Availability, Location, and Format of Nutrition Information in Fast-food Chain Restaurants in Ontario, Canada

ERIN HOBIN PhD[a], MICHAEL LEBENBAUM MSc[b], LAURA ROSELLA PhD[b], DAVID HAMMOND PhD[c]
[a]Health Promotion, Chronic Disease, and Injury Prevention, Public Health Ontario, Toronto, ON; [b]Public Health Sciences, Public Health Ontario, Toronto, ON; [c]School of Public Health and Health Systems, University of Waterloo, Waterloo, ON.

ABSTRACT

Purpose: To assess the availability, location, and format of nutrition information in fast-food chain restaurants in Ontario.
Methods: Nutrition information in restaurants was assessed using an adapted version of the Nutrition Environment Measures Study for Restaurants (NEMS-R). Two raters independently visited 50 restaurants, 5 outlets of each of the top-10 fast-food chain restaurants in Canada. The locations of the restaurants were randomly selected within the Waterloo, Wellington, and Peel regions in Ontario, Canada. Descriptive results are presented for the proportion of restaurants presenting nutrition information by location (e.g., brochure), format (e.g., use of symbols), and then by type of restaurant (e.g., quick take-away, full-service).
Results: Overall, 96.0% (n = 48) of the restaurants had at least some nutrition information available in the restaurant. However, no restaurant listed calorie information for all items on menu boards or menus, and only 14.0% (n = 7) of the restaurants posted calorie information and 26.0% (n = 13) of restaurants posted other nutrients (e.g., total fat) for at least some items on menus boards or menus.
Conclusions: The majority of the fast-food chain restaurants included in our study provided at least some nutrition information in restaurants; however, very few restaurants made nutrition information readily available for consumers on menu boards and menus.

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RÉSUMÉ

Objectif. Évaluer la disponibilité, l'emplacement et le format de l'information nutritionnelle dans des chaînes de restauration rapide de l'Ontario.
Méthodes. L'information nutritionnelle offerte dans les restaurants a été évaluée au moyen d'une version adaptée de la Nutrition Environment Measures Study for Restaurants (NEMS-R). Deux évaluateurs ont visité de manière indépendante 50 restaurants, soit 5 points de vente de chacune des 10 principales chaînes de restauration rapide au Canada. La localisation des restaurants a été sélectionnée au hasard dans les régions de Waterloo, de Wellington et de Peel, situées en Ontario, au Canada. Des résultats descriptifs sont présentés quant à la proportion de restaurants qui offrent de l'information nutritionnelle en fonction de leur emplacement (p. ex. brochure), de leur format (p. ex. utilisation de symboles) et du type de restaurant (p. ex. service rapide de mets à emporter, restaurant à service complet).
Résultats. Dans l'ensemble, 96,0 % (n = 48) des restaurants offraient au moins un certain niveau d'information nutritionnelle sur place. Cependant, aucun des restaurants ne présentait de renseignements sur les calories pour l'ensemble des articles offerts sur les menus ou les panneaux d'affichage des menus. Qui plus est, seulement 14,0 % (n = 7) des restaurants affichaient de l'information sur les calories et 26,0 % (n = 13) affichaient des renseignements sur des nutriments (p. ex. la teneur totale en matières grasses) pour au moins certains des articles apparaissant sur les menus ou les panneaux d'affichage des menus.
Conclusions. La plupart des chaînes de restauration rapide comprises dans notre étude fournissaient au moins un minimum d'information nutritionnelle dans leurs restaurants. Cependant, très peu de restaurants rendaient cette information facilement accessible pour les consommateurs sur les menus et panneaux d'affichage des menus.

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INTRODUCTION

Poor diet is now the leading cause of chronic disease and premature death in Canada [1]. Canadians are "eating away from home" more often than ever before, a trend associated with reduced dietary quality and increased energy consumption [2–6]. Indeed, it is common for restaurant entrées in Canada to contain one-half to one whole day's worth of calories (1100 to 2486 kcal), and an average of 151% of the sodium an adult should consume per day [7, 8]. Moreover, consumers are faced with a wide range of calorie and sodium options when making food selections in restaurants as there is immense variation in the amount of calories and sodium per serving among and within different restaurant establishments and a single food category [7–9].

