the NSP, however, is the need for confidentiality among health care professionals as a possible intervention to allow these vulnerable individuals to be comfortable enough to access treatment and care. The focus should be on changing the behavioural patterns of these high-risk individuals, including social norms and attitudes as it relates to sex.

**Treatment and Care**

In providing treatment, care and support, the issue of access to ARV therapy which is provided free of charge in Trinidad and Tobago arises. While this may place an additional burden on already scarce resources, the spending is necessary because of the nature of the disease. There
are however challenges, which may negate the effects of ARV therapy. These include individuals being unaware of the illness until it is at a terminal stage, individuals not taking the required medication on a regular basis and in some cases, patients developing drug resistance to the ARV medication.

**Stigma and Discrimination**

The NSP has identified the need to train medical personnel in the execution of treatment, care and support. However, these personnel are required to volunteer for these training programmes as it is not compulsory. This may prove to be a challenge because of the issue of stigma and discrimination. Some health care professionals may choose not to work in areas that deal with PLWHA. The relevant authorities need to put mechanisms in place to ensure that the people who require HIV/AIDS-related treatment receive it in a timely and professional manner.

In dealing with those persons who are infected with and affected by the disease, the NSP highlighted its intention to provide economic and social support to these persons inclusive of HIV/AIDS orphans. It may prove useful to undertake research regarding programmes which may be valuable in this context. Many persons are very critical of individuals infected with and affected by HIV/AIDS for a variety of reasons including lack of education about the disease itself and because of their belief systems. This issue of stigma and discrimination is addressed under Priority Area III. The challenge here is changing the beliefs of individuals in society as a means of adequately addressing the epidemic. The NSP has correctly highlighted the need for legal intervention in dealing with issues of human rights for PLWHA in the workplace and in the wider community. With respect to advocacy, the GoTT needs to exert a stronger influence and commitment to supporting HIV/AIDS programmes.

Local government and other institutions need to play an active role in identifying necessary interventions as this can impact upon the prevention and treatment areas of the NSP. The guiding principles needed to ensure respect for human rights requires legislative action in protecting the people who may be discriminated against as a result of their lifestyles. In Trinidad and Tobago, the Equal Opportunity Act, 2000 prevents discrimination against persons according to status which refers to sex, race, ethnicity, origin (including geography), religion, marital status and disability. In fact the law clearly states by sex, however, this does not refer to sexual preference or orientation of any kind hence; there is an open door to discrimination against individuals based on their preference of a same-sex partner.

**Surveillance**

On-going surveillance and data collection that captures changes in the environment are key inputs into the determination of the effectiveness of outlined interventions. A strong national surveillance system (adequately covering both public and private sector) and implementation of research initiatives will assist in improving data collection. Further, the monitoring and evaluation of interventions were highlighted throughout the NSP document, which lends itself to the reality that there is a constant need to estimate the burden of the disease and present the facts for proper planning and understanding of its economic implications. Research is needed to help
understand the spill over effects that the disease may have on the living conditions of individuals in all sectors, included here is research into new methods of treatment and ways to suppress the disease. It is therefore important for decision makers to commit to and support this area which, according to the NSP, involves the upgrading of national laboratory systems and proper training of employees of the National Surveillance Unit (NSU).

**NSP Coordination**

The NACC was identified as the entity responsible for programme management, coordination and evaluation. Its functions included mobilizing national commitment, developing an appropriate management structure, ensuring that there were adequate and sustained resources to support implementation of the plan and of utmost importance, monitoring the implementation of the response. Based on the NSP, the NACC was to have a coordination role and an implementation role. However, along the way, these lines became blurred and the NACC became involved in implementing activities. There was need for the NACC to maintain its coordinating function and for implementing agencies (NGOs, CBOs, public and private health institutions) to be further enabled to carry out the various roles assigned under the NSP. Improved communication between the different agencies involved in providing HIV/AIDS-related services will lead to better coordination of response activities, a reduction of wastage and as such, a more efficient use of resources.

**Financing**

A plan of this nature requires significant financial input by key stakeholders. Annual increases in financial resources will be expected in areas such as human resource training and recruitment which can be attributed to “gradual capacity building”. However, given the fact that the NSP had to be extended due in large part to human resource constraints, it can be seen that an enabling environment is critical for the success of any programme of this nature.

Further examination of the priority areas and their financial allocations raises the issue that the allocated budget is adequate for the task at hand and that there is the possibility of reallocating resources to other areas with low funding. For example, under Priority Area I - Prevention, the allocation to MTCT is US$3.83 million and to risk groups, US$1.06 million. Having identified the importance of targeting high-risk and vulnerable groups, it may be necessary for increased allocations in this area. Furthermore, while one of the primary areas of success has been the reduction in MTCT, it is recognized that the continued injection of resources is necessary in order to keep MTCT under control.

In terms of the allocation to continued access to ARV, the allocation was US$23.19 million based on a 30% to 60% increase in the number of persons being treated for HIV/AIDS in Trinidad and Tobago. This increase can be categorised as a success since individuals are now presenting themselves for testing and receiving the necessary treatment.

Although there are opportunities to make more efficient use of the financial resources used to combat HIV/AIDS, the investment in its eradication is most certainly worth the effort. The gains
from investing in the NSP are reflected in social, economic and developmental rewards. It is likely, based on trends, that HIV/AIDS mortality, incidence and prevalence rates would have been higher in the absence of the NSP which helped to restrict the growth of the epidemic. While the extent of the effect of the NSP on the epidemic could have been notably greater, there is no doubt that its implementation has had a positive impact upon the HIV/AIDS epidemic in Trinidad and Tobago.

**Conclusions and Recommendations**

The magnitude of the HIV/AIDS epidemic warrants action and stresses upon the need for policymakers to tailor interventions in keeping with the nature and scope of the disease. The multisectoral approach to combating the epidemic has realized many benefits including a decrease in AIDS cases due to ARV therapy. There is, however, the need for continuous surveillance and contextual data to determine the effectiveness of proposed interventions and how best they can be implemented. Given the many challenges identified in implementing the plan, there is a need for improved allocation of resources and consistent monitoring and evaluation to establish whether the plan is actually accomplishing its outlined goals and operating as efficiently as intended. Despite the existence of a weak health platform and the many challenges faced in implementing the NSP, the goals outlined by the NSP are achievable; however, there is the need for a strong institutional framework to provide the foundation for such success.

It is important that we understand that although HIV/AIDS is a unique disease, the manner in which we address the issues pertaining to access to treatment and care by HIV/AIDS patients takes place within the broader context of the values of the society and the resource and system constraints of the health delivery network.

In addressing the challenges identified in the NSP, some of the recommendations for continued progress include:

- **Continued health sector reform.** There is the constant need to strengthen health care infrastructure to respond to health issues and by extension, HIV/AIDS. This comes as a result of the weak health platform upon which the NSP was implemented.
- **Focus on changing behaviour patterns among risk groups.** Since the youth are among the high-risk groups and are often reluctant to visit public and even private health facilities because of the stigma attached, health services should be designed to increase the comfort level of these individuals in accessing the services available to them. Professionals should be trained to deal with such high-risk groups in a practical manner. This can further assist with the confidentiality issues that currently plague the health system.
- **Greater incorporation of the Tobago response initiative.** The NSP stated that the factors affecting the spread of the disease in Tobago were different from that in Trinidad. Detailed analysis of the Tobago situation is necessary so that interventions can be more targeted.
Continuous research. Given the nature of the disease and the ever-changing environment, research will be beneficial in identifying successful interventions as well as shedding light on the situation of various groups living with HIV/AIDS.

The priority areas outlined in the NSP are necessary in counteracting the obstacles faced in controlling HIV/AIDS such as, “lack of coverage and access to prevention services and lack of rigorous evaluation” (Jamison et al. 2006). Given the multisectoral approach in combating this disease, there is a need to conduct studies to ascertain the effectiveness and the benefits of the programmes that have been implemented. Further, there is need for training the relevant personnel in HIV/AIDS education, counselling and treatment. There is also a greater role for religious organizations as one of the main institutions shaping individuals’ belief systems and behaviours in combating this social ill.

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i The predominant mode of transmission is through sexual exposure.

ii For full details of the Trinidad and Tobago Equal Opportunity Act, 2000 please refer to ILO (2008).
OVER THE HILL AND STILL “LIMING”: PSYCHOLOGICAL WELL-BEING IN YOUNG, MIDDLE-AGED AND OLDER ADULT TRINIDADIANS

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In 2010 in Trinidad and Tobago individuals over 60 years-old represented 10% of the population. This figure is expected to reach 20% by the year 2025 (World Health Statistics, 2011). Late life is often characterized by decline and disease, but gains in human potential and functioning (i.e., psychological well-being, PWB) in older adulthood are possible (Baltes, 1987). Thus, the goal of the current study was to examine Trinidadian adult age group differences in three components of PWB: self-acceptance, positive relations with others, and purpose in life (Ryff, 1989). Older adults were expected to have higher acceptance of themselves, and relations with others that are as positive, if not better than, other age groups. Lower sense of purpose in one’s life was expected in old age. The study sample consisted of 242 participants residing in Trinidad between the ages of 18 and 74 years-old (M = 36.84, SD = 16.35). The country’s major ethnic groups were represented. Socio-demographic variables and PWB were assessed with self-report measures as part of a larger study. It was found that older adults reported lower levels of self-acceptance and purpose in life compared to young and middle-aged adults, whom did not differ. There were, however, no age group differences in how positively people viewed relationships with others. Older adults were just as likely as young and middle-aged adults to have healthy, positive relationships. Results remained relatively consistent even when controlling for socio-demographic variables (e.g., education, income, health, etc.) related to age and PWB. No ethnic group differences emerged. The pattern of gains and losses in PWB in late life are discussed, focusing on why older adult Trinidadians do not demonstrate levels of self-acceptance seen in other cultures, and the potential role that positive relations and „the lime” may have across adulthood for the PWB of Trinidadians.

Keywords: psychological well-being, aging, culture, Trinidadians
Introduction

The world’s population is aging. Demographic statistics from a United Nations report (World Population Aging: 1950-2050 2001) indicate that in 2006, almost 500 million people worldwide were 65 and older. By the year 2030, which is only 18 years from today, the number is projected to increase to 1 billion. This means that by the year 2030, every eighth person seen on the street or in the grocery store will be over the age of 65. Although these numbers are reflective of population statistics worldwide, the most rapid increase in the 65-and-older population is occurring in developing countries, like those in the Caribbean region. In 2000, in less developed regions of the world, 8% of the population was 60 years-old and over, but in 2050, it is expected to reach 20%. Although Trinidad and Tobago by some indicators is no longer considered a developing nation (Organization for Economic Co-operations and Development; OECD 2011), population projections for the aged are in line with less-developed countries. In 2010 in Trinidad and Tobago individuals over 60 years-old represented 10% of the population. This figure is expected to reach 20% by the year 2025 (World Health Statistics 2011).

Despite the rapid growth of the older adult population in the nation, very little data is available from a psychological perspective on the health and well-being of older adults in Trinidad. There is considerable data on health issues facing children, teenagers, and young adult populations in Trinidad (e.g., Baptiste, Voisin, Smithgall et al. 2007; Maharaj, Alli, Cumberbatch et al. 2008) and there is also a growing body of work on the nation’s older adults’ physical, mental-health, social, and economic problems (e.g., Alea, Thomas, Manickchand, et al. 2010; Hector, Anderson, Paul, et al. 2010; McRae, Gershwin, Baboolal, & Morren 2008; Rawlins, Simeon, Ramdath, & Chadee 2008). However, no known data is available on the psychological well-being (PWB), or positive health indicators of growing older in Trinidad. Ill-health and well-being are not at opposite ends of the same health spectrum, but instead represent distinct constructs with independent, different predictors (Ryff, Love, Urry, et al. 2006). PWB is not the absence of psychological illness. Thus, it is imperative to move beyond knowing what ails the growing older adult population, to also explore the PWB of older adults in Trinidad. Thus, the purpose of the current research is to fill this gap in the literature by: (i) examining differences in multiple dimensions of PWB for young, middle-aged, and older adult Trinidadians, and (ii) to examine what socio-demographic variables help to explain age group patterns, if found. First, however, below we situate the current study in lifespan developmental theory (Baltes 1996; Baltes 1987; Baltes, Staudinger, & Lindenberger 1999), which encourages the exploration of positive growth and the human potential of old age, while considering cultural influences.

Lifespan Developmental Theory: Positive Late Life Functioning in Cultural Context

One of the fundamental principles of lifespan developmental theory is that “any process of development entails an inherent dynamic between gains and losses” (Baltes 1987: 611). Historically, the gains or positive growth in functioning were considered the privilege of childhood to young adulthood, and late life was a period of disease and decline (Labouvie-Vief 1982; Uttal & Perlmutter 1989). Lifespan developmental psychology does not deny that with age losses will occur and that perhaps the losses to gain ratio is unbalanced, and negative in old age (Baltes & Smith 2003). However, this perspective strongly emphasizes, as others in medical and social sciences have, that aging should not be equated with disease (see Baltes & Baltes 1990 for
a review). Humans can, and do, age successfully (Rowe, President, & Kahn 1996): they maximize desirable goals and outcomes, while minimizing potential losses (Baltes, et al. 1999). Functioning at all ages, even in late life, is multidirectional (Baltes & Baltes 1990; Shultz & Heckhausen 1996). Positive age-related patterns have been observed in numerous areas of psychological functioning (e.g., intelligence; Schaie 1994; emotion regulation; Carstensen & Charles 1998; identity achievement; Fadjukoff 2007), including the topic of the current study, PWB.

Lifespan developmental theory also emphasizes that development occurs within historical and cultural contexts (i.e., historical embeddedness; Baltes 1987), and that how a person develops over time, or how well they age, is keenly tied to sociocultural conditions. Cultural resources (e.g., economic, technological, education, etc.) are the driving factor, for example, behind the changes in average life expectancy in recent years (Baltes 1996). The average life expectancy of a Trinidadian born in 1950 was approximately 47 years-old; in 2009, the average life expectancy was 70 years-old (World Health Organization 2009). In Trinidad, it is highly likely that the 1970s oil boom which improved the material standard of living was a driving force behind the dramatic change in life expectancy in the last half century. It is not genetic evolution but cultural revolution (Baltes 1996) that is responsible for the growth in the older adult Trinidadian population. In fact, lifespan developmental theory proposes that the need for the accommodating and elevating role of cultural resources may become more important in old age (Baltes 1996), as older adults attempt to minimize losses and maximize gains (e.g., Brandstätter & Greve 1994; Dixon & Bäckman 1995; Durham 1991; Marsiske, Lang, Baltes, et al. 1995). As reviewed below, socio-demographic representations of cultural forces (e.g., education, income, health status, etc.) have proven to be important predictors of PWB in late life (Chow 2010; Ryff & Singer 2002; Ryff, Keyes, & Hughes 2003).

