Knowledge, Attitudes, Practices, Perceptions and Expectations of Clients Attending a Primary Care Based Tobacco Cessation Clinic in Trinidad

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ABSTRACT

Objectives: The study aimed to determine the demographics of the clients attending a primary care based tobacco cessation clinic, examine the characteristics regarding current tobacco use among clinic attendees, identify the methods associated with previous successful quit attempts and attitudes towards and perceptions regarding the role of pharmacotherapy in tobacco cessation and determine current levels of tobacco use among attendees, reasons for successes and relapses, satisfaction with the service provided and suggestions for improvement.

Methods: A descriptive cross-sectional survey was conducted at the Arima Health Facility during the period March 1st to June 30th 2013 using both quantitative and qualitative measures.

Results: A total of 31 patients were interviewed during the study period. Amongst smokers who tried to quit cigarette smoking in the past, Willpower (n = 11) was cited as the most common method that assisted in smoking cessation. However, amongst clinic attendees the most popular perceived methods for promoting tobacco cessation amongst respondents was joining a Tobacco Cessation clinic (n = 23), followed by Quitting on your own (n = 13) and seeing a Physician (n = 8). Significant gaps in knowledge exist regarding the role and availability of pharmacologic agents in promoting tobacco cessation, 22.6% of respondents were not using tobacco at the time of the study and 96.7% of all patients attending this clinic would recommend it to a friend or co-worker who is trying to quit using tobacco.

Conclusion: This study highlights the knowledge, attitudes, practices, perceptions and expectations of clients accessing care at this tobacco cessation clinic in order to obtain a better understanding of the demographics of the clients and provide feedback on what is being done to date. It is hoped that the baseline findings of this study will serve a useful purpose for improving the quality of care by addressing deficiencies in knowledge and meeting the expectations of the clients. The results will enable future efforts geared towards assessing the effectiveness of the interventions provided at this clinic.

Keywords: Knowledge and perceptions, primary care, tobacco cessation
Conocimiento, Actitudes, Prácticas, Percepciones y Expectativas de los Clientes que Asisten a una Clínica de Cesación del Tabaquismo en el Contexto de la Atención Primaria en Trinidad
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RESUMEN

Objetivos: El estudio estuvo encaminado a determinar la demografía de los clientes que asisten a una clínica de cesación del tabaquismo en el contexto de la atención primaria, examinar las características relativas al consumo actual de tabaco entre los asistentes a la clínica, identificar los métodos asociados con el éxito previo de los intentos por abandonar su consumo, identificar las actitudes y percepciones sobre el papel de la farmacoterapia en el cese del tabaquismo, y determinar los niveles actuales de consumo de tabaco entre los asistentes, las razones de los éxitos y las recaídas, la satisfacción con el servicio prestado y sugerencias para la mejoría.

Métodos: En el Centro de Salud de Arima, se realizó un estudio descriptivo transversal durante el período del 1ero. de marzo al 30 de junio de 2013, haciendo uso de mediciones tanto cuantitativas como cualitativas.

Resultados: Se entrevistó un total de 31 pacientes durante el período de estudio. Entre los fumadores que trataron de dejar el hábito de fumar cigarrillos en el pasado, la fuerza de voluntad (n = 11) fue citada como el método que más comúnmente ayudó a abandonar el hábito de fumar. Sin embargo, entre los asistentes a la clínica, los métodos percibidos como más populares para promover el cese del tabaquismo fueron, en primer lugar, el incorporarse a una Clínica de Cesación del Tabaquismo (n = 23), seguido por dejar de fumar por su cuenta (n = 13), y por último, ver a un médico (n = 8). Existen lagunas significativas en el conocimiento sobre el papel y la disponibilidad de los agentes farmacológicos en la promoción del cese del tabaquismo. El 22.6% de los encuestados no estaban consumiendo tabaco en el momento del estudio, y el 96.7% de todos los pacientes que asistían a esta clínica, la recomendarían a un amigo o compañero de trabajo que estuviera tratando de dejar de consumir tabaco.

Conclusión: Este estudio resalta los conocimientos, actitudes, prácticas, percepciones y expectativas de los clientes que acceden a la atención en esta clínica de cesación del tabaquismo, con el fin de obtener una mejor comprensión de la demografía de los clientes y proporcionar retroalimentación sobre lo que se está haciendo hasta la fecha. Se espera que las conclusiones de referencia de este estudio sirvan para un propósito útil que permita mejorar la calidad de la atención, abordando las deficiencias en el conocimiento y satisfaciendo las expectativas de los clientes. Los resultados permitirán futuros esfuerzos orientados a evaluar la efectividad de las intervenciones proporcionadas en esta clínica.

Palabras clave: Conocimientos y percepciones, atención primaria, cesación del tabaquismo

INTRODUCTION

In 2012 the results of a risk factor survey for chronic non communicable diseases (CNCDs) conducted by the Ministry of Health of the Republic of Trinidad and Tobago revealed that the overall prevalence of current cigarette smoking was 21.1%. This proportion was higher for males (33.5%) than females (9.4%). The mean age at which daily cigarette smoking started was 17.4 years and among current smokers, the average number of manufactured cigarettes smoked per day was very high (11.5).

Chronic non communicable diseases account for over 60% of premature loss of life (death before 70 years) in Trinidad and Tobago (1). High prevalence rates of certain behavioural risk factors such as tobacco use, alcohol abuse, unhealthy diets and physical inactivity...
have all contributed to this alarming statistic. High rates of cigarette smoking serve to further compound the burden of disease attributed to CNCDs and it is therefore of great importance that measures be taken to reduce these rates.