Menu labelling has been recommended as one policy intervention that could help to improve the availability and visibility of healthier food options when dining out [10–15]. Menu labelling legislation would require restaurants to disclose the nutrition information of food items on menus at the point-of-purchase. Although menu labelling legislation has been adopted in several jurisdictions and states in the Unites States, with a federal regulation forthcoming, mandatory menu labelling does not currently exist in Canada [16, 17]. At the provincial level, however, Premier Kathleen Wynne of Ontario

publically declared in her Ministry Mandate letters in September 2014 that "posting calories on menus in food and restaurant chains" is an expectation for the Associate Minister of Health and Long-Term Care (Long-Term Care and Wellness) [18].

Mandatory menu labelling in Canada is gaining support from governments and expert working groups as a policy option [13–15, 19]. A recent survey in Canada also found the vast majority of respondents (78%) reported that they would use nutrition information if it were to become more readily available in restaurants [20]. However, interviews with 2 provincial restaurant associations in Canada revealed that the industry does not support displaying nutrition information on menus and menu boards. They argue that restaurants are already providing nutrition information for consumers to access when ordering food items [20]. To date, 2 studies have assessed the availability of point-of-purchase nutrition information in chain restaurants in the United States, but no similar assessment has been conducted among restaurants in Canada [21, 22]. The objective of this short report was to assess the availability, location, and format of nutrition information in fast-food chain restaurants in Ontario, Canada.

METHODS

The availability, location, and format of nutrition information in restaurants were assessed using an adapted version of the Nutrition Environment Measures Study for Restaurants (NEMS-R) [23]. The NEMS-R is a validated audit instrument and protocol that includes observational measures of nutrition environments in restaurants. This tool assesses the availability of nutrition information in restaurants across various locations including menus and menu boards, counter-tops, pamphlets, tables, packaging, tray liners, posters, and kiosks. The format (i.e., absolute values or use of symbols) to communicate the nutritional profile of food items was also assessed using the NEMS-R tool. The analytic sample included a total of 50 restaurants, comprised of 5 locations of each of the top-10 fast-food chain restaurants in Canada, as determined by sales in 2009 [24]. Given that this study was conducted as part of a larger program of research investigating fast-food chain restaurant practices directed at children, only restaurants offering children's menus were included. The restaurant locations were randomly selected within the Waterloo, Wellington, and Peel regions in Ontario, Canada. The restaurants sampled were: McDonalds, Burger King, Arby's, Harvey's, Boston Pizza, Swiss Chalet, Wendy's, Subway, Kentucky Fried Chicken, and Taco Bell. Of these 10 fast-food restaurants, all chains were considered "quick take-away", except Boston Pizza and Swiss Chalet, which were considered "full-service" fast-food restaurants.

Two trained raters independently visited each of the selected restaurant locations between the hours of 11 am and 9 pm in June 2012. At quick take-away restaurants, each rater was asked to order an entrée, side, and drink; to order something different at each restaurant location (e.g., order a different option at each McDonald's restaurant); and to start at the top of each food category on the menu and order the next item below at subsequent visits. As the raters' ordered food, they were instructed to look at counter tops for nutrition information or messaging, and to record this information as soon as they sit down at a table. If a nutrition brochure was within view of the counter top, raters were asked to put 1 nutrition brochure in the envelope and to document the location of the brochure. If nutrition brochures were not visible when standing at the counter, raters were instructed to ask the server if a nutrition brochure was available in the restaurant and where it was located. After food was ordered and received, raters were asked to sit at a table where the menu board is visible and complete the NEMS-R tool. Once the tool was completed, raters were given the option to eat the food ordered or throw it the garbage, but instructed to place tray liners in the envelope and remove all food packaging (e.g., wrappers) and place in a baggie provided in the envelope. While sitting at the table, raters were also asked to take photos of table top signs, posters promoting food specials, and the full menu board. Next, raters were instructed to walk around the entire restaurant, including washrooms, to scan for posters, kiosks, and other communication materials or distinguishing features about the restaurant environment that were not yet captured in the survey or pictures. The protocol for quick take-away and full-service restaurants was similar except that raters were asked to order food first in quick take-away restaurants before sitting at a table.