Psychological Well-being (PWB) in Adulthood and Late Life

PWB is a multidimensional construct (Ryff 1995; see also Pavot & Diener 2004) that encompasses active engagement with life (i.e., eudaimonic well-being; Kahneman, Diener, & Schwarz 1999; Keyes, Shmotkin, & Ryff 2002; Ryan & Deci 2001) and positive human functioning (Ryff, 1989). The dimensions of PWB examined in the current study and thus the focus of this literature review, include: self-acceptance, which is the ability to see and evaluate oneself well, in terms of strengths and weaknesses; positive relations with others, which is about having close, positive, social connections with other people in one’s life; and purpose in life, which encompasses having a sense that one’s life is meaningful and has direction (Ryff, 1995). The age-related pattern of results for these three components of PWB is fairly consistent in the literature, and nicely demonstrates that aging is comprised of both gains and losses. Most of the literature on age group differences reviewed in this section comes from North America where the PWB scales that we utilized in the current study (Ryff 1989) were developed (see Methods for details and Discussion for the limitation of this approach). Cultural considerations are reviewed in the next section.

Self-acceptance and positive relations with others are two components of PWB that seem to be either unaffected by growing older (e.g., Ryff 1995; Springer, Pudrovská & Hauser 2011) or even shows improvement as one moves in to late life. A series of studies (e.g., Ryff et al. 2003;
Ryff & Singer 2006) finds that as a person gets older they tend to become more accepting of who they are: self-acceptance is positively related to aging. Young adulthood is a time for identity formation (Erikson 1968), but by late life, older adults expect to maintain a stable sense of self (Kroger 2002). Similarly, by the time someone reaches late life they have developed warm, positive relationships with others (e.g., Ryff & Singer 2006; Ryff, Kwan, & Singer 2001). Socioemotional goals of late life encourage the development of relationships that are more positive, deeper, and more meaningful than those relationships that a person has in young adulthood (Carsenten 1992). Social networks may be smaller in older adulthood (Rook & Schuster 1996), but the relationships tend to be more satisfying (van Tilburg 1998).

Not all components of PWB, however, show gains in late life. As individuals get older there tends to be a decline in a person’s sense of having purpose in their life (Ryff & Keyes 1995; Ryff, Keyes & Hughes 2004; Springer et al. 2011). The negative relation between age and purpose in life is found in both cross-sectional (Ryff et al. 2003; Ryff et al. 2001) and longitudinal work (Springer et al. 2001). This negative age-related pattern is likely a result of knowing, as one gets older, that mortality is approaching: there is less time left to live (Neugarten 1996). It may be difficult to have a sense of direction and purpose in one’s life when time is viewed as limited. It is more typically the past, rather than the future, that is viewed as having purpose and meaning in old age (Alea & Bluck 2012; Butler 1963).

**Socio-demographic Predictors of PWB: Cultural Considerations**

This general pattern of growth in some components of well-being (e.g., self-acceptance, positive relations with others) but decline in others (e.g., purpose in life) as one ages has also been found in Japan (Karasawa, Curhan, Markus, et al. 2011), Germany, and the United Kingdom (Gerstorf, Ram, Mayraz, et al. 2010). Cultural variations in PWB have not been extensively studied, with the exception of work from independent versus interdependent cultures (e.g., Baker, Soto, Perez & Lee 2012; Morling, Kitayama & Miyamoto 2002; Karasawa et al. 2011; Ryff 1995) and only a few have focused on adult age group differences (Karasawa et al. 2011). The few studies that were located with Caribbean samples (Jamaicans, Bourne 2008; Trinidadians, Hector et al. 2010) found a negative relation between Caribbean samples (Jamaicans, Bourne 2008; Trinidadians, Hector et al. 2010) found a negative relation between well-being and age. However, these studies tended to use composite measures of well-being, with an emphasis on physical well-being, and did not allow for the distinction between the dimensions of psychological well-being in particular.

The lack of literature on PWB in various cultures is compensated for by a large amount of work examining the socio-demographic variables (education, income, subjective health, relationship status), which are constructed by one’s culture (Berger & Luckman 1966; Descartes 2012; Khumalo, Temane, & Wissing 2012), that predict PWB (e.g., Chow 2010 Grossi, Blesi, Sacco & Buscema 2012; Ryff et al. 2003; Ryff & Singer 2002). For example, a meta-analysis (Pinquart & Sörensen 2000) of almost 300 studies that had older adults in their samples found that higher socioeconomic status (SES), higher educational attainment, and better social integration predicted higher levels of well-being (i.e., life satisfaction, self-esteem). Effects were moderated by age: the relation between SES and education and life satisfaction became weaker with advancing age, indicating that perhaps these socio-demographic variables are less likely to account for late life costs and benefits to well-being. Additional studies support the link between education, income, and PWB. A cross-cultural study on older adults (50 years and older) with
data from the United States, Australia, and Korea found that individuals who were less satisfied with their level of wealth had poorer life satisfaction in all three countries (Kim, Sargent-Cox, French, et al. 2012). Research from Brazil replicates results regarding the importance of educational attainment on successful aging (Ordonez, Lima-Silva & Cachioni 2011).

If lack of income and education have a general detrimental effect on PWB, social integration (Luo & Waite 2011; Pinquart & Sörensens 2000) and good health (Ryff 1995; Ryff et al. 2006; Tran, Wright, & Chatters 1991) is good for late life PWB. For example, a Malaysian study with individuals ranging in age from 60 to 100 found that the oldest old unmarried participants (i.e., those with low social support) were at risk for experiencing poorer PWB compared to the younger aged people in the study (Momtaz, Imbrahim, Hamid, & Yahaya 2011). Similarly in Canada, being married is positively related to PWB (Chow 2010). Regarding health, older adults with lower biological risks of disease report having higher levels of PWB overall (Ryff et al., 2006), and being in good health (e.g. having low cholesterol levels) is related to having higher overall levels of life satisfaction, and a greater sense of purpose in life and direction for older adults (Mock & Eiback 2011; Ryff, Singer, & Love 2012). The same holds true for subjective health. Participants who rated themselves as more healthy have higher overall levels of well-being whereas those who rate themselves in poor health have lower levels of well-being (Ryff 1995; Tran et al. 1991). Thus, socio-demographic variables relate to PWB.

Study Expectations

As there is no previous literature on the three dimensions of PWB (self-acceptance, positive relations with others, and purpose in life) across adulthood for Trinidadians available, our study expectations are based mostly from the work that has been done in the United States by Ryff and her colleagues. This seems like a reasonable approach as research suggests that the Caribbean is influenced by North American cultural values through media and non-media contact (for example, through travel and tourism), because of the proximity and shared language of the two regions (Brown 1995). Secondly, well-being indicators are not vastly different in Trinidadian and American samples (Hector et al. 2010). Nonetheless, expectations are tentative and somewhat exploratory because cultural traditions and values might persist (Inglehart & Baker, 2000; Lindeman & Verkasalo, 2005) despite modes of contact and similarities with North America.

Multidirectional age-related patterns are predicted. Self-acceptance among older Trinidadians is expected to be at least as good as younger-aged groups, or perhaps even better. Older adult Trinidadians are also expected to have relations with others that are as positive, if not better than, young and middle-aged adults. On the other hand, feeling a sense of purpose in one’s life is expected to be lower in late life compared to earlier in adulthood. The previous literature also suggests that education level, SES (i.e., income), social integration (estimated by relationship status in the current study), and subjective health relate to PWB, and thus should help to explain some of the age group differences. Specifically, higher levels of education and income, being married, and having better subjective health is expected to be positively related to all dimensions of PWB. We also anticipate that controlling for socio-demographic variables in analyses will provide a clearer picture of the age-related differences in PWB.

Method
Participants

Two-hundred and forty-two individuals residing in Trinidad participated. Participants ranged in age from 18 to 74 years-old (M = 36.84, SD = 16.35), but were divided into three age groups: young (18-29 years-old, M age = 22.33, SD = 3.10, n = 110), middle-aged (30-49, M age = 38.82, SD = 5.89, n = 71), and older adults (50 and older, M age = 60.7, SD = 16.35, n = 61). The sample was 87% women. The ethnic distribution reflected the major groups in the country with 42% Africans, 33% Indians, and 24% mixed persons. Young and middle-aged adults were recruited from undergraduate psychology courses at the University of the West Indies, and received partial credit towards a research requirement in a course. Older adults were recruited primarily from the Trinidad and Tobago Association for Responsible Persons, and they were compensated with TTD100.00 for their participation. We recognize that the sample is thus not representative of the population of Trinidad and this is further discussed in the Limitations section.

Procedure and Measures

Data was collected as part of a larger study that took approximately 75 minutes. The procedures for the university and community samples were identical. Questionnaires were administered by female research assistants in a moderately-sized group, classroom-like setting. Participants were asked to complete an informed consent document, and then proceed to answer the study measures at their own pace. Researchers were available to answer questions, if necessary. Two groups of measures were used in the current study: a measure of PWB, which was the primary outcome measure, and a measure assessing socio-demographic variables to be used as covariates in analyses. These measures were presented in a counterbalanced order.

Psychological well-being. Three subscales of Ryff’s Scales of Psychological Well-Being (Ryff 1989) were used, and included: self-acceptance, positive relations with others, and purpose in life. These psychological well-being scales show very good validity and reliability across a variety of cultures (e.g., Australia: Ferguson & Goodwin 2010; France: Salama-Younes, Ismail, Montazeri & Roncin 2011; Spain: Villar, Triadó, Celdran & Solé 2010; Italian and Belarusian: Sirigatti, Penzo, Iani et al. 2012). The self-acceptance subscale contains 15-items and assesses one’s attitude towards the self, acknowledgement and acceptance of both good and bad characteristics of the self, and a feeling of positivity about past experiences. An example item is: I like most aspects of my personality. The positive relations with others subscale is made up of 14 items and assesses the presence of warm, satisfying and trusting relationships, care for others, empathy, affection and intimacy, and an understanding of compromise. An example item is: Most people see me as loving and affectionate. The purpose in life subscale has 14 items and assesses the presence of goals, a sense of direction, and beliefs that give life purpose; also the feeling that there is meaning to both the present as well as previous life experiences. An example item is: I enjoy making plans for the future and working to make them a reality. Items are not presented sequentially by subscale. Responses to all items are made on a 6-point Likert scale ranging from, strongly disagree (1) to strongly agree (6). Negatively-worded items are reversed prior to scoring so that higher scores are indicative of greater self-acceptance, positive relations with others, and purpose in life. The subscales showed good internal consistency in the current
sample: self-acceptance Cronbach’s α = .75, positive relations with others Cronbach’s α = .81, and purpose in life Cronbach’s α = .86.

**Socio-demographic variables.** Four socio-demographic variables were measured: education, relationship status, income, and subjective health. Descriptive statistics appear in Table 1. For education, participants reported the number of years of formal schooling attained since, and inclusive of, primary school. The relationship status question asked participants to indicate whether they were single, in a stable long-term relationship, cohabitating or common law union, married, divorced or separated, widowed, or “other.” This variable was used as a proxy for social integration and thus we collapsed across the categories for analyses so that people were either in a relationship or not. Income was a representation of total household family monthly income, and was assessed with eight possible income brackets, including: <$999, $1000-$2999, $3000-$4999, $5000-$6999, $7000-$8999, $9000-$9999, $10000-$11999, >$12000. We recognize that this is a rather rough estimate of SES (Adler & Stewart 2007), and thus it should only be viewed as a proxy. Finally, subjective health was measured with a widely-used one item question which asks participants to rate their health compared to own-age peers on a 6-point Likert-scale (Maddox 1962). The question does not distinguish between psychical or mental health; it is generic. Responses are made on a 6-point Likert scale, ranging from 1 (very poor) to 6 (very good).

**Table 1**

| **Descriptive statistics for socio-demographic variables by age group** |
|--------------------------|------------------|------------------|
| **Age group** | **M** | **SD** |
| Education | | |
| Young | 16.04 | 2.73 |
| Middle | 17.28 | 6.04 |
| Old | 15.89 | 7.36 |
| Income | | |
| Young | 5.81 | 2.21 |
| Middle | 6.39 | 1.80 |
| Old | 5.65 | 2.12 |
| Subjective health | | |
| Young | 4.70 | .90 |
| Middle | 4.97 | .74 |
| Old | 4.97 | .79 |
| Relationship status | % not in a relationship | % in a relationship |
| Young | 72 | 28 |
| Middle | 50 | 50 |
| Old | 45 | 55 |

*Note. There were no significant age group differences for education, income, and health. The χ² test for differences in relationship status by age group was significant, χ² (238) =*
Results

Analyses correspond to the study aims: (i) to examine whether there are differences in PWB dimensions (self-acceptance, positive relations with others, purpose in life) between young, middle-aged, and older adult Trinidadians, and (ii) to explore whether socio-demographic variables related to both age and PWB account for adult age group differences in PWB, if differences exist. Results are divided in to two sections corresponding to these aims.

Adult Age Group Differences in PWB

To examine whether there were adult age group differences in PWB, an age group multivariate analyses of variance (MANOVA) was conducted. Age group was a between-subjects variable. Dependent variables were the three components of PWB: self-acceptance, positive relations with others, and purpose in life.iii Univariate results were considered only if the MANOVA was significant, and age group differences were followed up with all possible pairwise comparisons using the Bonferroni correction. The multivariate age group effect was significant, Wilk’s $\lambda = .84$, $F (6, 474) = 7.35$, $p < .001$, $\eta^2_p = .09$. Univariate tests revealed that there were significant age group differences for only two components of PWB: self-acceptance, $F (2, 242) = 5.09$, $p < .001$, $\eta^2_p = .06$, and purpose in life, $F (2, 242) = 21.50$, $p < .001$, $\eta^2_p = .15$. Young, middle-aged, and older adults did not differ in the extent to which they had positive relationships with others, $F (2, 242) = 1.97$, $p = .05$, $\eta^2_p = .03$. The pattern of results is shown in Figure 1, and the post-hoc analyses for self-acceptance and purpose in life are presented overleaf.
Figure 1 Age differences in self-acceptance, positive relations with others, and purpose in life

Note. Bars within each dimension of psychological well-being with different letters were significantly different. When controlling for socio-demographic variables: there is no longer a significant difference in self-acceptance between middle-aged and older adults; the non-significant difference between young and middle-aged adults for purpose in life becomes significant.

As can be seen in Figure 1 for self-acceptance, contrary to expectations, older adults had lower levels of self-acceptance than younger adults, t (170) = 3.91, p < .001, and middle-aged adults, t (131) = 3.13, p < .01. There was no difference between young and middle-aged adults’ self-acceptance, t (180) = .53, p > .05. The pattern of results was similar for purpose in life, though this was what was hypothesized. Older adults reported the lowest levels of having purpose in their life, significantly lower than both the young, t (170) = 6.56, p < .001, and middle-aged adult group, t (170) = 4.13, p < .001. Again, young and middle-aged adults did not differ in PWB, measured as purpose in life, t (180) = 2.12, p > .05. Thus, contrary to expectations, older adults reported having lower levels of self-acceptance. Consistent with what was expected: purpose in their life was also lower in the older adult age group compared to the other two age groups. Also consistent with what was expected, older adults’ relationships were as positive as the other two age groups.