Scientific evidence has also ascribed a causal relationship between cigarette smoking and the following diseases (2, 3):

* Heart disease
* Cancers of the lung, larynx, oral cavity and esophagus
* Chronic bronchitis
* Emphysema
* Chronic obstructive pulmonary disease (COPD)

Cigarette smoking is also a contributory factor for the development of cancers of the bladder, pancreas and kidney. Active cigarette smoking is also associated with an increased risk of Type 2 Diabetes Mellitus. Children exposed to second-hand smoke are at an increased risk for sudden infant death syndrome (SIDS), acute respiratory infections, ear problems, and more severe asthma (4).

Many of the adverse health effects of smoking are reversible, and smoking cessation treatments represent some of the most cost effective of all healthcare interventions. Although the greatest benefit accrues from ceasing smoking when young, even quitting in middle age avoids much of the excess healthcare risk associated with smoking. However, since smoking duration is the principal risk factor for smoking-related morbidity, the treatment goal should be early cessation and prevention of relapse (5).

In 2004 the Government of Trinidad and Tobago ratified the International (WHO) Framework Convention on Tobacco Control [FCTC] (6), Article 14 of which stated that “each Party shall develop and disseminate appropriate, comprehensive and integrated guidelines based on scientific evidence and best practices, taking into account national circumstances and priorities, and shall take effective measures to promote cessation of tobacco use and adequate treatment for tobacco dependence”.

There is limited local and regional data on the knowledge, attitude, practices, perceptions and expectations of patients attending primary care based smoking cessation clinics. Internationally, research in this area using a cross-sectional survey in adults at a tertiary care centre for nicotine dependence revealed that significantly more women than men reported previous use of Bupropion Sustained Release SR, counselling, and Complementary and Alternative Medicine (CAM). More women than men expressed an interest in the future use of CAM. It concluded that based on these findings, an improved understanding of gender-based differences in the use of conventional and nonconventional nicotine dependence treatments might improve the rates of success of nicotine-cessation efforts among women (7).

A cross-sectional population based study conducted in Lausanne, Switzerland revealed that evidence-based methods of smoking cessation were frequently (physician consultation: 48%, 95% confidence interval (45–51); nicotine replacement therapy: 35% (32–38)) or rarely (bupropion and group consultations: 13% (11–15)) preferred by the participants. Non-evidence-based methods of smoking cessation were preferred by a third (acupuncture: 33% (30–36)), a quarter (hypnosis: 26% (23–29)) or a seventh (autogenic training: 13% (11–15)) of responders (8).

An American study which assessed acceptability, utilization, and effectiveness of free smoking cessation treatment among diverse primary care patients concluded that free, readily accessible smoking cessation treatment offered in primary care settings was accepted and used by the majority of unselected smokers of diverse racial/ethnic origins. However, psychosocial treatment components did not significantly increase abstinence rates and barriers, rather than lack of interest, may keep minority smokers from using cessation treatments (9).

Qualitative research regarding preferences for medications to stop smoking has revealed three themes as factors for smokers’ decisions to use nicotine dependence medications: a) their effectiveness, (b) their desirability, including adverse effects, and (c) access to nicotine dependence medications (10).

With respect to adverse effects, a United States mail-out survey sought to determine the perceived safety and efficacy of nicotine replacement therapies (NRTs) among smokers and non-smokers. The results showed that two-thirds (66%) of respondents either agreed that ‘Stop-smoking products with nicotine are just as harmful as cigarettes’ or were unsure whether the statement was true. It concluded that many smokers are misinformed about the health risks of Nicotine Replacement Therapy (NRT) and that these misperceptions impede not only the adoption of NRT but also compliance during treatment. Misperception of NRT safety is one barrier to effective use of NRT and probably reduces success in quitting (11).
Similar findings were also encountered by Bansal et al who found that most smokers are misinformed about the health risks of nicotine and the safety/efficacy of nicotine medications. Approximately half of the respondents in his study incorrectly reported that the reduction in nicotine in cigarettes has made cigarettes less dangerous to health and only one-third correctly reported that nicotine patches were less likely to cause a heart attack than smoking cigarettes. Results also revealed that smokers who were more knowledgeable about the health risks of nicotine and the safety and efficacy of nicotine medications were more likely to report past use of nicotine medications (12).

In a randomized, controlled, single-blind study of nicotine gum, 97 smokers were assessed on their attitudes and knowledge about nicotine, nicotine replacement, and smoking cessation therapy. The results revealed considerable variability in pre-treatment attitudes and knowledge across individuals. Moreover, attitudes and knowledge showed a consistent pattern of inter-correlation and were systematically related to smoking characteristics [eg, prior use of NRT, nicotine dependence, treatment completion] (13).

Nicotine Replacement Therapies in the forms of nicotine gum and patch were approved by the United States Food and Drug Administration (USFDA) for over the counter use in 1996. This was done in order to increase access and availability to NRTs. Concerns regarding persistent use of NRTs, that is, use beyond the period specified by the FDA approved label were investigated by Shiffman et al using a population based analysis of NRT purchase patterns of US households. He concluded that persistent use of nicotine gum and patch is very rare and has not increased with the transition to over the counter use, despite removal of physician oversight.

An analysis of the use of smoking cessation treatments in the United States revealed that approximately 43.5% of smokers reported a quit attempt in the preceding year: 64.2% of attempters used no cessation treatments; 8.8% used behavioural treatment; 32.2% used medication; and 14.1% used more than one treatment (14).

The results of a United Kingdom study which examined individual differences in preferences for and responses to four nicotine replacement products revealed that the patch was the most popular product initially, followed by the spray and inhaler and then the gum. It concluded that regardless of initial preferences, whether patients obtain their preferred form of NRT or one selected for them did not seem to affect outcome. This may be because smokers came to like particular products as they got used to them. Other things being equal, women may be better advised to use an inhaler rather than gum compared to their male counterparts (15).

