

485

PURE HEALTH POLICY: EVALUATING COMPLIANCE OF CIGARETTE PACKAGING WITH FCTC AND NATIONAL LEGISLATION IN 16 COUNTRIES**H Mir***Mississauga, Ontario*

INTRODUCTION: Cigarette packaging has emerged as a primary marketing tool for cigarette manufacturers, strained with increased restrictions on advertising. The Framework Convention on Tobacco Control (FCTC) contains guidelines via the World Health Organization on health warning and promotional labelling, which have been incorporated into national legislation in many countries.

OBJECTIVE: To assess compliance of labelling on tobacco packets with national legislation and FCTC guidelines in 16 countries across levels of economic development.

METHODS: At least 10 types of the cheapest brands of cigarettes were collected from 16 countries involved in the Prospective Urban and Rural Epidemiological (PURE) study between June 2010 and July 2012 (N=260 packets). The countries included: Canada, Sweden, UAE (High Income); Argentina, Brazil, Chile, Malaysia, Poland, South Africa, Turkey (Upper-Middle Income); China, Colombia, Iran (Lower-Middle Income); India, Pakistan, and Zimbabwe (Low Income).

RESULTS: Health warnings were present on all packages; 92% of packs had warnings on front or back panels (defined collectively as the principal display area [PDA]). Only 6 of 16 countries met or exceeded the FCTC recommended size of 30% or more of the packets PDA covered by a health warning.

Promotional labels were observed on all packets. Specifically, deceptive labels such as “light” and “mild” were observed on 25.8% of all packages and were present on packs from all countries.

CONCLUSION: Higher income countries were compliant with FCTC recommendations and national legislation on health warnings however implementation significantly worsened among lower income countries. None of the countries were compliant with promotional labelling as deceptive labels were present in packs from all countries despite their ban. Greater emphasis needs to be placed on implementing and enforcing tobacco control policies.

486

THE CHALLENGES IN ESTIMATING SODIUM CONSUMPTION BY A URINARY SODIUM SURVEY IN A COMMUNITY: THE EASTERN ONTARIO CHAMPLAIN HEALTH REGION EXPERIENCE**A Wielgosz, Y Mao, Y Jiang, N Campbell, H Morrison***Ottawa, Ontario*

BACKGROUND: Sodium consumption is an important factor related to hypertension, and the subsequent development of cardiovascular disease. 24 hour urine collection is the current gold standard for population-based surveillance of dietary sodium intake, yet such measures are challenging and lacking in Canada. To develop initial estimates of dietary sodium intake and to explore underlying methodological issues in a 24-hour urine sodium survey, a feasibility investigation was conducted in Champlain Health Region of Eastern Ontario.

METHODS: 507 participants were enlisted from an existing Champlain Community Heart Health Study in 2009. Urine sample eligibility was based on adequate urine volume, self-reported completion status, no menstruation, and plausible creatinine levels (Creatinine excretion rate is used to determine the accuracy of 24h urine collection). Valid urine collection data were stratified by age, sex, Body Mass Index (BMI) and urban/rural distribution.

RESULTS: Participation rates were low among younger and older populations. A significant number of urine samples were disqualified. The sodium level was highly dependent on creatinine based exclusion criteria, resulting in estimated mean sodium intake varying between 3648 and 6274 mg/day. The level of sodium excretion was highest in the obese followed by the overweight, and lowest in those with a normal/low BMI. The mean sodium level in the urban population was lower than in the rural population; the level for men was slightly higher than for women but similar in the younger (40-55) and older age groups (55-69). In terms of recommended thresholds for daily sodium intake, 99% of adults (ages 40-69) exceeded the Institute of Medicine's Adequate Intake (AI) levels, and 87% exceeded the Tolerable Upper Limit (UL). A recommended limit of 2000 mg. announced recently by Hypertension Canada was exceeded by 90.6%.

CONCLUSION: This study highlights some of the challenges in conducting a 24 hour urinary sodium survey including engaging a broad representation of a community and obtaining sufficiently complete samples. The selection of creatinine based exclusion/inclusion criteria significantly affects the population sodium intake levels, thus calling for a consensus on the methodology. The high estimated sodium intake in the Champlain community calls for broad as well as targeted public health interventions. A targeted approach to reduce sodium intake is indicated given the correlation between BMI and urinary sodium levels as well as the observed urban-rural difference. The extent to which our findings apply to the rest of Canada should be determined from surveys repeated in other Canadian communities.

487

ADHERENCE TO QUALITY INDICATORS AND TEMPORAL TRENDS IN A CARDIAC REHABILITATION PROGRAM**C Yeung, N Giacomantonio, W Firth***Halifax, Nova Scotia*

BACKGROUND: Cardiac rehabilitation (CR) and participation in secondary prevention (SP) significantly reduces morbidity and mortality, and improves cardiovascular risk and quality of life. The importance of CR is well recognized and is reflected by the strong recommendations given by cardiovascular society guidelines. Despite such benefits, rates of CR referral, attendance, participation, and completion remain low. To address this gap between evidence and clinical practice and to help translate guideline recommendations into optimal clinical care, the Canadian Cardiovascular Society (CCS) and the Canadian Association of Cardiac Rehabilitation (CACR) have recently developed quality indicators (QIs) for CR and SP. QIs are an important performance improvement tool for

cardiovascular care programs to evaluate and improve quality of care and increase health system accountability. To date, no published literature exists assessing the utilization of and adherence to CCS QIs for CR. We examine temporal trends of adherence to CCS/CACR QIs for CR and SP at a Canadian CR program.