Socio-demographic Variables, Age, and PWB

The second goal of the study was to examine whether any initial findings regarding adult age group differences in PWB would remain when considering socio-demographic variables that relate to both age and to PWB. Thus, to first determine what socio-demographic variables might be of relevance, bivariate correlations were conducted between age group, socio-demographic variables, and the three dimensions of PWB. The socio-demographic variables included:
education, relationship status, income, and subjective health. Spearman rank-order correlations were used, and are reported in Table 2.

Table 2

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<td>-.00</td>
<td>.12</td>
<td>-.27***</td>
<td>-.16*</td>
<td>-.35***</td>
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<tr>
<td>2. Education level</td>
<td>--</td>
<td>-.03</td>
<td>.16*</td>
<td>.18**</td>
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<td>3. Relationship status</td>
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<td>.01</td>
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<td>4. Income</td>
<td>--</td>
<td>.19**</td>
<td>.10</td>
<td>.16*</td>
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<td>5. Subjective health</td>
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<td>.20**</td>
<td>.09</td>
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<td>6. Self-acceptance</td>
<td>--</td>
<td>.64***</td>
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<td>7. Positive relations with others</td>
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<td>8. Purpose in life</td>
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* \( p < .05 \), ** \( p < .01 \), *** \( p < .001 \)

As can be seen, age group correlated with one socio-demographic variable: relationship status. As age increased individuals were more likely to be in a relationship. Two socio-demographic variables were correlated with PWB dimensions: income and subjective health. Income was related to having positive relations with others: as income increased people were more likely to report positive, healthy relationships. Subjective health was positively correlated with two components of PWB: self-acceptance and purpose in life. As self-reported subjective health increased so did one’s acceptance of themselves and life seemed to have more purpose. In addition, as can be seen in Table 2, some of the socio-demographic variables were related. Being more educated was related to higher income levels and better subjective health status. Individuals in relationships were also likely to have higher income levels. These correlational results thus suggest that controlling for education, relationship status, income, and subjective health may provide a clearer picture of age group differences in PWB.

Thus, the initial age group (young adults, middle-aged, older adults) MANOVA was redone as a multivariate analysis of covariance (MANCOVA), controlling for education, relationship status, income, and subjective health. The dependent variables again were self-acceptance, positive relations with others, and purpose in life PWB dimensions. The same criteria used in the initial...
analyses applied: univariate effects were considered only for significant multivariate effects, and the Bonferroni correction was used. Subjective health was the only covariate that predicted PWB, Wilk’s $\lambda = .89$, $F (3, 204) = 8.40$, $p < .001$, $\eta^2 = .10$. The age group multivariate effect was significant, Wilk’s $\lambda = .82$, $F (6, 408) = 7.35$, $p < .001$, $\eta^2 = .10$, with univariate effects for self acceptance, $F (1, 206) = 11.13$, $p = .001$, $\eta^2 = .05$, and purpose in life, $F (1, 206) = 13.80$, $p < .001$, $\eta^2 = .09$, consistent with initial and correlational analyses. The univariate results changed slightly when the socio-demographic covariates were included. However, there continued to be no age group differences in positive relations with others, even when controlling for socio-demographic variables: young, middle-aged, and older adults group did not differ significantly with respect to how much they felt engaged in and happy with their social relationships.

Again, there was a significant age group difference in the self-acceptance component of PWB, $F (2, 206) = 5.29$, $p < .01$, $\eta^2 = .05$. Younger adults ($M = 4.77$, $SD = .87$) reported higher levels of self-acceptance compared to older adult age groups ($M = 4.31$, $SD = .70$), $t (148) = 3.25$, $p < .01$. However, when controlling for socio-demographic variables, particularly subjective health, the initial effect between middle-aged adults ($M = 4.63$, $SD = .78$) and older adults was no longer significant, $t (100) = 2.13$, $p > .05$. To further examine why this might have occurred, Spearman rank-order correlations were conducted between subjective health (i.e., the only significant socio-demographic predictor of self-acceptance) and self-acceptance for young, middle-aged, and older adults separately. It was found that there was a positive relation between subjective health and self-acceptance for middle-aged adults only, $r (71) = .42$, $p < .001$: as subjective health increased so did levels of self-acceptance. For younger and older adults subjective health and self-acceptance are not related, young $r (110) = .16$; old $r (59) = .13$, $p s > .05$. Thus, when controlling for socio-demographic predictors, particularly subjective health, the age difference between middle-aged adults, whose self-acceptance is related to their subjective health, and older adults, whose self-acceptance is not related to their subjective health, goes away.

For purpose in life, the results controlling for socio-demographic variables were again fairly consistent with the original analyses showing an age group difference, $F (2, 206) = 21.00$, $p < .001$, $\eta^2=.17$, but the difference actually became more striking. Older adults ($M = 4.20$, $SD = .85$) continued to report less purpose in life than young ($M = 5.15$, $SD = .77$), $t (148) = 6.46$, $p < .001$, and middle-aged adults ($M = 4.78$, $SD = .96$), $t (100) = 3.68$, $p = .001$. However, controlling for the socio-demographic variables, and again particularly subjective health, which was the only predictor, revealed an effect that was previously not significant: middle-age adults” now reported lower levels of purpose in life compared to younger adults, $t (165) = 2.73$, $p < .05$. Spearman rank-order correlations were again used to deconstruct this change in the pattern of results. It was found that there were significant, positive relations between subjective health and purpose in life for young, $r (110) = .22$, $p < .05$, and middle-aged adults, $r (71) = .38$, $p = .001$, and a correlation that was equal in magnitude to that of the younger adults for the older adults, which was marginally significant, $r (59) = .24$ had a $p = .06$. Thus, subjective health is related to purpose in life at all points in the life span, and thus when controlling for this socio-demographic predictor linear age differences in purpose in life emerges.
Discussion

The purpose of the study was to examine, for the first time, adult age group differences in three dimensions of PWB (self-acceptance, positive relations with others, purpose in life) in a Trinidadian sample. Drawing from lifespan developmental theory (Baltes 1987) multidirectionality in PWB, which includes the potential for positive human functioning and growth in late life was considered a possibility in conjunction with late life loss. The pattern of results was sometimes consistent with expectations and previous research conducted mostly in the United States (e.g., for purpose in life; Ryff & Keyes 1995; Ryff et al. 2004; positive social relations with others; Ryff & Singer 2006; Ryff, Jwan, & Singer 2001), but not always (e.g., for self-acceptance; Ryff et al. 2003; Ryff & Singer 2006). The second goal of the study was to consider socio-demographic variables as covariates consistent with the cultural embeddedness emphasis of lifespan development (Baltes 1987, 1996; Berger & Luckman 1966; Descartes 2012; Khumalo et al. 2012). There were actually fewer relations between these socio-demographic variables and PWB than was anticipated based on research that has been done in other countries (Kim et al. 2012; Pinquart & Sørensen 2000). Controlling for the socio-demographic variables, however, did shift results slightly and follow-up correlations for each age group separately gave some indication as to why results changed. Findings for each dimension of PWB are reviewed in turn below considering how socio-demographic variables, as well as Trinidadian culture, potentially impacted upon results.

Purpose in Life is Lower from Young Adulthood, to Midlife, to Old Age

A hallmark of good PWB is feeling that life is worthwhile, and has purpose and direction (Diener & Diener 1995; Ryff 1995). This dimension of PWB shows rather steady decline from young adulthood to old age across various cultures (e.g., US; Ryff & Keyes 1995; Asia; Karasawa et al. 2011; Europe; Gerstorf et al. 2010), and was replicated in the current study with a Trinidadian sample. Purpose in life was consistently lower in older adults compared to younger adults and middle-aged adults. Further, when controlling for socio-demographic variables, differences between young and middle-aged adults also emerged, with individuals in midlife reporting less purpose in life than their younger counterparts. However, the only covariate that was a predictor of PWB was subjective health, and a relation between subjective health and purpose in life existed for each age group. As subjective health increased, purpose in life increased for young, middle-aged, and older adults. Recent research has begun to focus in more detail on the interrelation between health and PWB (e.g., Feldman & Steptoe 2003; Lindfors & Lundberg 2002; Ryff 1995; Ryff et al. 2006; Tran et al. 1991). For example, in a study with aging women (from 61 to 91 years old), Ryff and colleagues (2012) found that several physiological indicators of good health (e.g., neuroendocrine, immune, and cardiovascular biomarkers) were related to having greater purpose in life (see also Ryff et al. 2006). In fact, for some biomarkers of health (i.e., salivary cortisol levels – a biomarker for stress) the relation with purpose in life was stronger as individuals got older. Thus, whether subjective or objective indicators of health are used, there seems to be positive relations between subjective health and purpose in life at all points in the adult lifespan.
Feeling less purpose in life as one ages, however, is probably not only a result of advancing chronological age (i.e., lived time) and potential health difficulties (Moch & Eiback 2011; Tran et al. 1991), but is likely reflective of one’s perception of time left to live (i.e., future time perspective; Demiray & Bluck under review). Future time perspective (Carstensen & Lang 1996) is operationalized as perceived time left to live relative to one’s current point in the lifespan and how positively one feels about their potential remaining time. In young adulthood, the future is seen as open-ended and full of possibilities (Fung & Carstensen 2006), but in midlife there is a dramatic shift in perspective (Neugarten 1996): a life is viewed as time left to live, rather than time lived. Having a limited view of what the future may hold, as older adults do because of impending mortality, impacts upon feeling a sense of purpose and direction in life (Demiray & Bluck under review). Thus, time left to live and its impact on feeling a sense of purpose in life is perhaps also influencing the Trinidadian older adults in this study.

Older Adults Have Lower Self-Acceptance than Young Adults

Although the age-related pattern of results for purpose in life was one of loss with age, gains or positive growth for PWB assessed as self-acceptance were expected. Older adults were expected to have higher levels of self-acceptance compared to younger adults (Ryff et al. 2003; Ryff & Singer 2006). This expectation, however, was not supported and the opposite pattern emerged. Older adult Trinidadians had lower levels of self-acceptance than younger adults and middle-aged adults in this study. Even when socio-demographic covariates were included, older adults’ levels of self-acceptance continued to be lower than younger adults’ levels. Subjective health again (as was the case with purpose in life) emerged as the socio-demographic variable with a positive relation to self-acceptance: as subjective health improved, self-acceptance also improved. This relation, however, only existed for middle-aged adults.

Having positive self-regard is a central feature of theoretical perspectives on mental health and personality (i.e., Allport 1961; Jahoda 1958; Rogers 1962), and the ultimate goal of psychosocial development in late life (i.e., ego integrity; Erikson 1968). So, why then did Trinidadians in the current study not show the typical age-related pattern of better or at least stable self-acceptance with age? One possible explanation is the cultural milieu surrounding aging in Trinidad. In her most recent book, for example, Joan Rawlins (2010: 3) provides several case studies of older women describing how, “it is not easy to be an older person in Trinidad and Tobago.” Financial issue, health-care inadequacies, loneliness, and lack of respect from younger generations were among the major difficulties that women growing old in Trinidad were facing (see also Rawlins et al. 2008). Although we did not find relations between income and education and age and PWB in our sample, research across cultures finds that in societies that have overall lower mean income levels (i.e., developing countries), well-being is lower (e.g., Diener et al. 1995; Diener & Biswas-Diener 2002). Specifically related to the self-acceptance dimension of well-being, perhaps only after challenges of daily living are mastered (e.g., physiological and safety needs) and financed, that self-actualization and self-acceptance can be achieved (Maslow 1943). Or, perhaps, with increased ill health, the lower self-acceptance is due to difficulties older women, in particular, might be experiencing in accepting their current circumstances, which also change their accustomed social role of independent caretaker, to the dependent identity of a person being taken care of (cf. Ryff, 1989).
Although speculative, it is also possible that lower self-acceptance among older Trinidadian adults compared to their younger counterparts is a cultural phenomenon specific to the older adult generation in Trinidad. Although Trinidad is a multicultural society, made up of both interdependent (i.e., Indo-Trinidadian) and independent (i.e., Afro-Trinidadian) cultures (Descartes 2012), it seems likely that the older generation of Trinidadians may tend towards a more interdependent, collectivist orientation. Older adults in the current study would have grown up during the time of the transition from a British colony to an independent nation in 1962, and then to a Republic in 1976. During this period, the then Prime Minister, Eric Williams, encouraged citizens to create a unique identity for the new nation (Bolland 2004). Group solidarity is the basis of identity formation (Premdas 1999). Additionally, these older adults might also have a more interdependent personal value system because they are now also generative, and are therefore primarily preoccupied with social concerns (Erikson 1968). Interdependent cultural orientations (mostly seen in Asian cultures) devalue the pursuit of personal goals and instead respond to the need for social harmony, and connections with others (Markus & Kitayama 2004), and perhaps this is why individuals from cultures that have an interpersonal orientation have lower levels of self-acceptance compared to those with intrapersonal modes of being (Karasawa et al. 2011). Self-acceptance is less valued than other dimensions of PWB. The pathway to PWB varies by cultural orientation (Kitayama et al. 2010), and perhaps cultural orientation varies by generation because of historical circumstance in Trinidad, leading older adults in the current study to have lower self-acceptance.

Social Relations Are Consistent and Positive Across Adulthood

Only one dimension of PWB, positive relations with others (Ryff 1989), did not show age-related decrement; instead no age differences were found. Thus, young, middle-aged, and older adult Trinidadians enjoy positive social relations with others to the same extent. This parallels previous work conducted outside of the Caribbean (Ryff 1995; Ryff & Singer 2006; Ryff et al. 2001). Socioemotional goals in late life involve conserving emotional resources (Frederick & Carstensen 1990) and channelling positive emotional energy into meaningful, satisfying relationships. Decades of cross-sectional (e.g., Consedine & Magai 2003; Luong, Charles & Fingerman 2011), longitudinal (e.g., Carstensen 1992), and experimental (e.g., Carstensen & Charles 1998) research thus finds that older adults’ tend to have emotionally satisfying relationships that are equivalent to, if not better than younger generations. Thus, perhaps when it comes to the PWB associated with social relationship in adulthood, Trinidadian older adults in the current study are similar to individuals from other countries.