Locally, in 2004 the University of the West Indies Health Services Unit at the St Augustine Campus led an initiative with the coalition for a Tobacco-Free Trinidad and Tobago and conducted research on the prevalence of smoking in the student population and to obtain an understanding of the attitudes, knowledge and behaviours related to smoking. It revealed an 11% smoking prevalence and that more smokers (63%) than non-smokers (47%) indicated that they have had discussions with family members regarding the harmful effects of smoking. In response to question as to whether they thought smoking cigarettes helped people feel more or less comfortable at celebrations, parties, or in other social gatherings, both current smokers and non-smokers equally believed that it made people feel more comfortable.

In general, the majority of respondents believed that smoking was harmful to one’s health. Among the current smokers, 73% indicated that it was definitely harmful, and as predicted, many more of the non-smokers (93%) shared the same opinion. When asked about their impressions of a man smoking, the majority of the results indicated that the respondents had negative impressions. Seventy-five per cent of the non-smokers indicated that they thought the man was stupid, lacking confidence and felt he was a loser. However, less of the smokers (22%) shared the same view. In reference to a woman smoking, more non-smokers (83%) than smokers (34%) felt women lacked confidence, was a loser or was stupid (16).

**METHODOLOGY**

**Rationale**

The provision of tobacco cessation advice incorporated into primary healthcare services is an initiative recommended by the World Health Organization [WHO] (17). This initiative has been recently piloted in the form of primary care based tobacco cessation clinics, and requires ongoing monitoring and evaluation. In order to do this it is essential that baseline information about the clients accessing this service be collected and analysed so that the most appropriate and culturally acceptable methods can be implemented. The effectiveness of these methods can be subsequently measured and adjusted as necessary to achieve the best health outcomes.
Aim
To determine baseline information regarding the knowledge, attitudes, practices, perceptions and expectations of clients attending a primary care based tobacco cessation clinic at the Arima Health Facility.

Objectives
The novelty of a tobacco cessation clinic in Trinidad, particularly one that has recently become operational and is integrated into the primary healthcare system means that there is much to be learnt about the characteristics of the clients accessing this service. In this regard, the main objectives of this study are:

* To determine the demographics of the clients attending this clinic.
* To describe the current patterns of tobacco use among clinic attendees with respect to duration, type, frequency and associated factors.
* To identify the methods associated with previous successful quit attempts and attitudes towards and perceptions regarding the role of pharmacotherapy in tobacco cessation.
* To determine current levels of tobacco use among attendees, reasons for successes and relapses, satisfaction with service provided and suggestions for improvement.

Study design
A descriptive cross-sectional survey was conducted at the Arima Health Facility using both quantitative and qualitative measures.

Sampling methods
Consecutive sampling of clients who attended the tobacco cessation clinic on at least one prior occasion during the study period was used to recruit participants.

Survey instrument
The research methodology employed in this study is a KAP (Knowledge, Attitudes, Practices/Perceptions) design using an eighteen point physician administered questionnaire consisting of mainly closed ended questions in addition to some open ended questions.

The study and survey instrument was approved by the Ethics Committee of the University of the West Indies.

The complete instrument is described at Appendix I.

Pre-testing of questionnaire
The questionnaire was pre-tested by the physician at the clinic on a group of patients at the health centre in order to assess ease of administration. Questions regarding personal and demographic data were also included.

Sample population
The sample population consisted of patients who provided signed informed consent to participate in the study and attended the clinic on at least one previous occasion. Because of the descriptive nature of this study and the fact that this clinic has been in existence for a mere seven months, an attempt was made to survey all patients in the study population in order to derive the maximum amount of information possible. As at 30th June 2013 a total of forty-five patients had presented to the tobacco cessation clinic for treatment on at least one previous occasion.

The questionnaire was administered by the same physician attached to the clinic over a four month period, from March 1st to June 30th 2013.

Setting
This study was conducted at the tobacco cessation clinic of the Arima Health Facility on Wednesdays during the hours of 11 AM to 3 PM. Attendance at the clinic was both by self referral and physician referral. Criteria for referral to the clinic included:

* Smoking tobacco for more than 10 years.
* Desirous of stopping smoking and prepared to stop ie the patient is at the preparation stage of change.
* Current tobacco use of more than one pack (20 cigarettes per day).
* Had two or more previous unsuccessful quit.
* Presence of co-morbid conditions such as: Chronic Obstructive Pulmonary Disease (COPD) and Asthma.

Based on these referral criteria it is evident that the smokers targeted for intervention at this clinic are those heavily dependent on nicotine and in need of assistance with quitting based on previous unsuccessful attempts.

The smoking cessation intervention employed at the clinic is the 5 A’s model (Ask, Advise, Assess, Assist and Arrange) as iterated in Trinidad and Tobago’s Ministry of Health policy for smoking cessation and treatment of tobacco dependence (18). Options immediately available to healthcare providers at the clinic for assisting with tobacco cessation include pharmacotherapy in the form of Bupropion and behavioural counselling. Nicotine replacement therapy and varenicline (Chantix), however, are not currently available through the public health system and therefore, are only considered as viable options at the clinic if the patient can afford to purchase these items at private pharmacies.
This clinic is led by a Primary Care Physician who is supported by a District Health Visitor and Enrolled Nursing Assistant. All staff assigned to the clinic has been trained in tobacco cessation.

Investigations available at the clinic include electrocardiogram (ECG) testing, Chest X-rays, and laboratory investigations including blood, sputum and urine analyses.

**Data collection**
All data were collected by the attending physician who administered the survey instrument to every participant and recorded their responses.