Given that raters visited the restaurants on different dates throughout the month of June 2012, there were discrepancies that arose due to differences in marketing, availability of brochures, or other promotional materials at each site. Discrepancies between the ratings on the NEMS-R tool were handled such that the response was considered as present as long as 1 rater reported "Yes". This approach was taken to produce the most robust results, and therefore the outcomes represent the availability of nutrition information on at least 1 of 2 visits. Descriptive results are presented for the proportion of restaurants presenting nutrition information by location and format for all restaurants as well as by type of restaurant.

RESULTS

As shown in Table 1, 96.0% (n = 48) of restaurants provided at least some nutrition information in the restaurant, but no restaurant listed calorie information for all items on the menu boards or menus. Only 14.0% (n = 7) of restaurants, of which all were full-service restaurants, posted calorie information for at least some items on the menus. Other nutrients (e.g., total fat) were posted for at least some items on menus boards or menus in 26.0% (n = 13) of the restaurants. Brochures with nutrition information that were visible from counter tops or tables were available in 4.0% (n = 2) of restaurants, and a further 36.0% (n = 18) of restaurants had brochures with nutrition information available upon request. Among quick

Table 1. Availability and location of nutrition information in fast-food chain restaurants.

	Yes (%)	No (%)	Missing[a] (%)	NA[b] (%)
Availability of nutrition information in restaurant	48 (96.0)	2 (4.0)	—	—
Quick take-away restaurants	38 (95.0)	2 (5.0)	—	—
Sit-down restaurants	10 (100.0)	0 (0.0)	—	—
Location of nutrition information				
Some calorie information on menu board or menu	7 (14.0)	43 (86.0)	—	—
Quick take-away restaurants	0 (0.0)	40 (100.0)	—	—
Sit-down restaurants	7 (70.0)	3 (30.0)	—	—
Some nutrition information on menu board or menu	13 (26.0)	37 (74.0)	—	—
Quick take-away restaurants	5 (12.5)	35 (87.5)	—	—
Sit-down restaurants	8 (80.0)	2 (20.0)	—	—
Brochures with nutrition information visible from counter top or table	2 (4.0)	46 (92.0)	2 (4.0)	—
Quick take-away restaurants	1 (2.5)	39 (97.5)	—	—
Sit-down restaurants (n = 8)	1 (10.0)	7 (70.0)	2 (20.0)	—
Brochures with nutrition information available upon request[c]	18 (36.0)	30 (60.0)	2 (4.0)	—
Quick take-away restaurants	10 (25.0)	30 (75.0)	—	—
Sit-down restaurants (n = 8)	8 (80.0)	0 (0.0)	2 (20.0)	—
Nutrition information on tray liner[d]				
Quick take-away restaurants	21 (52.5)	11 (27.5)	—	8 (20.0)
Nutrition information on food packaging[d]				
Quick take-away restaurants	7 (17.5)	29 (72.5)	—	4 (10.0)
Nutrition information on poster	12 (24.0)	36 (72.0)	—	2 (4.0)
Quick take-away restaurants	12 (30.0)	27 (67.5)	—	1 (2.5)
Sit-down restaurants	0 (0.0)	9 (90.0)	—	1 (10.0)
Nutrition information on counter top[d]				
Quick take-away restaurants	5 (12.5)	35 (87.5)	—	
Nutrition information on table	0 (0.0)	25 (50.0)	—	25 (50.0)
Quick take-away restaurants	0 (0.0)	16 (40.0)	—	24 (60.0)
Sit-down restaurants	0 (0.0)	9 (90.9)	—	1 (10.0)
Nutrition information shown on kiosk	1 (2.0)	15 (30.0)	—	34 (68.0)
Quick take-away restaurants	1 (2.5)	8 (20.0)	—	31 (77.5)
Sit-down restaurants	0 (0.0)	7(70.0)	—	3 (30.0)
Use of symbols to communicate nutrition information				
Nutrition symbols on menu board or menus	17 (34.0)	33 (66.0)	—	—
Quick take-away restaurants	7 (17.5)	33 (82.5)	—	—
Sit-down restaurants	10 (100.0)	0 (0.0)	—	—
Nutrition symbols on brochures	14 (28.0)	3 (6.0)	3 (6.0)	30 (60.0)
Quick take-away restaurants	10 (25.0)	0 (0.0)	—	30 (75.0)
Sit-down restaurants	4 (40.0)	3 (30.0)	3 (30.0)	—
Nutrition symbols on table	0 (0.0)	25 (50.0)	—	25 (50.0)
Quick take-away restaurants	0 (0.0)	16 (40.0)	—	24 (60.0)
Sit-down restaurants	0 (0.0)	9 (90.0)	—	1 (10.0)
Nutrition symbols on food packaging[d]				
Quick take-away restaurants	1 (2.5)	34 (85.0)	1 (2.5)	4 (10.0)
Nutrition symbols on tray liners[d]				
Quick take-away restaurants	15 (37.5)	16 (40.0)	1 (2.5)	8 (20.0)
Nutrition symbols on poster	5 (10.0)	38 (76.0)	—	7 (14.0)
Quick take-away restaurants	5 (12.5)	31 (77.5)	—	4 (10.0)
Sit-down restaurants	0 (0.0)	7 (70.0)	—	3 (30.0)
Nutrition symbols shown on kiosk	0 (0.0)	16 (32.0)	—	34 (68.0)
Quick take-away restaurants	0 (0.0)	9 (22.5)	—	31 (77.5)
Sit-down restaurants	0 (0.0)	7 (70.0)	—	3 (30.0)