Why, however, would social PWB be different from other dimensions of PWB in Trinidad? What might be helping older adults sustain positive social relations with others, while purpose in life and self-acceptance are lower than younger aged groups? We speculate that the importance of social relations for Caribbean people in general (Jackson, Forsythe-Brown, & Govia 2007), and the Trinidadian “lime” in particular may be the reason. Loosely translated to “hanging out” in Standard English, the “lime” is a leisurely social activity that facilitates social integration (Eriksen 1990). The prototypical lime is among a group of people who regularly spend time together for the hedonistic purpose of experiencing intense enjoyment by exchanging ingenuous, humorous repartee (picong). Liming is done to enjoy the company of others, and it is embedded in Trinidadian culture (Eriksen 1990) from relatively early in adulthood. Integration in to one’s...
culture is related to better PWB (Baker et al. 2012). Thus, perhaps in Trinidad, having warm, trusting relationships is paramount at all stages of the adult lifespan because of the lime: the benefits on well-being of social life is Trinadian-related, and perhaps not necessarily age-related.

**Conclusion: Limitations, Future Directions, and Implications**

Since 1948, the World Health Organization has attempted to discourage scholars and practitioners from conceptualizing well-being as the absence of illness (as cited in Ryff et al., 2010): PWB is a distinct, independent construct from psychological ill-being (Ryff & Singer 1998, 2000). Detaching PWB from the spectrum of disease may be particularly challenging when researching and working with an older adult population, where ageist stereotypes are pervasive (e.g., Cuddy, Norton, & Fiske 2005; Richeson, & Shelton 2006). Although this paradigm shift in thinking about older adult psychological health is beginning to take root around the world (e.g., Europe; Gerstof et al. 2010; Asia; Kitayama et al. 2010; Momtaz et al. 2011), less developed countries seem slower to follow suit. Data from the current study provides a starting point for discussing psychological dimensions of well-being that are sustained throughout adulthood (i.e., positive social relations with others), although the study is not without limitations.

**Limitations and future directions.** The study limitations are primarily about the sample and methodology. The sample was biased towards women, and research has shown that men and women show different patterns of PWB (Pinquart & Sorensen 2001; Ryff, 1995; Ryff et al. 2004; Momtaz et al. 2011). For example, using a nationally-representative American sample, Ryff and colleagues (2004) found that women’s levels of self-acceptance tend to be lower than men’s levels in late life, men in young adulthood have higher purpose in life than women in young adulthood, and across adulthood, women report more positive relations with others than men. Perhaps this gender bias is the reason why we found, contrary to expectations, lower self-acceptance among older adult Trinidadians: the sample was primarily women.

In addition, the older adults of the sample were sourced through community centres and organizations (e.g., the Trinidad and Tobago Association for Responsible Persons senior centres). These centres seem to cater to healthy, mobile older adults. Thus, the older adult sample was not representative of the older adult population in Trinidad, in particular, it did not sample older adults who may not have access to resources and who are isolated due to immobility. The older adult sample in the current study may have essentially been the best of the best in Trinidad. Supporting this speculation, there were no age group differences in total number of years of formal schooling, income, and subjective health. Furthermore, the younger and middle-aged adults, who were university students, are probably also not necessarily representative of the general population of Trinidad & Tobago for this age bracket. For example, in 2008, there was a 40% participation rate in tertiary-level education in the population (Republic of Trinidad and Tobago Policy on Tertiary Education, Technical Vocational Education and Training, and Lifelong Learning in Trinidad and Tobago, 2011). Thus, the results of the current study are not necessarily generalizable to the population of Trinidad. Another limitation is that the sample did not include individuals from Tobago. However, it is unlikely that findings would be different there. Tobago’s culture is of a communal orientation (Luke 2006), it is therefore likely that older
adults will also have scored lower on self-acceptance as found in Trinidad and that positive social relations with others would have continued to show no age differences. Future research should thus use a representative sample from both the island of Trinidad and Tobago.

There are three primary methodological concerns of the current study which limit our ability to talk about age-related decline and/or stability in PWB across adulthood. A cross-sectional methodology was employed: thus age findings are about age group differences are not necessarily reflective of developmental progression. However, in studies that have followed individuals from midlife to old age, the pattern of results is similar to what was found in our cross-sectional study for purpose in life (Ryff & Keyes 1995; Ryff et al. 2003) and positive relations with others (Ryff, 1995; Ryff et al. 2001). Thus, perhaps more problematic, particularly in a country like Trinidad which has undergone major economic, health, and industrial advances in the past 50 years that would have affected older adults (Rawlins et al. 2008), is that age group differences are actually reflecting cohort or generational perspectives on PWB. We alluded to this problem above in speculating about the older generation of Trinidadians perhaps being more inter- than independently-focused, which is why they reported lower levels of self-acceptance. Self-acceptance may not necessarily show decline with age in Trinidad, but is instead less valued by today’s older adult generation. The current study is perhaps not even a glimpse of what the PWB of today’s younger generation of Trinidadians” will be like when they are older. Only large-scale sequential designs (Schaie 1994) can concretely provide the answers.

Related to this, however, is another limitation: although the Ryff (1989) Scales of Psychological Well-being is a measure that has been validated around the world (e.g., Australia: Ferguson & Goodwin 2010; France: Salama-Younes, Ismail, Montazeri & Roncin 2011; Spain: Villar, Triadó, Celdran & Solé 2010; Italian and Belarusian: Sirigatti, Penzo, Iani et al. 2012), there is no guarantee that the scales are valid for Trinidadians. Thus, perhaps Trinidadians in the current study view self-acceptance differently than individuals from more developed countries, like those where the Ryff (1989) scales were developed. It is thus cultural differences in the perception of what “self-acceptance” means that may have led to result differences in the current study compared to other work (Ryff et al. 2003; Ryff & Singer 2006). Subtle differences in cultural traditions and values (Inglehart & Baker, 2000; Lindeman & Verkasalo, 2005) can obviously emerge in interpreting items on a psychological measure. Thus, the field would benefit from future research conducting large-scale validations of psychological well-being measures prior to examining age group differences.

The final major methodological concern is, as with most data in this area, that the findings reflect only the (bi-directional) relation between age, socio-demographic variables, and PWB and are not indicative of causal pathways. Take our results regarding the relation between subjective health and PWB at different points in the adult lifespan as an example. Perhaps feeling that one is in good health leads to higher feelings of self-acceptance and purpose in life, but it is equally likely that individuals who are more accepting of who they are and what their life and future holds, are engaged in activities (e.g., eating right, exercising, etc.) that lead to feeling better about one”s health. Innovative experimental work that manipulates feelings of subjective health (e.g., Whitbourne & Collins 1998), or an individuals” perception of time left (e.g., Fredrickson & Carstensen 1990), for example, has the potential to move the field forward substantially.
Implications. The growing older adult population in Trinidad and Tobago has not gone unnoticed by the government, as well as non-governmental organizations. A 1999 conference at the Faculty of Medical Sciences of the University of the West Indies, St. Augustine, was the impetus for discussions regarding the development of a national policy for older adults, a Division of Ageing of the Ministry of Social Development was established in 2003 (renamed the Ministry of the People and Social Development in 2010), and the Trinidad and Tobago National Policy on Ageing was approved by the Cabinet in September 2006. Twelve priority areas of action are detailed in the policy, including: social security, income security, social inclusion, health care, housing, education, recreation, dignity and respect, legislation, research, transportation, and disaster preparedness. The priority areas and the opening paragraph of the policy highlight that the government’s mission is to address the “needs of older persons,” which is a respectable and indispensable goal.

In the current paper, however, we have encouraged a broader perspective: one that asks whether positive human functioning or PWB is possible as an older adult Trinidadian (see Frankson 2004 for a similar discussion). Local data collections suggest that Trinidadians are doing well in old age. Data from a large-scale, cross-country survey of over 800 people in Trinidad over the age of 65, for example, found that only 11% of older adults reported being in bad to very bad health, whereas about 45% of older adults reported being in good to very good health (Rawlins et al. 2008). Thus, aging well in Trinidad does not seem to be an anomaly. The data from the current study further suggests that positive social relations with others may be one dimension of PWB that has not been sufficiently exploited, and that perhaps encouraging the Trinidadian “lime” through mechanisms and support centres (e.g., like the Trinidad and Tobago Association for Responsible Persons’ senior centres) for older adults will enable the older adult population to thrive, rather than simply survive.

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1 The literature reviewed primarily focuses on the island of Trinidad and not Tobago because data collected in the current study was only from Trinidadians. Best (2001) has argued that because of the different worldviews of its citizens, the two islands are culturally different and thus it seems reasonable to focus our work exclusively in Trinidad. The absence of data from Tobago, however, is noted as a limitation in the Discussion.

2 It is recognized that there is no guarantee that the Ryff (1989) scales are valid in Trinidad simply because the scales have been validated in other cultures. This is addressed as a limitation in the Discussion.
Preliminary analyses were conducted to determine if there were gender and ethnic group differences in psychological well-being, none were found. Therefore, neither was further considered as variables of interest given the small age group sample sizes for each variable.

Four MANCOVAs controlling for education, relationship status, income and subjective health separately were also conducted. However, the MANCOVA controlling for all covariates together is being reported for parsimony, and to show that the primary predictor of psychological well-being is subjective health.
A QUALITATIVE ANALYSIS: USING THE HEALTH BELIEF MODEL TO EXPLAIN DENGUE FEVER IN TWO COMMUNITIES IN TRINIDAD AND TOBAGO

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The prevention of dengue fever in Trinidad and Tobago is highly dependent on the sustained effectiveness of the Aedes aegypti mosquito prevention programme. The Health Belief Model (HBM) framework was used to explore the public’s perceptions of the dengue fever prevention programme in Trinidad and Tobago. It further focused on persuading people to acknowledge their susceptibility to dengue fever and the benefits of undertaking mosquito control while storing water for domestic use.

Focus group discussions, in-depth interviews informal interviews, and non-participant observation were conducted with female and male members of Malick and Upper Malick communities. Content analysis was used to identify meaning units that were condensed, coded and assigned to pre-determined elements of the Health Belief Model (HBM).

Awareness of dengue fever and Aedes aegypti was high but the illness was not high on the priority listing. Respondents perceived the problem of increases in mosquito population as a Government problem and not a household problem. Their perception of the Aedes aegypti control programme was low in significance in both communities. In general, members of both communities had the knowledge of dengue fever and the Aedes aegypti mosquito but the knowledge was not linked to any significant behavior change.

The identification of barriers prevailed over the benefits of mosquito control practices. The development of health education intervention should consider the socio-cultural environment in which control practices are encouraged.

Keywords: Dengue fever, Health Belief Model, Qualitative analysis, Trinidad and Tobago.

Introduction

According to data reported by the Pan American Health Organization (PAHO), dengue fever first appeared in Trinidad and Tobago in the early 1980s (PAHO 1994). In 1991 there was a significant epidemic when approximately 3,000 cases were reported, and since 1997 dengue fever outbreaks have become a yearly event, with some years more severe than others. In 1996, dengue haemorrhagic fever first appeared creating critical health problem overtime. (See Figure 1 overleaf).
As a lifestyle disease, dengue fever is associated with considerable negative individual social outcomes, yet this negative behavior is performed by many people. Regulating this behavior through persuasive information is generally unsuccessful, and in recent times, the Ministry of Health has recognized that the social acceptability of this behavior is a major obstacle facing such intervention. Some of these behaviors are; keeping water containers uncovered, keeping used tyres where water can be collected and the overgrowth of bush on vacant household premises.

Studies done in Trinidad have revealed that members of society can associate the Aedes aegypti mosquito with dengue fever (Rosenbaum et al., 1995; Ramlackhansingh et al., 1998). The increase in knowledge has increased awareness yet the preventive behaviour is not sustained. Members of society continue to leave containers uncovered causing an increase in mosquito larval production. The success of the Aedes aegypti programme relies heavily on members of the society taking full responsibility of their community’s control actions. Many studies have shown that household mosquito control activities can result in an unsatisfactory outcome (Gubler and Clark, 1996; Winch et al., 2002). Community participation in dengue fever control can be difficult to maintain, especially, after outbreaks.

In an attempt to better understand health-related behavior and the determinants of adherence to health interventions, a number of theoretical models have been proposed. The Health Belief Model (HBM) is one of the most widely used social cognition models to study and promote the uptake of health services and predict health behavior. Although it was originally developed in the 1950s to explain the low participation in medical screening programmes, today it is used for a broad spectrum of health-related behaviours. It has been used in
HIV/AIDS research, mainly for understanding risk behaviours (Glanz, Lewis and Rimer 1997). (See Figure 2).

**Figure. 2**


The Health Belief Model (HBM) states that, in the case of prevention, individuals will take a health related action if they have a desire to avoid an illness and if they believe that a specific health action will prevent the illness. The model includes six elements:

1) Perceived susceptibility of the individual to the condition
2) Perceived severity of the condition as having a serious medical and social consequences
3) Perceived benefits of taking the health action in reducing the disease threat as well as other additional benefits.
4) Perceived barriers to taking the health action, which should not overweigh the benefits. These four perceptions are elements that determine the readiness to take the action. They are activated by:

- Cues to action which trigger this readiness
- Self-efficacy, which is the conviction that one can successfully execute the health behavior (Glanz, Lewis and Rimer 1997).

Given that the aim of controlling dengue fever is highly dependent on sustained effective coverage of the Health education and Aedes aegypti control programmes, it is important to understand the communities risk perceptions about the disease and how the perceived need for continued dengue fever prevention behavior is influenced by the significant reduction of Aedes aegypti mosquitoes. In this study the Health Belief Model (HBM) framework was used to explore the perceptions and beliefs of members of communities of Malick and Upper Malick.

**Methodology**

To explore the perceptions and beliefs of the Aedes aegypti mosquito and dengue fever control programmes of the communities of Malick and Upper Malick, the Health Belief Model (HBM) was deemed to be most appropriate. The Health Belief Model (HBM) was used to guide the data collection and analysis in order to explore the different perceptions about Aedes aegypti mosquito and dengue fever control. The methods used for collecting data consisted of a mixture of focus group discussions, in-depth interviews with key informants who were both formal and informal leaders in both communities.

**Study site**

In the study, data was collected at two districts in the urban municipality of Barataria. Barataria is a town on the eastern boundary of Morvant and Laventille. The two areas are Malick proper which is considered urban and Upper Malick which has most of the characteristics of rustic rural life. Classification of rural is imperfect, and certainly one has no sense of what rural is. Classification does not explicate the social, economic, demographics, infrastructures, or political context of rural. The locale needs to be considered along with cultural, social, and economic aspects of the environment, since the context in which people live is of great significant.