**Data analysis**
Data was extracted from questionnaires and entered into a computer. Data was analysed using SPSS version 17 software. Summary statistics such as central tendency, frequency and percentages were used to describe while Chi-square tests and regression were used to test associations.

**RESULTS**

**Demographics**
As at 30th June 2013 a total of forty-five patients had presented to the tobacco cessation clinic for treatment on at least one previous occasion. Thirty-six clients were approached to participate in this study and thirty-one consented to participate yielding a response rate of 86.1%.

The mean age of the respondents was 55.23 years (SD = 11.76, Variance = 138.25). There was a male to female ratio of approximately 2:1 (20 males and 11 females) and with respect to race, the majority of participants were of African descent (48.4%). 32.3% and 19.3% of participants were of East Indian and mixed descent, respectively.

The majority (45.2%) of patients’ highest completed level of schooling was that of Primary School education followed by Secondary School education (38.7%) [Fig. 1].

**Tobacco Use**
All patients attending the clinic used tobacco in the form of cigarettes and the mean duration of cigarette smoking was 34.13 years (SD = 12.65, Variance = 159.98). The mean number of cigarettes usually smoked per day was 18.35 (SD = 8.92, Variance = 79.64).

Seventy-one per cent of clients indicated that they used tobacco within 30 minutes of waking-up. Clients were most likely to smoke after a meal (n = 23), when stressed out (n = 18) and when consuming alcohol (n = 17) [Fig. 2].

The majority (58%) of patients were the sole smoker in their households, 29% of households had one other smoker and 13% of households had two or more smokers (Fig. 3).

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**Figure 1:** Highest level of completed schooling

**Figure 2:** Situations in which patients are most likely to smoke.

**Figure 3:** Number of household smokers.
Use of other potentially addictive substances was greatest for Caffeine (n = 13), followed by Alcohol (n = 9), Marijuana (n = 3) and Sleeping Pills (n = 2) [Fig. 4].

**Quitting tobacco**

The mean number of previous tobacco quit attempts in the past was 6.58, with most clients indicating that they had attempted to quit on two prior occasions, (SD = 18.01, Variance = 324.45). There was a high degree of variability with respect to the longest times that clients had gone without using tobacco, ranging from 0 days to 7 years. The mean longest duration for tobacco abstinence was 137 days (SD = 478.75, Variance = 229199.27).

Amongst smokers who tried to quit cigarette smoking in the past, Willpower (n = 11) was cited as the most common method that assisted in smoking cessation. Other less common methods that helped in the past included quitting cold turkey (n = 6), enrolment in a cessation programme (n = 5) and changing habits (n = 4) [Fig. 5].

The overwhelming majority of clinic attendees (96.8%) indicated that they were desirous of quitting tobacco use and 90.3 % cited health as the single most important reason for wanting to quit using tobacco. A smaller number of clients cited money (6.5%) and work (3.2%) as their most important reasons for seeking tobacco cessation.

The most popular perceived methods for promoting tobacco cessation amongst respondents was joining a Tobacco Cessation clinic (n = 23), followed by Quitting on your own (n = 13) and seeing a Physician (n = 8) [Fig. 6].

All (100%) of clients attending the clinic received advice to stop smoking, 22.6% received a prescription for a pharmacologic agent used to promote tobacco cessation and 87.1% received pamphlets or brochures on how to quit cigarette smoking, 90.3% of surveyed patients reported that the staff at the clinic arranged follow-up.

Most (45.2%) of the clients indicated that they were unsure about whether or not pharmacologic agents would make tobacco cessation easier. 38.7% felt that it would be useful while 16.1% thought that it would not make tobacco cessation easier.

A similar majority (45.2%) of clients indicated that they would be able to quit smoking without pharmacologic agents, while 19.4% of clients thought that medications would be required to facilitate their quit attempt. A large group, 35.4% of patients however, indicated that they were unsure if they would be able to quit without pharmacologic agents (Fig. 7).

With respect to their knowledge of pharmacologic agents used in tobacco cessation, most respondents (51.7%) felt that they did not know enough about how to
use smoking cessation medications properly. The majority (51.6% and 61.3%, respectively) were unsure about their availability and accessibility, and their propensity to cause harm. 48.4% of patients were unsure about the cost of these medications and 35.5% indicated that they felt that these medications were too expensive.

During the period of March 1st to June 30th 2013 when the survey was conducted, 22.6% of patients reported that they were not currently using tobacco. The mean duration of complete tobacco cessation was 18.57 days (SD = 31.96, Variance = 1021.29). Of those who were not currently using tobacco, five patients (71.4%) were male and two patients (28.6%) were female, also two patients (28.6%) reported that they had smoked cigarettes since attending the tobacco cessation clinic. Both patients informed that they could not recall the exact number of relapses.

Attendance at the tobacco cessation clinic was cited as the most important factor for quitting tobacco use. This was reported by 85.7% of clients, not currently using tobacco. 14.3% reported that Willpower was the most important.

Other reported activities contributing to successful tobacco cessation since attending the clinic included:
* Avoidance of places where people smoked
* Deep breathing exercises
* Increased intake of water
* Spending more time with family
* Following instructions issued at the clinic for dealing with urges to smoke
* Isolation

All (100%) of patients not currently using tobacco reported that attendance at the clinic had helped them quit using tobacco.

During the period of March 1st to June 30th 2013 when the survey was conducted, 77.4% of patients reported that they were currently using tobacco, 15 (62.5%) of which were males and nine (37.5%) were females. The majority (75%) of these patients, however, indicated that they were using less tobacco since attending the tobacco cessation clinic. Among those attending the clinic and currently using tobacco, the mean number of cigarettes smoked per day was 16.50 (SD = 9.76, Variance = 95.22).