Note: Unless otherwise specified, n = 40 for quick take-away restaurants and n = 10 for sit-down restaurants.
[a]Missing: Cases where both raters missed or skipped a survey item.
[b]NA: Cases where a restaurant did not have nutrition information available due for practical reasons or circumstances (e.g., quick take-away restaurants in shopping mall food courts do not have tables specific to that restaurant).
[c]Restaurants with brochures visible from counter top or table were not included.
[d]This format of nutrition information only applied to quick service take-away restaurants and not sit-down restaurants.

take-away restaurants, the most common location for providing nutrition information was on the back of tray liners (52.5%, n = 21), followed by posters (30.0%, n = 12).

Presenting calories and nutrients as absolute values, compared with symbols, was the most common type of format. However, nutrition symbols for at least some items were

presented on 17.5% (n = 7) of menu boards in quick take-away restaurants and on 100% (n = 10) of menus in full-service restaurants.

DISCUSSION

This is the first study, to our knowledge, to assess the availability, location, and format of nutrition information in fast-food restaurants in Canada. This research reveals that very few of the top-10 fast-food chain restaurants listed nutrition information on their menu boards and menus, and no restaurant posted calorie information for all items on their menus and menu boards as outlined in the forthcoming Ontario menu labelling legislation [18]. Instead, the majority of restaurants provided nutrition information in other locations such as brochures, tray liners, and posters that require consumers' time and effort to access before making food orders. Previous research has shown that only 0.1% of consumers will access nutrition information provided in brochures, posters, or kiosks in fast-food chain restaurants before making their food purchases [25]. Posting nutrition information on menus and menu boards in restaurants has been recommended as one policy approach to make nutrition information more visible and readily available to customers when purchasing food [10–15, 19]. Reviews examining the effectiveness of menu labelling on consumer purchases in fast-food restaurants have concluded that the association is weak or inconsistent [26–28]; however, given the many influences on food choices, it is not surprising that posting nutrition information at point-of-purchase does not have a dramatic influence on what people order [29, 30]. It is likely that various interventions will need to work interdependently to create food environments that support healthier diets. This study is limited in that it only assessed nutrition information in restaurant locations in 3 regions of Ontario. Although a large number of outlets were visited, the results are not generalizable to the rest of Canada.

RELEVANCE TO PRACTICE

The findings provide evidence to inform decisions related to the provision of nutrition information and menu labelling legislation in restaurants in Ontario as well as other jurisdictions in Canada.

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Conflict of interest: The authors declare that they have no competing interests.

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