The conceptualization of what the researcher considered to be rural might draw the discussion into an argument, since what the society interprets to be rural (areas where there are no urban centers) is based on their construction of reality. Hugo (2002) defined rural in broad terms, to incorporate, everything that excludes capital cities, and major metropolitan centers of Australia that is approximately 30% of the Australian’s population. However, rural is not only geographical, there are relative terms such as patterns of connectedness, that link an individual living in that environment to other individuals, and to a group, and community setting (Baum, 2001). Rural in Trinidad and Tobago is characterized by a decline in the quality of life in most communities, declining ability for households to educate children and afford health care, large number of rural communities are without potable water services, the existence of very poor roads, which result in expense transport cost, increasing environmental degradation especially soil erosion and loss of biodiversity, high levels of unemployment and underemployment, poor attitude of the young and an increase in pregnancy among the young females. These are aspects of rural that are relevant to this research.
Data Analysis

The transcribed interviews were subjected to content analysis with qualitative software Atlas-ti (Muhr & Friese 2004). The Health Belief Model served as the main framework for this study and its elements served as the categories. Key categories were predetermined according to the theory used (i.e. perceived susceptibility, perceived severity, perceived benefits, perceived barriers of dengue fever prevention, cues to action, and self-efficacy. Each interview transcript was read and meaning units were extracted independently by the researcher. Meaning units were copied into a matrix where they were condensed and assigned a code. The researcher then compared the codes under each category, and came to a final analysis outcome. No ethical issue was raised due to the fact that the researcher was well known to the members of the communities. At the end of the research, a copy of the completed study was delivered to the researcher’s key informant.

Results/Findings

The perception of dengue fever as a disease

All participants knew dengue fever as a disease caused by the Aedes aegypti mosquito. The young participants had learnt about dengue fever from their schools as part of a series of health education programmes sponsored by Kiwanis (an International social club which focuses on community services). Others learned about Aedes aegypti mosquito from the media such as television, radio, and newspaper reporting the fatalities of the disease. All participants (40) believed that young children were the highest-risk groups for the disease. Most participants (32) recognized high fever and muscle pain as common signs of dengue. Nonetheless, the epidemic response in the communities most likely is fatality, which creates a conscious awareness of survival by making members consider the presence of dengue fever.

However, perceived susceptibility was strongly linked to mosquito density and was considered higher when mosquitoes were more prevalent. Yet susceptibility varied among participant.

“What is a little fever? We will go to the health centre or a private doctor. I am never worried with dengue fever.” “I have known the black and white mosquito spreads dengue fever.” “This was about ten years ago, mosquito’s bite us every day but we’ve never get sick with dengue fever.” (Informant 1).”

“This place always have mosquito. Twenty years I am living here and mosquito never stop biting us. We have to use cockette (mosquito coil) and black sage bush (wild shrub) as a repellant to prevent mosquito bite (Informant 3).”

The poor maintenance of roadside drains in Malick and the poor physical infrastructure of Upper Malick were associated with sanitation and drainage problems. Participants perceived the eradication programme of the Aedes aegypti mosquito as the sole responsibility of the Government.

“The Government not cleaning the drains. All the drains blocked up with rubbish. That is why we have so much mosquito. Don’t talk about Upper Malick, them people want everything road, water, drains, and sewer.” (Informant 6)”
In the communities of Malick and Upper Malick the Aedes aegypti mosquito is well known by its black and white colour, biting and breeding habits. This mosquito has an affinity for breeding in clean clear water irrespective of location or volume. Table 1 is a description of the participants ranking of mosquito breeding sites in the communities. The reproductive stages of the Aedes aegypti mosquito take place entirely in clean clear water. Participants perceive the larva as a living entity which determines the sterility of the water and which should always be present as an indicator of the water being good to drink. The cultural belief surrounding the larval discourse runs contradictory to the preventive measures of the Ministry of Health.

**Table 1: Ranking for Mosquito Breeding Sites**

<table>
<thead>
<tr>
<th>Ranking Number</th>
<th>Upper Malick (rural) N=20</th>
<th>Mean Ranking</th>
<th>Malick (urban) N=20</th>
<th>Mean Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Discarded, tins and cans</td>
<td>16.46</td>
<td>Discarded tyres and other containers</td>
<td>16.42</td>
</tr>
<tr>
<td>2</td>
<td>Garden containers</td>
<td>2.08</td>
<td>Roof guttering</td>
<td>2.44</td>
</tr>
<tr>
<td>3</td>
<td>Water containers for flushing toilets</td>
<td>4.68</td>
<td>Plastic buckets</td>
<td>5.30</td>
</tr>
<tr>
<td>4</td>
<td>Water containers in bathroom</td>
<td>7.92</td>
<td>Water containers in bathroom</td>
<td>7.92</td>
</tr>
<tr>
<td>5</td>
<td>Plastic buckets without lid</td>
<td>10.56</td>
<td>Flower vases</td>
<td>10.44</td>
</tr>
<tr>
<td>6</td>
<td>Plastic pales</td>
<td>11.00</td>
<td>Plastic pales</td>
<td>10.92</td>
</tr>
<tr>
<td>7</td>
<td>Flower pots and saucers</td>
<td>13.16</td>
<td>Brick Holes</td>
<td>13.08</td>
</tr>
<tr>
<td>8</td>
<td>400 gallons plastic tank with lid</td>
<td>14.88</td>
<td>400 gallons plastic tank with lid</td>
<td>7.04</td>
</tr>
<tr>
<td>9</td>
<td>Overgrowth of bush</td>
<td>15.28</td>
<td>Overgrowth of bush</td>
<td>15.12</td>
</tr>
<tr>
<td>10</td>
<td>Roadside drain</td>
<td>15.76</td>
<td>Roadside drain</td>
<td>15.42</td>
</tr>
</tbody>
</table>

“We only know that our water is good for drinking when we see the “little worms” swimming around in the water. When the Health worker places the chemical in the water and the “little worms” die, we then tell ourselves if this chemical can kill the “little worms” then the water is not “alive,” “the water is dead and it can kill us too.” (Informant 8).

The versatility of the Aedes aegypti mosquito coincides with its survival quest. It is not surprising that in times of scarcity of clean water she can be found competing with indigenous “dirty water” breeding species of mosquitoes for breeding space. The Aedes aegypti mosquito because of its domesticated characteristics, and daytime biting habits, can
be found hiding in all dark places inside the home. They feed on the blood of householders and breed in any available uncovered water container. All water containers inside the homes that remain uncovered become potential breeding sites for these mosquitoes.

**Perceptions of Control Effectiveness**

Most participants from both locations regarded adulticide (killing of the adult mosquito) space-spraying or ultra low-volume (ULV), and thermal-fogging as the most effective control measure. When the number of mosquitoes is reduced, people feel more comfortable. For example, they can spend more time outside at dusk, or do household chores without turning on the fan, or being annoyed by mosquitoes presence. Some participants thought ultra-low-volume (ULV) involved a harmful chemical that can contaminate their food. They therefore, they kept their windows and doors closed. They only accepted spraying outside the house.

“The Health department only come around and sprays when there is dengue in the area. The spraying, most of the time only drives away the mosquitoes. After two to three days, we have more mosquitoes” (Informant7)"

**Larvicide or Temephos**

Control messages recommend the adding of temephos (insecticide used for killing mosquito larvae) by Ministry of Health workers to containers that cannot be covered. The common perception that temephos is a harmful chemical, discourages its use particularly in drinking water, although health education materials indicate that temephos added in the correct dosage is safe for drinking. Due to the perception that temephos is a harmful chemical, creates further barriers for control activities within the *Aedes aegypti* control programme.

By comparing control methods, some participants accepted that temephos was effective in larval control, but was not as tangible as ultra-low-volume (ULV) spray and thermal fogging. Participants in both locations believed that source-reduction, which is the removal of all used containers from one”s premises was more effective as a method for preventing mosquito breeding.

**Covering containers**

Health education materials suggest containers that can be covered should be covered with cloth-netting and topped with lids. Lids are commonly used to cover drinking water containers. However, containers that were regularly used remained uncovered. Using lids on frequently used containers was considered impractical by the participants. Some participants thought that lids were unnecessary for containers that contained non-potable water. Participants pointed out that because they forget to cover containers, mosquitoes were able to gain access to the water in the containers. However, they failed to mention, without prompting, the condition of the lids. The perception that faulty or broken lids are unusable discourages residents from obtaining new ones, thus reducing the effectiveness of covering materials in preventing mosquito infestation. Lids were not a priority for some householders.

**Weekly cleaning of containers**

Cleaning containers weekly is an effective larval control measure but is not practical with large containers such as large tanks and barrels. Weekly cleaning of less frequently used
water containers was perceived to be unnecessary and wasteful, as people either covered those containers with lids (mainly drinking water), or did nothing, as the cleanliness of water was not a concern (non-potable water). Another barrier to weekly cleaning was that water as an unreliable commodity cannot be used for cleaning purposes.

Perception of Aedes aegypti campaigns

Almost all participants revealed that the present Aedes aegypti control campaigns were only effective over a short period of time. Outside campaign times, control activities were irregularly performed and this decreased the effectiveness. Moreover, residents did not fully participated in the Aedes aegypti control activities, Most participants understood Aedes aegypti control activities, but inconsistently, found it difficult to keep with the suggested regimes of mosquito control. They did not think that they were at risk for dengue fever, or had mosquito larvae at home and they thought the control was best left in the hands of the Ministry of Health, who could undertake more effective widespread spraying activities. Many held an overriding belief that control of Aedes aegypti mosquitoes was an unrealistic goal.

Most participants, in both locations that since mosquitoes can fly from one place to another, householders were fighting a losing battle and controlling mosquito at the household level would make little difference to the overall population of mosquitoes, which they perceived as coming from the neighbourhood, especially public places such as drains and overgrowth of bush. Participants, pointed out that successful mosquito larval control was possible only if, carried out by all householders and control agents were accessible and available. Participants” perception of the effectiveness of control is based on the reduction of adult mosquitoes, not larvae. Getting rid of Aedes aegypti from water contains may not reduce the number of adult mosquitoes greatly, since other mosquitoes were found in and around houses. Participants perceived that the Aedes aegypti control programme is not effective or responding to their problems.

Discussion/Conclusion

The study indicates that members of both communities were aware of the preventive measures associated with dengue fever. Yet it is only when someone is affected by dengue fever that a conscious effort is made to eradicate the Aedes aegypti mosquito. Whether, this is caused by fear or misperception is a matter to be explored. According to Curry et al. (1990); Kahneman et al. (1982), preventive behavior is a function of the perception of threat and of the belief that the best course of action includes new behaviour.

The communication of the Preventive Health Education’s media messages is very important within the context of behavior change. This is so, since cultural beliefs and values are internalized constructs. Media messages must be convincing enough to avoid the members of the communities from throwing away their water which had been treated with larvicde. According to Becker & Janz (1987), “one”s general orientation to health as being dependent on one”s subjective cultural beliefs and values.”

From a public health perspective this behavior is clearly irrational. Gillet (1985), suggests that this is an example of a cultural barrier while Gubler (1989), argued that this is a failure of individuals to take responsibility of their own health. Often there is an assumption in health promotion campaigns that people need to be „scared” into action. Ironically, this is the least influential component of the Health Belief Model.
Despite many limitations of the application and usefulness of the Health Belief Model, many health development programmes, especially tropical disease programmes have used this model with some success (Kendall, 1998). The literature suggests that the success of preventive health programmes using the Health Belief Model is more likely if attention is paid to the socio-cultural context. Through the collection of interview information (focus groups, in-depth interviews, and non-participant observation) an interesting gender issue appeared. Women took a more active role in all aspects of neighborhood life. Although this information does not contribute to the literature in terms of the gendering of dengue prevention, it instead, creates a new avenue for exploration into gendered disease knowledge. Caribbean family organization is characterized by a domestic system in which women play a dominant role (Otterbein 2009). One can therefore understand the cultural nature of the gender issue where it becomes natural for women to take the lead. It is important that cultural anthropology be recognized as relevant to research such as this one. One limitation in drawing any gendered conclusion from the findings of this study is the limited number of male interview participants. This was most likely a function of the impatient and disinteresting nature of the male participants. Therefore, in future studies, strategies to incorporate men must be developed.

Since women are the main caretakers of the household, health education efforts should be targeted at them. Meeting members of the communities forms part of the education programme of the Ministry of Health. The main objective is to communicate to the residents” basic information of Aedes aegypti mosquito and the prevention methods of dengue fever. Dengue fever can be considered an emerging infectious disease, as cited by Gubler and Clark (1994) with its severe and potentially fatal variant Dengue Haemorrhagic Fever (DHF).

The Health Belief Model did not take into account the role of culture, specifically acculturation, in how individuals ultimately make health decisions and undergo behavior change. This research’s main goal was to identify any association between the mass media used as information and health behavior. It is very difficult for most people to throw away used cans, bottles, and used tyres that are found on their premises since to them these articles do have some significant use. Mazine et al. (1996) view culture as a set of relatively static „beliefs and behaviours” that are conducive or detrimental to the maintenance of good health.

The researcher believed that people in Trinidad and Tobago, have some knowledge of dengue fever and how it is transmitted, but government’s attitude with respect to community affairs has created a strong disincentive to engage in communal actions. This argument can be supported by a study done by Whiteford (1997) whose argument linked ethnography of household water use and its impact on dengue fever’s transmission to local views of national political history in the Dominican Republic. In Trinidad and Tobago, dengue fever prevention continues to be a low priority by individuals and government. Winch et al. (1992) identified that improvement in basic services, such as refuse collection, and water supply were key prerequisites for dengue fever prevention in Trinidad and Tobago. These prerequisites are perceived as top priorities by residents.

Finally, in no way this research should be used as a final evidence of dengue fever health prevention behaviour. Instead, it should be used as a baseline for future health education intervention programmes, including health education efforts for residents, especially those residing in the urban areas. The researcher feels that by understanding the underlying socio-cultural changes that account for changes in behavior, the process would facilitate the transfer
of behavior change techniques across domains of behavior that would produce a catalogue of effective techniques which would provide a foundation for a socio-culturally based technology of behavior change.

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THE RELATION BETWEEN EATING DISORDERS AND SELF ESTEEM IN ADOLESCENTS IN TRINIDAD

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This study, conducted in Trinidad, aims to investigate if differences exist in the level of eating disorders with respect to age (younger and older adolescents), gender and ethnicity (Indian and African descent). It also aims to investigate the relationship between eating disorders and self esteem, and to examine the potential utility of self esteem enhancement as a means of reducing eating disorders. Four eating disorder subscales as well as four self esteem subscales were used in the analysis. The sample consisted of 237 adolescents between the ages of 12 and 18. The prevalence rates discovered indicate that eating disorders is an important area for concern in Trinidad. Females were much more likely than males to have higher levels of eating disorders, though self esteem was equally strongly negatively correlated with eating disorders for both males and females. Younger adolescents had a higher drive for thinness than older adolescents, while the youngest females had the highest bulimia and body dissatisfaction scores, with youngest males having the lowest. There was a noteworthy tendency for self esteem to be more strongly correlated to eating disorders for older, compared to younger adolescents, pointing to the possibility of a difference in the aetiology of eating disorders for both groups. It was found that familial acceptance was the best self esteem predictor of eating disorders. Multivariate analysis revealed that there were no ethnic differences in eating disorders in the present sample, though a lone univariate difference on one of the eating disorder subscales indicates that this area merits further research.