The main reason given for relapse following a quit attempt was stress. Stress accounted for 29.3% of relapses. Other relapses were reportedly due to urges to smoke (20.8%), no reason (20.8%), bereavement (12.5%), associating with friends who smoke (8.3%) and eating (8.3%) [Fig. 8].

Fifty percent of patients currently smoking cigarettes and attending the clinic had attempted to quit smoking again. Subsequent to attending the clinic and amongst those currently using tobacco, the following activities were performed by clients to assist in quitting tobacco:
* Delaying the time until next cigarette
* Cutting down on the number of cigarettes smoked per day
* Decreasing caffeine intake
* Increasing intake of water
* Increasing intake of fruits and vegetables
* Increasing exercise frequency
* Avoiding associating with friends who smoke
* Reminding self of dangers of smoking/benefits of quitting
* Sucking mints
* Keeping self busy
* Using an electronic cigarette

![Fig. 7: Knowledge about the role of pharmacologic agents in tobacco cessation.](image)

![Fig. 8: Reasons for relapses.](image)
95.8% of clients currently using tobacco were interested in continuing to attend the tobacco cessation clinic. For their next quit attempt these patients highlighted two ways in which the staff at the clinic could assist. Their suggestions were for assistance in overcoming urges and triggers to smoke, and to provide ongoing and continuous support.

The overwhelming majority, 96.7% of clients attending the clinic indicated that they would recommend this tobacco cessation clinic to a friend or co-worker who is trying to quit using tobacco (Fig. 9).

### Statistical analyses

No significant associations were found between age, gender, race, schooling, number of years of tobacco use, and number of cigarettes used per day. P-values were 0.484, 0.654, 0.574, 0.654 and 0.472, respectively. There was also no association between the number of cigarettes smoked per day and the time to smoking the first cigarette for the day (p = 0.667).

### DISCUSSION

#### Limitations

It was the intention that all 45 patients eligible for inclusion in this study would be surveyed. However, because of time constraints and failure to obtain consent from five patients, 31 out of the intended 45 patients were surveyed. This represented 68.9% of the study population. A larger sample size would have increased the power of this study.

The five non-responders comprised of three males and two females. The mean age of the non-responders was 52.6 years (SD = 8.85, Variance = 78.3) and the difference between the mean ages of the responders and non-responders, 2.63 years was not statistically significant (p = 0.241).

The descriptive and cross-sectional design of this study renders it susceptible to biases such as recall and misclassification biases. Also, the data collected from individuals reflect only a snapshot of the study population at a particular point in time.

#### Interpretation of Results

The predominance of male smokers at this clinic is congruent with national and international findings. Indeed the findings of the Trinidad and Tobago Non-Communicable Disease Risk Factor Survey and the University of the West Indies Health Services Unit Tobacco use survey revealed higher proportions of male than female smokers in the order of 33.5% vs 9.4% (1) and 63.9% vs 36.0% (16), respectively.

With respect the highest level of education attained the predominant group in this study comprised those with just a Primary School educational level [Fig. 1]. Internationally, a study was conducted to analyse the joint role of social class and primary healthcare in giving-up smoking. It revealed that men smoked more than women and concluded that social class is a powerful determinant of smoking. It also concluded that men in low-classed jobs are at a greater risk of starting to smoke, are less likely to give up and smoke more (19).

These findings suggest that it may be prudent to provide more focussed care with greater frequencies of follow-up visits for men of a lower social class since they may pose a greater challenge for primary healthcare workers engaged in providing smoking cessation services.

Smoking within 30 minutes of waking-up is one of the criteria used in defining a hardcore smoker (20). Smoking cigarettes at least 30 minutes after waking-up was shown to be a significant predictor of quitting in a community pharmacist-based programme (21). It has also been proposed following an analysis of data that the time to first cigarette (TTFC) is the best single indicator of nicotine dependence (22).

At this clinic 71% of patients reported that they smoked their first cigarette within 30 minutes of waking-up and can be considered to be hardcore smokers. This suggests a high-level of nicotine dependence amongst this group. Also, based on the available evidence their chances of successful quitting would be less than their counterparts who had their first cigarette after 30 minutes of waking-up. In view of this, most of the clients acce-
sising care at this clinic would probably require some form of nicotine replacement therapy (NRT) in order to address the high prevalence of nicotine dependence. Consequently, barring any contraindication, the staff should be prepared to offer NRT to all hardcore smokers and ensure that a more focussed intervention is applied to this group.

Based on the responses indicating the situations in which clients are most likely to smoke it is necessary for the clinic staff to provide appropriate advice on how best to deal with these triggers for smoking.

The majority of clients (n = 23) were most likely to smoke after a meal [Fig. 2]. This coupled with the fact that weight gain is a consistent sequela of smoking cessation (23) is instructive of the need for a dietician to be part of the staff at the clinic. The dietician will also play a useful role in helping the patient regulate caffeine and alcohol intake.

In order to adequately address the urges to smoke cigarettes associated with stress, consuming alcohol and socializing at parties, counselling must be provided to all clients. Recently, meta-analyses have shown that motivational interviewing, a technique that involves enhancing a patient’s motivation to change is effective for decreasing alcohol use and evidence is accumulating in other areas of health including smoking cessation (24). It may therefore, be useful for the staff to be trained in this behaviour technique in order to enhance their capabilities and reduce relapse rates.

Forty-two per cent of respondents reported that there was at least one other smoker in the household (Fig. 3). This has the potential to influence smoking cessation outcomes as the presence of another smoker presents a constant opportunity for one to resume smoking. Indeed, findings from a United Kingdom study have shown that although the degree of dependence was the strongest predictor of quitting smoking, this was followed by occupational social class, social support, marital status and the proportion of smokers in the household (25).