METHODS: The CR QIs were reconciled with retrospective data collected in the Cardiovascular & Pulmonary Health in Motion (CPHM) CR database from 1999-2012, and incorporated data abstracted from the Maritime Heart Centre and Cardiovascular Health Nova Scotia registries. Adherence rates to each of the five published most important QIs were analyzed over time, using mainly descriptive statistics.

RESULTS: From 2008 to 2012, 7665 inpatients were identified as having diagnoses deemed eligible for CR, of whom 66.7% were referred to CR. Referral rates annually remained stable. Between 1999 and 2012, 4443 patients enrolled in CR. Wait times over that period were within the 30-day QI recommendation, at a median of 27 days from referral to enrollment. Median wait times increased annually over the first six years, but remained stable thereafter. Almost all CR-attending participants (93.5%) received self-management education. Most of the 2566 CR program-completing participants (77.6%) achieved the half metabolic equivalent (MET) increase in exercise capacity from program entry to exit. A documented emergency response strategy exists and 100% of the clinical staff at CPHM have been appropriately qualified.

CONCLUSION: This retrospective study assesses the application of cardiac rehabilitation and secondary prevention QIs in a real-world setting, and characterizes the degree to which contemporary cardiac rehabilitation care is consistent with guidelines. The results of this study offer a basis of future internal and external program comparison over time, and will be incorporated into routine quality improvement practices to further improve patients' cardiovascular health and care.

488

MICROALBUMINURIA IN NORMOTENSIVE DIPPERS AND NON DIPPERS USING 24HR ABPM

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BACKGROUND: The purpose of this analysis was to determine the difference in microalbuminuria in the normotensive and controlled hypertensive population depending on their nighttime dipper and non-dipper feature as determined by 24hr ABPM.

METHODS: Our cardiology database, CARDIOfile was searched for all patients who underwent a 24hr ABPM and had urine microalbuminuria within 180 days. A night time dipper was defined as a >10% fall in average nighttime systolic BP when compared to average daytime systolic BP. Normal systolic BP was defined as an average 24hr systolic BP of ≤ 130 mmHg. Patients were further defined as either

normotensive or controlled hypertensive with antihypertensive drugs. ANOVA was used to determine differences between the means and Tukey-Kramer inter-comparisons testing was carried out if the P value for ANOVA was <0.05 .

RESULTS: See Table 1 and bar graph. There were 610 patients who met the entry criteria. One hundred and eight were normotensive. Of these 61 were nighttime dippers and 47 were non-dippers. Five hundred and two were controlled hypertensives on medication. Of these, 201 were nighttime dippers and 301 were non-dippers. ANOVA showed no significant difference in average 24hr SBP, but a highly significant difference in age (ANOVA, $P<0.0001$) between the 4 groups, Table 1. There was a highly significant difference in the degree of microalbuminuria between the 4 groups, ANOVA, $P<0.002$, figure1.

CONCLUSION: Only 24hr ABPM can be used to classify patients with normal systolic BP or controlled hypertension as either nighttime dippers or non-dippers. Overall, there is a gradual increase in the degree of microalbuminuria within the four groups as defined. There is a correlation between loss of nocturnal dipping and increasing microalbuminuria in the controlled hypertensive group. The lowest microalbuminuria is in the normotensive (both dippers and non-dippers, $P=NS$) with the highest microalbuminuria levels found in the treated and controlled non-dippers. Assessment of microalbuminuria and nighttime BP with 24hr ABPM may be useful in patients with treated and controlled hypertension.

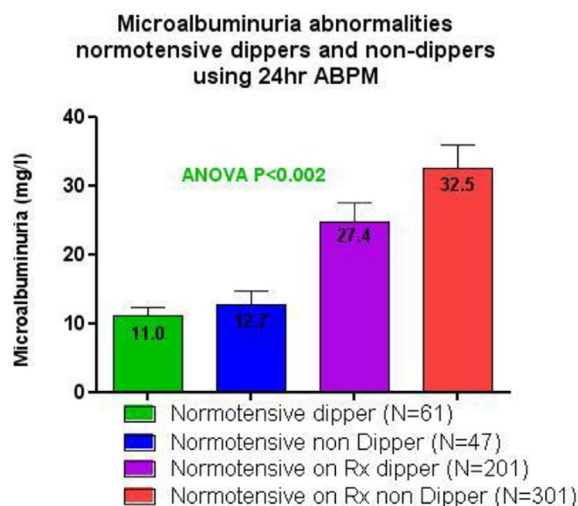


Table 1.

	Untreated normotensive		Treated and normotensive		P value
	Dipper	Non-dipper	Dipper	Non-dipper	
Number	61	47	201	301	ANOVA
Age	56.0 \pm 13.5	56.4 \pm 13.2	63.4 \pm 12.0	66.4 \pm 11.7	<0.0001
24hr SBP	119.9 \pm 7.7	119.3 \pm 7.8	121.5 \pm 6.8	121.6 \pm 6.9	NS
Day SBP	126.5 \pm 8.4	121.3 \pm 8.1	128.0 \pm 7.6	123.1 \pm 7.2	<0.0001
Night SBP	106.9 \pm 8.9	115.3 \pm 8.9	109.9 \pm 7.4	119.5 \pm 8.1	<0.0001