Keywords: eating disorders, self esteem, Trinidad, Caribbean

Introduction

Eating disorders are associated with a number of psychological and health problems. Krause et al. (2000: 329) point out that “a sense of depression, loss and helplessness is often associated with eating disorders.” Eating disordered individuals also report having more negative emotions and general anhedonia (Podar et al. 1999). Osvald et al. (1993) point out that “another distinctive psychological feature is an inability to identify one’s own feelings and a profound sense of ineffectiveness.” This is associated with decreased self esteem and anxiety (Kilpatrick et al. 1999). Quite importantly, Canals and Carbajo (1996) have shown that adolescents are especially prone to psychological problems where eating disordered behaviour is concerned. Health problems are related to the dangerous weight loss practices employed by young people. Dangerous practices include laxative abuse, vomiting, starvation, smoking and using slimming pills (O’Dea et al. 1996). The seriousness of this area is indicated by Comer (1992) who has
examined a number of studies and has shown that between 5 to 18% of anorexics die from this disorder. The American Psychiatric Association (1994) has shown that after treatment, approximately 25% of anorexics remain seriously impaired or are dead at follow up.

Due to its close link with eating disorders, self esteem enhancement may be one means of reducing the incidence of eating disorders (O’Dea and Abraham, 2000; 2001). While such an approach may be considered indirect, previous evaluation research has indicated that more direct approaches can do more harm than good. Some possible reasons for this is that programmes which focus directly on eating disorders may inadvertently introduce adolescents to ideas about dieting (Garner 1985) and weight control techniques (Abraham and O’Dea, 2001) while sensitizing them to the societal ideals of a thin body (Eccles 1990). Such programmes may also glamorize and normalize eating disorders (Mann et al. 1997). Kilpatrick et al. (1999), for example, investigated an adolescent sample (representative of the American population) and found that “the group that received education about the problems of being underweight… was actually less likely to attempt to gain weight… and more likely to attempt losing weight… than those who had received no such education. This also increased the likelihood of using dietary changes as a means of weight loss.” O’Dea et al. (2001) suggest that intervention programmes should avoid direct instruction about eating disorders and should instead employ self esteem development.

This research aims to estimate the incidence of eating disorders in Trinidad as well as examine whether differences in the incidence of eating disorders exist with respect to age (younger vs. older adolescents), gender and ethnicity (Indian vs. African descent). Interaction effects will also be considered. This paper also seeks to assess the potential utility of self esteem enhancement as a means to reduce eating disorder symptomatology. While this research does not test causal relationships (and the terms „independent” and „dependent variables” are used for convenience and synonymously with the terms „predictor” and „criterion variables” respectively), it assesses the strength of association between eating disorders and self esteem and explores possible reasons for this relationship. In this respect, four applicable self esteem subscales are employed and this paper aims to determine which of these are more closely associated with eating disorders. While it will be hypothesized that there is a negative relationship between self esteem and eating disorders, it will be argued that this relationship is conditional on other variables. That is, other variables act as moderators of the relationship between self esteem and eating disorders. A moderator variable is any discrete or continuous variable which can alter the strength and/or direction of the relationship between two other variables (Baron and Kenny 1986). In the current study, it is expected that age and gender moderate the relationship between self esteem and eating disorders. More specifically, it is expected that the negative relationship between self esteem and eating disorder is stronger for girls than for boys, and for older adolescents compared to younger adolescents. It is not expected that ethnicity will act as a moderator. Where self esteem enhancement is to be used as a means of reducing eating disorders, moderator variables will indicate which groups of persons are more likely to experience success with such interventions. Though the existing research offers some guidance, no research on this topic has been done in Trinidad. This research is therefore viewed as descriptive and exploratory.
Variables

Dependent Variable: Eating Disorders

Eating Disorders may be defined as “a spectrum of disorders, all of which are associated with the avoidance of fatness and the pursuit of thinness” (Button 1993). In measuring eating disorders, four subscales from two standardized instruments were employed. The Eating Disorder Inventory (Garner, Olmsted and Polivy 1984) was designed to assess psychological and behavioural traits common in anorexia nervosa and bulimia nervosa. Three measures from this instrument were employed. The Drive for Thinness subscale measures excessive preoccupation with weight and dieting and an intense pursuit of thinness. The Bulimia subscale measures the tendency toward episodes of uncontrollable eating and self induced vomiting. The Body Dissatisfaction subscale measures the level of satisfaction with the maturational areas of the body. The second instrument, the Body Image Ideals Questionnaire (Cash and Szymanski 1995), measures “self-perceived discrepancies from and importance of internalized ideals for multiple physical characteristics.” Both instruments have been used successfully in many countries (cf. Eberly and Eberly 1985; Johnson et al. 1996).

Predictor Variable: Self Esteem

The Self Esteem Index (Brown and Alexander 1991) measures the individual’s self esteem and contains four subscales. The Familial Acceptance subscale is a measure of the way the individual perceives and values himself as a member of the family. It focuses on the individual's level of perceived importance as a member of the family unit, who is trusted, listened to, and cared about. The Academic Competence subscale is concerned with individuals” perceptions of their school performance, their interests and desire to excel at academic activities, the value they attach to intellectual achievement, and the support they feel from their teachers. The Peer Popularity subscale is concerned with peer perceptions of the individual, social and interpersonal skills, the ease of interaction with peers, and leadership traits. The Personal Security subscale assesses the individual’s overall feelings of anxiety, guilt and shame concerning real or imagined transgressions. The Self Esteem Index was designed for use within the 8 to 19 age range.

Demographic Variables

Other predictors include age, gender and ethnicity. Two age ranges, 12 – 14 and 15 – 18 will be used. These will be referred to as „younger” and „older” adolescents respectively. With respect to ethnicity, the present study utilizes persons of East Indian and African descent.

Literature Review

Eating Disorders and Gender

A substantial amount of research has shown that females are more prone to eating disordered behaviour than males (Borchert and Heinberg 1996). Halmi et al. (1981) reported that 19% of female college students in their sample met the DSM-III criteria for Bulimia while Abraham et al. (1983) found that 20-25% of Australian females in their teens considered themselves to be
preoccupied with thoughts of food and to have disordered eating for which they would like help. Indeed, three recent reviews (Gandour 1984; Johnson et al. 1984; Schlesier-Stropp 1984) have concluded that eating disorders is a problem which affects females more than males. In concord with this, females tend to desire a thinner figure, express more anxiety about becoming fat, and are more likely to diet than males (Cash and Brown 1989; Drewnowski and Yee 1987).

There is evidence that the epidemic increase in eating disorders since the 1960s is related to intense social and cultural pressures on women to conform to a model of feminine attractiveness which idealizes thinness (Garner et al. 1996). It has been shown that Western cultures embody societal ideals of thinness and that such values have permeated the cultures of many countries (Davis and Katzman 1999; Gowen et al. 1999). Osvold et al. (1993) have shown that women in the United States “encounter daily messages about food, body weight and the ideal image of beauty as a very slim… woman.” Further, the now existing mass-market weight-control industry supplies prescriptions for achieving this slim ideal and popularizes damaging rituals such as restrictive dieting and even purging and cosmetic surgery (Wooley and Wooley 1982).

Garner and Garfinkel (1980: 652) have asserted that “the potential impact of the media in establishing identificatory role models cannot be overemphasized.” These authors show that women in leading roles in the media have become thinner over the past 30 years. Similarly, Garner et al. (1980) have found that since 1959, there has been a steady decline in the weight of contestants in the Miss America Pageant (average annual decline is .28 lbs. for contestants and .37 lbs. for the winner). Female models in magazines have also gotten thinner with time (Agras and Kirkley 1986). In one study Silverstein et al. (1986) compared 48 women’s magazines to 48 men’s magazines and found 63 different advertisements for diet foods in the women’s magazines compared to 1 in the men’s magazines. Further, Leon and Finn (1984) have discovered that the media portrays unrealistic eating ideals for women. Striegel-Moore et al. (1990: 364) are thus correct to assert that “The media’s glamorisation of thinness thus contributes to a sociocultural risk factor for women’s normative discontent with weight.”

Recent research has shown, however, that eating disorders is becoming a problem for males (Furnham et al. 2002). Striegel-Moore et al. (1986) have hypothesized that this is linked to shifting sex roles and societal pressure on males to become conscious of physical fitness and appearance. In addition, in the past, where females may have been more open about eating disordered behaviour, males are now becoming more expressive and willing to admit that they have a traditionally „female problem” (Harper and Marshall 1991). In a study comparing Indian and Australian students, Sjostedt et al. (1998) found that Indian males did not differ from Australian or Indian females and had similarly high levels of eating disordered behaviour. Indeed, on one of the measures, Indian males had a higher mean (though not significantly so) than Australian females. In another study, Silberstein et al. (1988: 219) found that “males and females did not differ in degree of body dissatisfaction as assessed by measures of body esteem, body size drawings, and measures of weight dissatisfaction [though] men were as likely to want to be heavier as thinner, whereas virtually no woman wished to be heavier.” Canals and Carbajo (1996), who compared 12-13 year old adolescents on the prevalence of eating disorder symptoms found that “the difference between sexes did not reach statistical significance.” Given, however, the overwhelming evidence that points to a higher incidence of eating disordered behaviour in females, the following is hypothesized:
Hypothesis 1:
*It is expected, for all eating disorder subscales, that females will exhibit significantly higher levels of eating disordered behaviour than males.*

**Eating Disorders and Age**

Understanding if a critical age range exists for the manifestation of eating disorders is important since such knowledge adds to the understanding of the aetiology of eating disorders, and hence is useful for intervention purposes (Krause et al. 2000). Within the 12 – 18 age range that this study considers, the existing research has yielded conflicting results with respect to the prevalence of eating disorders. Some studies have indicated that levels of eating disorders are highest in younger adolescents (O’Dea and Abraham 1999b; Stice and Hayward, 2000) while others have indicated that older adolescents exhibit the highest levels (Comer 1992; Heatherton et al. 1997). Other studies have found no age effects within this group (Cash and Henry 1995; Fisher 1986).

Such findings may exist for a number of reasons. Damhorst et al. (2001: 554) suggest that “adolescents develop physically at such varying rates that net increases or decreases in satisfaction due to changes in body size and shape average out in large sample means.” Arriaza and Mann (2001) suggest that differing measures and idiosyncrasies in assessment as well as varying degrees of acculturation to American norms may result in differing findings for different samples while Mullis et al. (1992) additionally suggest that differences in methodology, definitions of variables and research designs may be related to inconsistency in findings. This paper contends however, that an Age *•* Gender interaction exists which effectively cancels out the main effect for age. Following is an examination of the evidence in support of this view.

It has been noted that the transition into adolescence, marked by puberty, is a time when “younger adolescents experience heightened sensitivity to their changing lives and to important events” (Mullis et al. 1992: 54). Marcotte et al. (2002) further note that “normative developmental transitions are less stressful if they are experienced sequentially rather than simultaneously” since this gives adolescents the opportunity to adjust to one change at a time. They assert that for girls, the early adolescent period is especially difficult since they experience puberty and make the transition to secondary school simultaneously. Much research has supported the view that for girls, heightened social awareness and heightened stress exist at this time period (Coleman 1989; Koenig and Gladstone 1998). Another reason for heightened body concerns among younger adolescent females has to do with their entry into secondary school where male-female relationships become important. As an important dimension by which females are evaluated, younger females may confer heightened significance to societal body ideals, hence increasing eating disorder symptomatology. Swarr and Richards (1996) further contend that an increase in body fat at this age is also a contributory factor. Stice and Hayward (2000) have shown that marked increases in levels of depression after puberty is also associated with increases in body dissatisfaction. Other research has, however, argued that later adolescence is also a stressful period, where “demands for personal recognition are intensified… adjustment problems peak, and… these are associated with the heightened struggle for independence and identity” (Harper and Marshall 1991). While these issues are important, they are not as closely linked to eating disorders compared to the issues faced by younger adolescent...
females. It is not surprising therefore, that for girls, much research has discovered that high levels of eating disordered behaviour characterizes the 12–14 age range compared to older age ranges (Cauffman and Steinberg 1996; Killen et al. 1992).

Contrary to the above, some studies have shown that older adolescents score higher on eating disordered behaviour. Kilpatrick et al. (1999) have shown that older adolescents are more likely to use weight management strategies compared to younger adolescents. This may however be related to the fact that they tend to be heavier and may have more access to, and knowledge about such techniques, rather than because they are more eating disordered. This is supported by Davies and Furnham (1986) who demonstrated that older adolescents tended to perceive themselves as more overweight relative to younger adolescents. Thelen et al. (1987) similarly report that the average age of diagnosis for eating disorders in females is 18. This may however be related to greater maturity in individuals and subsequent recognition that a problem exists, hence acceptance of the need for professional help. The above indicates that it should be expected that younger female adolescents should exhibit higher levels of eating disorder symptomatology than older females.

In contrast, with males, the opposite may be true. Younger males may exhibit lower levels of eating disordered behaviour than older males; this effectively cancels out main effects for age when both genders are considered simultaneously. Nolen-Hoeksema (1990) points out that on average, boys make the transition to puberty two years later than girls. Within the younger adolescent subsample therefore, there is likely to be a substantial number of pre-pubertal males. Consistent with previous reasoning for females, pre-pubertal males may tend to exhibit lower levels of stress (Marcotte et al. 2002) and lower social sensitivity compared to older males (Mullis et al. 1992). Indeed, O’Dea et al. (1999a) found that young adolescent males had a positive self-concept which was associated with lower levels of body dissatisfaction. Additionally, since male-female relationships may be less important to them than for older males, body concerns may be of less importance. This is associated with lower levels of eating disorder symptomatology for younger males (Striegel-Moore et al. 1993). Older males in contrast, tend to be more dissatisfied with height, chest circumference and muscle size (Searles et al. 1986). In concord with this, O’Dea et al. (1999a) note that postpubescent males “desired to build up their bodies, believing that appearance was important to their sexual appeal. They were also more willing to form close relationships.” They note also that: “Greater pressure to achieve an ideal body may increase the likelihood of disordered eating.” With respect to Body Dissatisfaction, Body Image and Bulimia therefore, it is expected that older males may exhibit higher scores than younger males. This, in conjunction with the expectations for the female subgroup, lead to the following hypothesis:

**Hypothesis 2:**
*It is expected, for the Body Dissatisfaction, Body Image and Bulimia subscales, that an Age * Gender interaction exists, such that younger females display the highest levels of Eating Disorders while younger males display the lowest levels.*

For Drive for Thinness, however, it is expected that younger males will exhibit higher levels since older males tend to want an increase in size (O’Dea et al. 1999a). Likewise, as stated earlier, the younger female group is also expected to have a higher Drive for Thinness, hence:
Hypothesis 3:

It is expected that younger adolescents will exhibit a higher Drive for Thinness than older adolescents.

Eating Disorders and Ethnicity

The present study will investigate whether or not differences in eating disorders exist between persons of East Indian and African descent in Trinidad. At present, it is not known if such differences exist. While the existing literature indicates that ethnic differences in eating disorders exist in some countries, it is questionable whether such research generalizes to Trinidad. A small amount of research with people of African and Indian descent does however exist (cf. Demarest and Allen, 2000; Henriques et al. 1996, 1999). While this research is predominantly North American in origin, it is important to consider such research since Western value systems permeate the Trinidadian society (Deosaran 1995), and Western body ideals are associated with disordered eating (Garner et al. 1996).