In this regard attempts should be made to invite all household contacts who are smokers to attend the clinic for evaluation and treatment as deemed necessary.

Concomitant use of other potentially addictive substances was greatest for caffeine (n = 13) and alcohol (n = 9) [Fig. 4]. Although, this study did not seek to quantify or assess dependence on these substances it is noteworthy that decreased caffeine intake was one of the activities reported by clients to have a synergistic effect in promoting tobacco cessation. Research into this area has discovered that heavy caffeine and alcohol users report a greater increase in hunger and craving post-cessation (26) [smoking cessation]. In view of this special attention should be paid to these subsets of patients in order to assess dependence and institute advice on how best to treat with potential hunger and craving.

Among the responders, the mean number of quit attempts in the past was 6.58 (SD = 18.01, Variance = 324.45). The approach to dealing with numerous unsuccessful quit attempts should be that or reassurance and commitment to work with the client to achieved sustained cessation. The client should be counselled on the fact that relapse is by far the most likely outcome of any smoking cessation attempt, even those made with the bene it psychosocial treatment and pharmacotherapy (27).

The finding that Willpower (n = 11) was cited as the most common method that assisted in smoking cessation in the past is not surprising [Fig. 5]. Similar findings were reported in an Australian study which revealed that medical discourse of smoking cessation does not dominate public understandings of smoking cessation. Rather, ideas about individual choice, motivation, and willpower are emphasized (28). Patients should be applauded for their previous attempts to quit using Willpower and advised that pharmacotherapy and psychotherapy are useful adjuncts that can work synergistically in facilitating a sustained quit attempt.

The fact that the most popular perceived methods for promoting tobacco cessation amongst respondents was joining a Tobacco Cessation clinic (n = 23) is testimony to the con idence placed in the staff at the tobacco cessation of the Arima Health Facility [Fig. 6].

The high percentages of positive responses regarding receipt of advice to stop smoking and arrangement of follow-up, 100% and 90.3%, respectively suggests that the 5 A’s model is being strictly adhered to at the clinic as outline in the Ministry’s of Health policy for smoking cessation and treatment of tobacco dependence.

With regard to patient’s knowledge about pharmacotherapy in promoting tobacco cessation it is evident that there are significant gaps in knowledge. Most (45.2%) of the clients indicated that they were unsure about whether or not pharmacologic agents would make tobacco cessation easier. A similar majority (45.2%) of clients indicated that they felt that they would be able to quit smoking without pharmacologic agents and 35.4% of patients indicated that they were unsure if they would be able to quit without pharmacologic agents [Fig. 7]. With respect to their knowledge of pharmacologic agents used in tobacco cessation, most respondents
(51.7%) felt that they did not know enough about how to use smoking cessation medications properly.

The role of pharmacotherapy in achieving smoking cessation is well defined. To date, three medications are FDA-approved for smoking cessation: nicotine replacement therapy, sustained-release bupropion, and varenicline. These treatments are effective across a broad range of populations, and are recommended for all smokers, including those with psychiatric or addictive co-morbidity. Less is known however, concerning the benefit-risk profile of these medications in pregnant women and adolescents. Even with these limitations in mind, clinicians should encourage and offer counselling and a prescription of pharmacotherapy to every patient willing to make a quit attempt (29).

In view of this it is critical that the staff members devote more time in counselling the clients about the pivotal role of pharmacologic agents in facilitating a successful quit attempt.

Due to the fact that the clinic has only been in existence for seven months it would be premature to comment on its effectiveness and associated quit rates. Notwithstanding this, the fact that 22.6% of respondents were not using tobacco at the time of the study cannot be ignored. The staff can feel justified in asserting that they have enjoyed a measure of success in achieving tobacco cessation to date. Moreover, all non-smoking clients reported that their attendance at the clinic had helped them quit using tobacco. Even among current smokers 95.8% were interested in continuing to attend the tobacco cessation clinic.

The main reasons for relapses were stress and urge to smoke [Fig. 8]. In this regard and as mentioned previously, efforts must be made to build capacity at the clinic by training staff in the areas of counselling and motivational interviewing.

Based on responses received by clients other possible initiatives to be considered would include the formulation of a tobacco support group and implementation of a quit line. These initiatives would adequately address the demands for ongoing support that is critical for mitigating relapses.

A comparative effectiveness of five smoking cessation pharmacotherapies in primary care clinics revealed that provision of free cessation medications plus quit line counselling arranged in the primary care setting holds promise for assisting large numbers of smokers to quit (30). The evidence for group behaviour therapy programmes for smoking cessation was evaluated in a systematic review. This review concluded that there is reasonable evidence that groups are better than self-help and other less intensive interventions, in helping people stop smoking, although they may be no better than advice from a healthcare provider (31).

With regard to specific activities reported by patients that served as useful adjuncts to their quit attempts, evidence has suggested a beneficial role for some of them. Increased consumption of water, fruits and vegetables, increased exercise, sucking mints and chewing sugarless gum are all featured in the five-day plan to quit smoking. Deep rhythmic breathing exercises and advice on keep-ing oneself busy are also recommended as part of this plan which was first published by J Wayne MacFarland and Elman J Folkenberg in 1964 and subsequently recognized by international bodies including the World Health Organization.

Evidence has indicated that the five-day plan is useful in helping smokers who are already predisposed to quit their habit, but its efficacy seems to be largely restricted to men, in particular to older and heavier smokers (32).

Cutting down on the number of cigarettes smoked per day, however, has not been shown to be superior to the “cold-turkey” method. An international comparison between the effectiveness of abrupt (“cold-turkey”) and gradual (cut-down) methods found that smokers who used the “cold-turkey” method to quit were almost twice as likely to abstain for a month or more in their attempt (33).