A number of studies have shown that people of African descent tend to have lower levels of eating disordered behaviour than many other groups (Abrams et al. 1993; Dolan 1991). Gray et al. (1987) suggest that African-American women may not identify with White Americans” ideals of beauty, including thinness. In congruence with this, Hsu (1987) found that African-American women were more accepting of their bodies than Whites. With weight specifically, others have found that African-American women tended on average to be heavier than White women, but tended to be more accepting of their weight (Rand and Kaldau 1990; Gray et al. 1987). In a study in Zimbabwe, Hooper and Garner (1986) discovered that Blacks had the lowest drive for thinness and body dissatisfaction, with Whites having the highest levels, and those of mixed-race falling in the middle. Henriques and Calhoun (1996) even found that a manipulation of mood (based on negative or positive social feedback) greatly affected White women’s body satisfaction but had no effect on that of African-Americans. While a few authors have found high levels of eating disordered behaviour among people of African descent (Abood and Chandler 1997), there is overwhelming evidence that they exhibit lower levels of eating disordered behaviour compared to many other groups.

Smith (1982) indicates that a protective factor for African-American females is that they are expected to be successful academically and in their careers compared to African-American males. He notes that African-American females generally grow up with a more practical, no-nonsense approach to life, recognizing early that they will work and raise children, often as single parents. Since their attention is focussed on these areas, they are less preoccupied with physical appearance, dieting concerns and other related factors. In Trinidad, some of these factors may apply to persons of African descent compared to persons of East Indian descent for two reasons. Firstly, the divorce rate among persons of African descent is higher (cf. Marshall 1996 who discovered rates as high as 73%) and secondly, academic performance among adolescent males of African descent has been found to be lower than that of other groups, pointing to a greater likelihood of future unemployment for this group (Jules Report 1994; World Bank, 2000). African females in Trinidad, therefore, may have greater responsibilities at an earlier age. It is, however, unclear whether this will translate to a lower incidence of eating
disordered behaviour for persons of African descent compared to their Indian counterparts. Given that current research is unclear about ethnic differences in eating disorders within Trinidad, the current study will examine whether or not such differences exist, but will not hypothesize about the nature of this relationship.

**Research question 1:**  
*Are there ethnic differences in eating disorders in Trinidad?*

**Eating disorders and self esteem**

This section will argue that a negative relationship exists between self esteem and eating disorders, such that lower levels of self esteem are related to higher levels of eating disorders. This section will also argue that this relationship may be stronger for females than for males and for older adolescents than for their younger counterparts. No ethnic differences are expected with respect to the relationship between self esteem and eating disorders. The ideas developed here will represent the foundation for exploring the role that self esteem plays in the aetiology of eating disorders.

Much research has supported the view that a negative correlation exists between eating disorders and self esteem (cf. Chaiken and Pliner 1987; Striegel-Moore et al. 1986). Such literature indicates that body image ideals may be closely linked to individuals’ self-worth in many societies. This linking, it is thought, has derived from societal acceptance and positive valuation of the thin body ideals which various media portray (Garner and Garfinkel 1980; Leon and Finn 1984). If individuals do not match up to such societal body ideals, this affects self-worth negatively (O’Dea et al. 1999a). Indeed, research has shown that thinner people are perceived to be more successful, outgoing and attractive (Flannery et al. 1991) hence individuals’ perceptions that others may assess them negatively if they are not thin, may not be too inaccurate. It follows that in order to maintain positive self esteem, people engage in excessive dieting and other behaviour which is symptomatic of eating disorders (Striegel-Moore et al. 1990). Alternatively, low self esteem may cause individuals to be dissatisfied with their bodies (Furnham et al. 2002). “Individuals with a negative sense of self, situated in a culture obsessed with the pursuit of physical perfection at almost any cost, would reflect these feelings of worthlessness in how they perceive themselves, thus providing a distorted body image” (Furnham et al. 2002: 593). As such, societal pressures which operate via self-worth and self esteem, encourage individuals to attain or maintain thin body ideals. The converse may also be true; if individuals already possess a high self esteem, there may be no need to engage in eating disordered behaviour to improve self esteem.

Many researchers have offered evidence which can be used in support of the above arguments. Henriques and Calhoun (1999) have shown that individuals prefer to be assessed positively, and physical attractiveness, with special emphasis on thinness, is an important dimension of such social assessment. In support of this, Demarest and Allan (2000) demonstrated the existence of social stereotypes of the ideal female as being thin. Using figure drawings they demonstrated that females believed that males preferred a thin female figure. This was significantly thinner than the ideal shape that males actually preferred. Additionally, bulimics tend to have a higher demand for approval than non-bulimics (Katzman et al. 1984). Indeed, a study by Johnson and
Brems (1996) found a strong positive relation between many eating disorder symptoms and the need for social desirability. Inspecting the eating disorder subscales more closely, they concluded that “those aspects of eating disorders related to social desirability are the very symptoms that are more likely to fall under public scrutiny.” Schulman et al. (1986: 634) further found that bulimics tend to have “perfectionist attitudes in relation to their own appearance and negative interpretations about how others view them.” In congruence with this, Heatherton et al. (1997) conducted a 10 year longitudinal study and found that once social factors, as they relate to body ideals, became less important to the participants, this resulted in a decline of eating disordered behaviour. Perceived societal ideals therefore create pressures to maintain unrealistic standards of thinness. Such societal pressures encourage eating disordered behaviour via its effect on self-worth and self esteem. The following is therefore hypothesized:

**Hypothesis 4:**
*It is expected that a negative correlation will exist between all eating disorder subscales and all self esteem subscales.*

**Gender as a moderator of the relationship between eating disorders and self esteem**

The societal ideals of thinness apply more for females than for males (Striegel-Moore et al. 1993), leading to the expectation that the correlation between self esteem and eating disorders will be stronger for females than for males. One study, for example, showed that boys were encouraged to eat well while girls believed that they were supposed to eat very little to be considered feminine (Mori et al. 1987). These authors note, in this respect, that body shape and size are important aspects of being female and being assessed as feminine, whereas males are not socially assessed by such criteria. Self esteem thus becomes more closely linked to body shape and size for females, hence to eating disorders. That this relationship is stronger for girls than for boys is supported in much research (cf. Canals and Carbajo 1996; Koenig and Gladstone 1998; Marcotte et al. 2002).

Harper and Marshall (1991), in an extensive review have shown that adolescent girls report more problems than boys and that the types of problems tend to be different. They note that girls are troubled by social and interpersonal relationships, courtship, sex and marriage, health and physical development, while boys are concerned about finance, education and vocational issues. They state that the data “reflect societal attitudes which orient females toward interpersonal, family and psychological concerns, and orient males to be competitive and vocational and future directed” (Harper and Marshall 1991: 800). In a similar study, Porteous (1985: 475) found that “boys were more concerned with authority, restrictions and rules, and being combative and aggressive... and girls were more self-critical, self-aware and more neurotic.” O’Dea et al. (1999b) also found that females attributed more importance than males to their ability to form close friendships and to gain social approval. Females thus tend to be more oriented toward interpersonal relationships and other matters related to social assessment. In societies where such assessment may be based on body shape/size, this may encourage a closer link between eating disorders and self esteem.

Another reason to expect a higher correlation for females has to do with the nature of the pubertal transition for females compared to males. For males, it brings them closer to the ideal
masculine body, while for girls, it is associated with a considerable increase in fat tissue, thus increasing the discrepancy between the actual and „ideal” female body (Rosenbaum 1979). The pubertal transition for girls typically coincides with the social setting of secondary school where male-female relationships become important and social assessment increases in salience. Girls thus become more self-conscious and aware that their value as a person may be determined by assessment of their body shape/size, hence linking the self-concept and self esteem to body shape/size and to eating disorders.

Not all research is supportive of the idea that gender moderates the relationship between self esteem and eating disorders. Some studies have found that the relationship between eating disorders and self esteem is similar for males and females (cf. Furnham et al. 2002; Pliner et al. 1990). Some researchers have even found a non-significant trend toward a higher correlation in males (Franzoi and Shields 1984; Mahoney and Finch 1976). One study even found no relationship between body dissatisfaction and self esteem for females, but found a relationship for males (Silberstein et al. 1988). These results are in congruence with the noted rise in the level of eating disordered behaviour among males (Carlot and Carmago 1991; Seligmann et al. 1994). Given however, that the majority of literature is in support of the view that eating disorders and self esteem are more closely linked for females than for males, the following is hypothesized:

**Hypothesis 5:**
*It is expected that the predicted negative correlation between all eating disorder and self esteem subscales will be significantly stronger for females than for males.*

**Age as a moderator of the relationship between eating disorders and self esteem**

A number of studies have supported the view that the association between eating disorders and self esteem increases with age. Flannery-Schroeder et al. (1996) found that this correlation was stronger for adolescents who had passed puberty, compared to those who were pre-pubertal. Similarly, Bohan (1973) found that this correlation was stronger for grade 10 girls than for grade 4 girls. Clifford (1971) suggests that this may be due to body changes that occur in adolescence. However, the research by Flannery-Schroeder et al. (1996: 243) support a social learning model for such an association. They suggest that “children learn from their families, teachers, friends and the media that fat is bad and thin is good” and thus they become dissatisfied if they do not match this ideal. While both of these authors show an increase in this correlation with age, their oldest age group corresponds to the youngest age group in the present study. Timko et al. (1987) found a similar negative correlation in college students, but did not compare them to younger adolescents. Mendelson et al. (1996) studied two groups of children (8–10 year olds and 11–13 year olds) and found that over a two-year period, the association between self esteem and eating disorders remained stable within both groups. This time duration may, however, be too short to expect changes in this correlation.

While the evidence appears inconclusive, the „gender intensification hypothesis” (Hill and Lynch 1983) suggests that that body changes related to puberty heighten teenagers’ attention to the significance of their gender and body shape/size. However, younger adolescents may be unclear about gender role identification and, thus, may rely more on gender stereotypes (Marcotte et al.
2002). In accord with this, Alfieri et al. (1996) observed an increased adherence to feminine stereotypes in girls with increasing age, as well as increased identification with masculine stereotypes in boys. While social learning theory agrees with this basic mechanism, it does not suggest that it is merely a closer identification with stereotypes that may occur with age. Rather, it suggests that as adolescents grow older, body size/shape may become more integrally linked with the self-concept. The mechanism which affects the prevalence of eating disorders may therefore be different for younger compared to older adolescents. For younger adolescents, it may be due to increasing social awareness and adherence to stereotypes, but with increasing age, as the effects of socialization and social learning increase, the self-concept and identity may become more intimately linked with body size, and hence eating disorders. This evidence suggests that it may be expected that the correlation between eating disorders and self esteem should be stronger for the older group compared to the younger group of adolescents in the current study. Note that this is not necessarily contradictory with an earlier hypothesis which suggests that younger females may have the highest levels of eating disorders. Their levels may be the highest (due to the new social awareness and other factors that adolescence brings) without it necessarily being as closely linked to self esteem as for the older females. The following is therefore hypothesized:

**Hypothesis 6:**

*It is expected that the predicted negative correlation between all eating disorder and self esteem subscales will be significantly stronger for older adolescents compared to younger adolescents.*

**Methodology and sample**

The standardized instruments which were employed in this study were administered to participants in a class setting that was monitored by the author and an assistant. Directions indicated that the questionnaire aimed to assess individual eating habits and views about the self. It was stressed that there were no wrong or right answers and that honesty in response was important. In the instruments, some items were reversed keyed, and subscale items organized in a random manner to reduce the possibility that respondents would decode the specific purpose of the measures. The voluntary nature of participation was stressed and informed consent obtained. The author clarified problematic questions where necessary. Participants were debriefed at the end of the session.

The final sample consisted of 267 respondents from 3 non-randomly selected schools (n = 85, 90 and 92). An approximately equal distribution by age, gender and ethnicity was selected from each school. Chi square analysis revealed that the distribution by these grouping criteria did not differ from school to school (age: χ² = .057, ns.; gender: χ² = .219, ns.; ethnicity: χ² = .105, ns.). In two schools, classes were randomly selected, while in one, the principal offered only classes for which teachers were unavailable. After data cleaning, a sample of 237 was left. There were 121 males and 116 females, of which 119 were of East Indian descent and 118 were of African descent. One hundred and eighteen persons were 12–14 year olds (mean age = 13.26, SD = .896) and 119 were 15–18 year olds (mean age = 16.56, SD = .951).

Moderation analysis was conducted by comparing regression slopes of the relationship between self esteem and eating disorders, where each slope was specified by a different level of the
moderator variable. A moderator was earlier defined as “a qualitative or quantitative variable that affects the direction and/or strength of the relation between an independent or predictor variable and a dependent or criterion variable” (Baron and Kenny 1986: 1174). The strength and direction of the relationship between self esteem and eating disorders can be determined by utilizing regression analysis, where the standardized regression coefficient (β) represents an unbiased estimate of this relationship. In the context of the present study, the sample can be partitioned according to the moderator, and regression equations computed for each partition. The standardized regression coefficients for each equation can then be compared to determine whether or not they are significantly different from each other. In the present context, if one predictor and criterion variable are used in the regression equation, then the standardized regression coefficient is exactly equal to the Pearson’s product moment correlation coefficient obtained from correlating the predictor and criterion variables, and as such, Fisher’s r to z transformation test is applicable as a means of comparing the significance of the difference between both standardized regression coefficients.

Using an example to illustrate the above, it is expected that the relationship between self esteem and eating disorders should be stronger for girls than for boys (Hypothesis 5). Figure 1 graphs the unstandardized regression equations of the relationship between the Personal Security subscale of the self esteem instrument, and the Bulimia subscale of the eating disorders instrument. In Figure 1, the x-axis represents Personal Security, while the y-axis represents Bulimia. The red line plots the regression equation for males \( y = -.08x + 66, \text{ns} \) while the blue line plots the regression equation for females \( y = -.453x + 103, p < .001 \). The significance levels are reflected in the slopes of each line. For males, there is very little relationship between self esteem and eating disorders, at least with the subscales used in this example, while for females there is a significant inverse relationship. This significant relationship is reflected by the steeper gradient of the blue line. A comparison of the significance of the difference of the standardized regression coefficients for males \( \beta = -.033, n = 120 \) with that of females \( \beta = -.326, n = 116 \) using Fisher’s r to z transformation test indicates that there is a significant difference between both coefficients \( z = 2.31, p < .01 \). These results indicate that there is no relationship between self esteem and eating disorders for males, but that there is an inverse relationship for females. Where females are concerned, lower levels of self esteem are related to higher levels of eating disorders.
Results

The incidence of eating disorders

Compared to a norm-referenced comparison group of Anorexics, 10.1% of the entire sample had Drive for Thinness scores which exceeded the median for this group (17.2% for females, n=20 and 3.3% for males, n=4). Compared to a bulimic group, 3.8% of the sample exceeded their median Bulimia score (6.0% for females, n=7 and 1.7% for males, n=2). Eight percent of the sample had Body Dissatisfaction scores which exceeded the median for this bulimic comparison group (13.8% for females, n=16 and 2.5% for males, n=3). Garner, Olmsted and Polivy (1984) suggest using median scores for comparison since these are better measures of central tendency given the tendency for this type of data to be skewed. Comparison norms for the Body Image Ideals Questionnaire were not available.

Eating disorders and age, gender and ethnicity

A 2x2x2 between-subjects MANOVA was performed on the four dependent variables, Drive for Thinness, Bulimia, Body Dissatisfaction and Body Image. Predictor variables were Age, Gender and Ethnicity. As expected, the combined dependent variables were significantly affected by gender with females consistently scoring higher than males; Wilk’s lambda = .605, F(4,226) = 36.94, p<.001. This reflected a strong association between gender and eating disorders (partial $\eta^2 = .395$). Inspection of the univariate ANOVA statistics which is generated as a part of the SPSS MANOVA output indicated significant main effects of gender on all dependent variables, with Body Image almost achieving significance. For Drive for Thinness F(1,229) = 60.27, p<.001; Bulimia F(1,229) = 55.53, p<.001; Body Dissatisfaction F(1,229) = 91.93, p<.001 and Body Image F(1,229) = 3.71, p = .055. The respective descriptives are shown in Figure 2.
Figure 2
Gender differences in eating disorders

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>Drive for Thinness</td>
<td>54.75</td>
<td>21.17</td>
<td>74.96</td>
</tr>
<tr>
<td>Bulimia</td>
<td>61.17</td>
<td>19.25</td>
<td>76.79</td>
</tr>
<tr>
<td>Body Dissatisfaction</td>
<td>27.31</td>
<td>22.54</td>
<td>55.94</td>
</tr>
<tr>
<td>Body Image</td>
<td>8.85</td>
<td>22.71</td>
<td>14.83</td>
</tr>
</tbody>
</table>

MANCOVA indicated that this significant effect for gender remained even after controlling for differences in age; Wilk’s lambda = .614, F(4,229) = 35.99, p<.001, with effect size remaining strong (partial η² = .386).

There were a number of other areas which did not reach multivariate significance. Nevertheless, a strong tendency toward significance was observed for some of these areas and the results are reported since they may point to important areas for consideration and future research. For age, there was a tendency toward significance; Wilk’s lambda = .964, F(4,226) = 2.13, p = .078. This tendency was due to a main effect for age on the Drive for Thinness subscale; F(1,229) = 4.63, p<.032 though partial η² was low (.02). Younger adolescents had a higher Drive for Thinness (mean = 67.5, SD = 21.3) than older adolescents (mean = 61.8, SD = 23.8).

There was also a tendency toward significance with Age * Gender; Wilk’s lambda = .963, F(4,226) = 2.18, p = .072. Univariate analysis revealed that this effect was significant for Bulimia; F(1,229) = 4.03, p<.046 and Body Dissatisfaction; F(1,229) = 5.32, p<.022, but not for Body Image. In both cases, youngest females had the highest means and youngest males the lowest.

Multivariate significance for ethnicity did not exist though univariate analysis revealed that there was a main effect on Body Image F(1,229) = 5.21, p<.023 with persons of African descent having lower scores (mean = 8.25, SD = 21.5) than persons of Indian descent (mean = 15.28, SD = 26.14) though the strength of association was low (partial η² = .022).

The relation between self esteem and eating disorders

With an adjusted alpha of .01, eleven out of a possible sixteen correlations between all eating disorder and self esteem subscales reached significance. Of the five which were non-significant by this criteria, two reached p = .023 and .018. Peer Popularity was least correlated with eating disorders, with three of its correlations reaching non-significance while for Academic Competence and Familial Acceptance, one each reached non-significance.

To further explore the relationship between self esteem and eating disorders, regression analysis was conducted in two stages. Firstly, with each eating disorder subscale in turn, all predictor variables (Age, Gender, Ethnicity and all Self Esteem subscales) were entered into the regression
model. In the second stage, hierarchical regression was employed to assess the contribution to $R^2$ made by those self esteem subscales which were able to contribute significantly to the explained variance of eating disorders, over and above that of age, gender and ethnicity, as discovered from the first stage. Here, for each eating disorder subscale in turn, age, gender and ethnicity were entered as the first block, followed by the self esteem subscale/s which were important predictor/s for that particular dimension of eating disorders.

Stage 1 (see Figure 3): With Drive for Thinness as the dependent variable, the model was significant, $F(7,228) = 11.05, p < .001$, with adjusted $R^2 = .23$. Significant predictors were Gender ($\beta = .443, p < .001$) and Familial Acceptance ($\beta = -.166, p < .021$), with age almost achieving statistical significance ($\beta = -.114, p < .062$). With Bulimia as the dependent variable, the model was significant, $F(7,228) = 9.67, p < .001$, with adjusted $R^2 = .205$. Significant predictors were Gender ($\beta = .416, p < .001$) and Familial Acceptance ($\beta = -.154, p < .035$). With Body Dissatisfaction as the dependent variable, the model was significant, $F(7,228) = 19.3, p < .001$, with adjusted $R^2 = .353$. Significant predictors were Gender ($\beta = .516, p < .001$) and Familial Acceptance ($\beta = -.225, p < .001$). With Body Image as the dependent variable, the model was significant, $F(7,228) = 6.58, p < .001$, with adjusted $R^2 = .142$. Significant predictors were Ethnicity ($\beta = -.194, p < .002$), Peer Popularity ($\beta = -.180, p < .008$), and Personal Security ($\beta = -.167, p < .022$) with Familial Acceptance almost reaching significance ($\beta = -.143, p < .06$).

Figure 3
Standardized regression coefficients for predictors of eating disorders

<table>
<thead>
<tr>
<th></th>
<th>Drive for Thinness</th>
<th>Bulimia</th>
<th>Body Dissatisfaction</th>
<th>Body Image</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>-.114***</td>
<td>-.017***</td>
<td>.065</td>
<td>.048</td>
</tr>
<tr>
<td>Gender</td>
<td>.443***</td>
<td>.416***</td>
<td>.516***</td>
<td>.089</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>-.055</td>
<td>-.040</td>
<td>-.089</td>
<td>-.194**</td>
</tr>
<tr>
<td>Familial Acceptance</td>
<td>-.166*</td>
<td>-.154*</td>
<td>-.255***</td>
<td>-.143***</td>
</tr>
<tr>
<td>Academic Competence</td>
<td>.069</td>
<td>-.019</td>
<td>.104</td>
<td>-.004</td>
</tr>
<tr>
<td>Peer Popularity</td>
<td>.108</td>
<td>.082</td>
<td>-.092</td>
<td>-.180**</td>
</tr>
<tr>
<td>Personal Security</td>
<td>-.083</td>
<td>-.076</td>
<td>-.100</td>
<td>-.167*</td>
</tr>
</tbody>
</table>

* p < .05, ** p < .01, *** p < .001

Stage 2: With Drive for Thinness as a dependent variable, hierarchical regression indicated that Familial Acceptance contributed .019 to $R^2$ change; $F_{\text{change}}(4,231)=5.8, p<.017$, over age gender and ethnicity. Similarly, with Bulimia as the dependent measure, Familial Acceptance contributed .03 to $R^2$ change, $F_{\text{change}}(4,231)=8.99, p<.003$. With Body Dissatisfaction as the dependent measure, Familial Acceptance contributed .072 to $R^2$ change, $F_{\text{change}}(4,231)=25.64, p<.001$. With Body Image as dependent measure, Peer Popularity, Personal Security and Familial Acceptance were entered in that order after age, gender and ethnicity. Each contributed significantly to $R^2$ change. For Peer Popularity $R^2$ change =.069, $F_{\text{change}}(4,231)=17.77, p<.001$. For Personal Security $R^2$ change =.045, $F_{\text{change}}(5,230)=12.34, p<.001$. For Familial Acceptance $R^2$ change =.016, $F_{\text{change}}(6,229)=4.29, p<.039$. 
There is no evidence that self esteem is more closely related to eating disorders for females than for males in this sample. Fisher’s Z transformation statistic indicated that no difference in correlation met an adjusted alpha criteria of .01 while two differences out of a possible sixteen were significant at p<.05.

Additionally, the data does not offer strong enough evidence to conclude that self esteem is more closely related to eating disorders for older compared to younger adolescents since only 1 difference reached significance at an adjusted alpha of .01. However, this area merits further research since 8 differences reached significance at p<.05.

**Discussion and Conclusions**

The estimated prevalence rates of eating disorders in Trinidad are comparable to those found by other authors, since in the present sample, the proportion which crossed the median scores of eating disordered patients ranged from approximately 4% to 10%. While formal diagnosis is needed for accurate estimates, it should be noted that in the present research, much larger percentages of the sample fell within the 95% CI range of scores for these norm-referenced groups, than exceeded their median scores. Eating disorders in Trinidad therefore deserves further research attention.

Females accounted for the majority of those with higher levels of eating disordered behaviour. This main effect for gender was stable and remained strong even when age was controlled. That gender just missed significance on the Body Image subscale may be reflective of the fact that this scale was specifically designed to capture areas of dissatisfaction applicable to males, as much as females. Tentatively, this particular subscale may indicate that eating disordered behaviour in males may be an important area for concern in Trinidad. Consistent with this, and contrary to expectations, eating disorders and self esteem were equally strongly linked for males and females. It may be, that for adolescents, their high levels of self consciousness and need for social approval are so overwhelming that body ideals, as one area by which they are judged, becomes equally important for males and females and thus becomes linked to self esteem. Perhaps differences in correlation, if they exist, may be found outside of the adolescent age range in Trinidad. Alternatively, Henriques and Calhoun (1999) have pointed out that the key to understanding gender differences may lie with the tendency in males to want to be heavier and more muscular while females want to be thinner. Consistent with this, Silberstein et al. (1988) found that men’s self esteem was affected by the degree of body dissatisfaction, regardless of the direction of the dissatisfaction (i.e. under or overweight). In the present study therefore, the very strong negative association between self esteem and eating disorders was a result of the feelings of both males and females.

The above indicates that self esteem enhancement, as a way to reduce eating disorders, may be equally applicable to males and females. One consistent finding in this respect is that Familial Acceptance was consistently able to predict a significant amount of the variance in eating disorders, over and above that of age, gender and ethnicity. While the contribution to $R^2$ change ranged from .016 to .072, this was appreciably fair given the substantial contribution of gender. This is consistent with the findings of Wertheim et al. (1999) who found that familial acceptance significantly predicted eating disordered behaviour, over and above that of body mass index,
which has been shown to have a consistently strong influence on eating disordered behaviour (Abraham and O’Dea, 2001). Krause et al. (2000) note that strong family support helps to develop a positive self-concept which is not dependent on societal body ideals. There is substantial evidence to show that the family has a critical influence in the development of self esteem (Juhasz 1989; Papini et al. 1989) and that this influence may be most important in childhood (Coopersmith 1968). The present research shows that the family is important in this respect, even in adolescence, though other writers have stressed that peers and others who transmit societal ideals also become important at this age (Juhasz 1989). In this respect, while those with high feelings of familial acceptance may be more secure about their self-concept and feel accepted as they are, regardless of body size/shape, those with low familial acceptance may feel the need to gain acceptance elsewhere, for example, through peers, and may thus feel the need to conform to societal body ideals to gain such acceptance (Dunkley et al. 2001). Additionally, low familial acceptance may obtain in families with frequent conflict; this has also been shown to predict eating disorders (Kallucy et al. 1977; Minuchin et al. 1978).

Peer popularity, personal security and academic competence appear to be less important predictors since they exhibited predictive power in only one eating disorder subscale. Rather than feelings of peer popularity, it may be the need for peer and social approval which may be an important predictor of eating disorders (Anderson and Olnhausen 1999). However, the role of peer popularity and personal security should not be immediately discarded since they were able to predict appreciable amounts of the variance in Body Image. Given that Body Image captured areas of concern for males, these predictors may prove to be important for this subgroup. With respect to academic competence, while many researchers, already cited, have found a negative relationship with eating disorders, this variable could also be positively related to eating disorders (Phillips 1984). These authors have replicated the results of other researchers in finding that eating disordered adolescents may invest extra energy into academic pursuits to compensate for low feelings of self-worth. This could result in a positive association between academic competence and eating disorders. The existence of positive relationships for some individuals and negative relationships for others could serve to mask the correlation between both variables.

Main effects for age on eating disorders, with the exception of drive for thinness, appear to be precluded by the hypothesized Age * Gender interaction which was found to exist on the Bulimia and Body Dissatisfaction subscales. While strong statements cannot be made about Age or Age * Gender because of a lack of multivariate significance, these results, together with the observation that older adolescents had a noticeably stronger relationship between self esteem and eating disorders than younger adolescents, does tend to indicate that the aetiology of eating disorders may differ with age. While this statement is very cautiously suggested, it points to the possibility that entry into puberty may increase societal awareness with respect to body concerns (as indicated by a higher drive for thinness in younger adolescents and the highest Bulimia and Body Dissatisfaction scores for younger females) though it is only with increasing age that body shape/size becomes linked to the self-concept and self esteem. This area deserves further research.

Multivariate significance, which is the most reliable criteria for making a judgment, indicates that there are no differences in eating disorders between persons of Indian and African descent.
The lone univariate significant difference in the Body Image subscale nevertheless keeps open the question of whether differences may be found within more isolated ethnic groupings in Trinidad.

In conclusion, the main findings of this research are that females experience higher levels of eating disordered behaviour than males, though there is an equally strong link to self esteem for both males and females. There appears to be no ethnic differences in eating disorders though this area merits further enquiry. Also, the findings point to the possibility that the aetiology of eating disorders may differ for younger and older adolescents. Familial acceptance is the most reliable predictor of eating disorders, while the other self esteem measures employed, though more manipulable by those seeking to use self esteem for intervention purposes, appear to be of much less significance.

Limitations and suggestions for future research

The sample was non-randomly selected and limited in size therefore caution must be exercised in making generalizations. The findings are also not necessarily generalizable to adolescents who have been diagnosed with eating disorders. Future research can utilize a larger random sample as well as investigate a diagnosed sample.

The definition of eating disorders was based on DSM-III-R criteria. However, there may be culture specific factors with respect to eating behaviour which may render the diagnostic criteria outlined in DSM–III–R, not wholly applicable to Trinidad. As an example, as obtains in India (cf. Khandelwal et al. 1995), fasting or the restriction of food intake is widely believed to have many health and religious benefits. Qualitative work is required to determine if culture specific eating disordered behaviour exists in Trinidad.

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i $P < .062$

ii $P < .060$