It would therefore, be in the best interest of the clients to promote and recommend these evidence-based activities as complementary to the tobacco cessation process.

One client reported that he found the electronic cigarette to be a useful aid in quitting tobacco. The electronic cigarette, however, is a new product on the market and little is known about its safety. It is a plastic device that imitates conventional cigarettes and was developed to deliver nicotine in a toxin-free vapour. Nicotine in a solution is heated and vaporized when a person puffs through the device and is inhaled as a vapour into the mouth. A study that sought to assess nicotine levels in electronic cigarettes concluded that electronic cigarette brands and models differ in their efficacy and consistency of nicotine vaporization. In electronic cigarettes which vaporize nicotine effectively, the amount inhaled from 15 puffs is lower compared with smoking a conventional cigarette (34).

In light of this evidence it would be difficult to recommend the use of electronic cigarettes as an adjunct to smoking cessation at the clinic until more compelling...
data regarding its effectiveness and role, if any, in tobacco cessation becomes available.

Overall, the vast majority of clients were satisfied with the quality of care provided at this clinic as evidenced by the finding that 96.7% of patients would recommend this tobacco cessation clinic to a friend or co-worker who is trying to quit using tobacco [Fig. 9].

IMPLICATIONS
This study highlights the knowledge, attitudes, practices, perceptions and expectations of clients accessing care at this tobacco cessation clinic. It is hoped that the baseline findings of this study will serve a useful purpose in improving the quality of care by addressing the deficiencies in knowledge and meeting the expectations of the clients. The results will enable future efforts geared towards assessing the effectiveness of the interventions provided at this clinic.

CONCLUSION
68.9% (n = 31) of patients who attended the tobacco cessation clinic at the Arima Health Facility were surveyed during the period 1st March 2013 to 30th June 2013. Amongst smokers who tried to quit cigarette smoking in the past, Willpower (n = 11) was cited as the most common method that assisted in smoking cessation. However, amongst clinic attendees the most popular perceived methods for promoting tobacco cessation amongst respondents was joining a Tobacco Cessation clinic (n = 23), followed by Quitting on your own (n = 13) and seeing a Physician (n = 8). Significant gaps in knowledge exist regarding the role and availability of pharmacologic agents in promoting tobacco cessation.

Patients were most likely to smoke after meals (n = 23), when under stress (n = 18) and when drinking alcohol (n = 17). The novelty of the clinic rendered calculation of six-month quit rates impractical but it can be noted that 22.6% of respondents were not currently using tobacco at the time of the study. Overall the degree of patient satisfaction was high as illustrated by the finding that 96.7% of all patients attending the clinic would recommend it to a friend or co-worker who is trying to quit using tobacco.

Cigarette smoking should be a cause of great concern to all public health practitioners because of its propensity to cause premature death and disability. It is therefore, of paramount importance that all initiatives aimed at reducing the burden of tobacco related illnesses remain on the agendas of all healthcare providers and by extension ministries of health and governments of the Caribbean region of the Americas.

Tobacco cessation in the form of tobacco cessation clinics is just one of the many avenues available to mitigate the societal, developmental and economic strains imposed by the high prevalence rates of Chronic Non Communicable Diseases in Trinidad and Tobago. The findings from this study suggest that although this primary care based tobacco cessation clinic is at a seminal stage, it serves the useful purpose of attempting to address the challenges encountered by long-term smokers desirous of cessation.

The staff engaged in the provision of tobacco cessation services at this clinic would be well advised to examine these findings and institute the necessary corrective actions to bridge the existing gaps in knowledge, understand the practices and beliefs of the patients and meet, as far as reasonably practical, the expectations of their clients.

The preliminary findings on current tobacco use can also serve as a useful baseline for subsequent measurements regarding the effectiveness of their interventions.

RECOMMENDATIONS
It is the intention of the author to share the findings of this study with the staff and facility administrators of this clinic with a view to improving the overall efficiency, quality and patient satisfaction levels. Strong recommendations shall be made to use the results of this study as a reference for future evaluations regarding the performance and effectiveness of all the interventions applied at this clinic.

REFERENCES
7. Narayanan S, Ebbert JO, Sood A. Gender differences in self-reported use, perceived efficacy, and interest in future use of nicotine-dependence
APPENDIX I

About you
Age: ____________________________

Area of Residence: ____________________________

Gender: Male ☐ Female ☐

Please select the race/ethnic identity which best describes you (choose one):
☐ African
☐ East Indian
☐ White

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Current Tobacco Use
1. About how long have you used tobacco? ________ year(s) ________ months
2. What kind of tobacco products do you use?
   ☐ Cigarettes
   ☐ Smokeless Tobacco (Snuff or Chew)
   ☐ Other (please describe): __________________
3. How many cigarettes do you usually smoke per day? (1 pack = 20 cigarettes) ________ cigarettes
4. How soon after you wake up do you use tobacco?
   ☐ Within 30 minutes ☐ After 30 minutes
5. When are you most likely to smoke? (Tick all that apply)
   ☐ After a meal
   ☐ When stressed out
   ☐ When drinking alcohol
   ☐ When drinking coffee
   ☐ When bored
   ☐ When watching TV
   ☐ After sex
   ☐ At a party
   ☐ When with friends who smoke
   ☐ When driving
6. How many people in your household use tobacco? ________ people
7. Do you use any of the following substances regularly? (Tick all that apply)
   ☐ Caffeine (more than 2 cups of coffee a day)
   ☐ Alcohol (more than 3 drinks per week)
   ☐ Sleeping pills eg. Valium, Zanax
   ☐ Cocaine
   ☐ Marijuana

Quitting Tobacco
8. How many times have you tried to quit using tobacco in the past? ________ times
9. What is the longest time that you have gone without using tobacco?
   ___ year(s) ___ month(s) ___ day(s) ___ hour(s)
10. If you have tried to quit tobacco in the past, what helped you?
    ☐ Acupuncture
    ☐ Nicotine Patch
    ☐ Nicotine
    ☐ Nicotine Nasal Spray
    ☐ Zyban or Wellbutrin
    ☐ Hypnosis
    ☐ Cessation Program
    ☐ 5 day quit plan
    ☐ Individual Counselling
    ☐ Group Counselling
    ☐ “Cold Turkey”
    ☐ Exercise
    ☐ Changing Habits
    ☐ Willpower
    ☐ Herbal product
    ☐ Massage Therapy
    ☐ Meditation
    ☐ Consultation with physician
    ☐ Nothing
    ☐ Other: ________________________________
11. Do you want to quit using tobacco?
    ☐ Yes ☐ No ☐ Unsure
12. What is the ONE MOST IMPORTANT reason you want to quit using tobacco? (Check ONE)
    ☐ Health ☐ Money ☐ Family ☐ Work
    ☐ Smells Bad ☐ Social Acceptability
    ☐ Other (please describe) ________________________________
13. Which of the following tobacco smoking methods do you think would help you to quit?
    (tick all that apply)
    ☐ Call a quit line
    ☐ See a physician
    ☐ Join a tobacco cessation clinic
    ☐ Use a nicotine patch, gum, nasal spray, inhaler, lozenge, or tablet
    ☐ Use a prescription pill, such as Zyban, Bupropion, Wellbutrin or Chantix
    ☐ Use an internet smoking cessation programme
    ☐ Quit with a friend, relative, or acquaintance
    ☐ Quit on your own
    ☐ Other method Please specify ________________________________
14. If you decided you wanted to quit, do you think that stop-smoking medications would make it easier?
    ☐ Yes ☐ No ☐ Unsure
15. If you decided you wanted to quit, do you think you would be able to quit without stop-smoking medications?
    ☐ Yes ☐ No ☐ Unsure
16. Regarding the following please indicate if you strongly agree, agree, neither agree nor disagree, disagree or strongly disagree:
    • Stop-smoking medications are hard to get (Check ONE)
      ☐ Strongly agree ☐ Agree
      ☐ Neither agree nor Disagree
      ☐ Disagree ☐ Strongly Disagree
    • Stop-smoking medications might harm your health (Check ONE)
      ☐ Strongly agree ☐ Agree
100

KAP of Clients Attending a Primary Care Based Tobacco Cessation Clinic

☐ Neither agree nor Disagree
☐ Disagree  ☐ Strongly Disagree

• You don’t know enough about how to use stop-smoking medications properly (Check ONE)
  ☐ Strongly agree  ☐ Agree
  ☐ Neither agree nor Disagree
  ☐ Disagree  ☐ Strongly Disagree

• Stop-smoking medications are too expensive
  (Check ONE)
  ☐ Strongly agree  ☐ Agree
  ☐ Neither agree nor Disagree
  ☐ Disagree  ☐ Strongly Disagree

17. During any visit to the smoking cessation clinic did you receive:
  • Advice to stop smoking?
    ☐ Yes  ☐ No  ☐ Can’t Recall
  • Prescription for stop-smoking medication?
    ☐ Yes  ☐ No  ☐ Can’t Recall
  • Pamphlets or brochures on how to quit?
    ☐ Yes  ☐ No  ☐ Can’t Recall
  • Did they arrange follow-up?
    ☐ Yes  ☐ No  ☐ Can’t Recall

18. Are you currently using tobacco? ☐ Yes ☐ No

<table>
<thead>
<tr>
<th>IF NO</th>
<th>IF YES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. About how long has it been since you COMPLETELY stopped using tobacco? ☐ Yes ☐ No ☐ Don’t Know</td>
<td>1. After your attempt(s) to quit, what were the reasons you started to smoke again?</td>
</tr>
<tr>
<td>_____ days _____ weeks _____ months _____ years</td>
<td>________________________________</td>
</tr>
<tr>
<td>2. Have you used tobacco at all since attending the tobacco cessation clinic? ☐ Yes ☐ No ☐ Don’t Know</td>
<td>2. How much tobacco do you use per day?</td>
</tr>
<tr>
<td>a. If yes, how many times? _____________</td>
<td>_____ cigarettes _____ dips</td>
</tr>
<tr>
<td>3. What have you done since attending the clinic that has helped you to quit using tobacco?</td>
<td>3. Do you use less tobacco since you attended the tobacco cessation clinic? ☐ Yes ☐ No ☐ Don’t Know</td>
</tr>
<tr>
<td>________________________________</td>
<td>Have you tried quitting again since attending the tobacco cessation clinic? ☐ Yes ☐ No ☐ Don’t Know</td>
</tr>
<tr>
<td>4. What helped you the MOST to quit using tobacco?</td>
<td>4. Have you done anything since attending the tobacco cessation clinic to help you to quit using tobacco? ☐ Yes ☐ No ☐ Don’t Know</td>
</tr>
<tr>
<td>________________________________</td>
<td>a. If yes, what? ________________________________</td>
</tr>
<tr>
<td>5. Did the clinic help you quit using tobacco? ☐ Yes ☐ No ☐ Don’t Know</td>
<td>6. Are you interested in continuing to attend this tobacco cessation clinic? ☐ Yes ☐ No ☐ Don’t Know</td>
</tr>
<tr>
<td>________________________________</td>
<td>7. Is there any way we can help you try to quit again? ☐ Yes ☐ No ☐ Don’t Know</td>
</tr>
<tr>
<td>a. If yes, what? ________________________________</td>
<td>________________________________</td>
</tr>
</tbody>
</table>