

Food Choices in Recreation Facilities: Operators' and Patrons' Perspectives

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ABSTRACT

Purpose: Recreation facilities (RFs) provide physical activity environments; however, unhealthy food choices are abundant there. This needs assessment was conducted to determine patrons' satisfaction with food and purchasing preferences while at RFs, reasons for purchasing certain foods, and inclination for other options. Also assessed were RF operators' receptiveness to and perspectives on the feasibility of providing healthy foods.

Methods: A previously developed and piloted paper-and-pencil survey was administered to a cross-section of 269 adult patrons of local RFs. Seven operators participated in a previously developed researcher-administered survey.

Results: Among patrons, 52.2% were satisfied with RF food choices, although 59.2% and 68.8% reported not purchasing any RF food or beverages from the snack bar or vending machines, respectively. Patrons who were dissatisfied and did not purchase food and beverages noted the abundance of unhealthy choices, poor food quality and variety, and expense as reasons. All operators were interested in and receptive to healthy food options at their RFs, but expressed concerns about poor sales of existing healthier options. All operators indicated the importance of knowing what patrons would purchase.

Conclusions: The RF operators and most patrons were interested in and receptive to healthier food options at RFs. Developing, implementing, and evaluating a pilot RF healthy-food intervention are next steps.

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RÉSUMÉ

Objectif. Les installations de loisirs (IL) sont des environnements propices à l'activité physique; toutefois, l'offre d'aliments malsains y est abondante. Une évaluation des besoins a été réalisée afin de déterminer : le niveau de satisfaction des usagers des IL relativement aux aliments et aux préférences alimentaires; les raisons qui les incitent à acheter certains aliments; et le désir de disposer d'autres options. De plus, le degré de réceptivité des exploitants des IL à offrir des aliments sains de même que la faisabilité d'une telle offre ont été évalués.

Méthodes. Un sondage réalisé selon la méthode papier et crayon avait précédemment été développé et testé. Il a été mené auprès d'un échantillon représentatif de 269 usagers adultes d'IL locales. Par ailleurs, sept exploitants ont répondu à un sondage précédemment développé et administré par des chercheurs.

Résultats. Parmi les usagers, 52,2 % étaient satisfaits des choix d'aliments offerts dans les IL, et 59,2 % et 68,8 % ont rapporté ne pas acheter d'aliments ou de boissons du casse-croûte ou des distributeurs automatiques dans les IL, respectivement. Les usagers qui n'étaient pas satisfaits et qui n'achetaient pas d'aliments ou de boissons ont noté l'abondance de choix malsains, la piètre qualité des aliments, le manque de variété et le coût. Tous les exploitants étaient réceptifs à l'idée d'offrir des aliments santé et souhaitaient en offrir dans leur IL; toutefois, ils ont exprimé des craintes relativement aux faibles ventes des options plus saines actuellement offertes. Tous les exploitants ont mentionné l'importance de savoir ce que les usagers aimeraient acheter.

Conclusions. Les exploitants d'IL et la plupart des usagers avaient un intérêt pour des choix alimentaires plus sains dans les IL et y étaient réceptifs. Les prochaines étapes seront le développement, l'implantation et l'évaluation d'une intervention pilote visant à intégrer des aliments sains dans les IL.

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INTRODUCTION

An epidemic of overweight and obesity is occurring across all age groups (1-3). Researchers and practitioners are working to improve healthy body-weight rates by addressing physical activity and healthy eating from both individual and environmental

perspectives (4). Recreation facilities (RFs) are ideal settings for the pairing and promotion of physical activity with healthy eating. Dobbins and colleagues (5) have suggested that RF policies may be useful tools for promoting healthy environments for

all RF users and spectators. Jackson et al. (6) have argued that RFs can provide the backdrop for effective health promotion strategies. In fact, the 2004 Ontario Chief Medical Officer of Health report (7) encouraged operators of municipally run RFs to create supportive health-enhancing environments for their patrons.

The eating environment influences food choices and behaviours (8). While the connection between RFs and physical activity is straightforward, the opportunity for providing nutritious choices in this setting is often missed: the food in the majority of RF snack bars and vending machines is nutritionally inadequate (9-13). Changes in RF food environments could engender meaningful health-related benefits at the community level, particularly in rural environments where fewer RFs exist than in urban settings (14).

PURPOSE

Before changes to RF food environments are recommended, an understanding of patrons' and operators' perspectives is important. This understanding would help determine patrons' and operators' receptiveness to change.

Gittelsohn and colleagues (15) have encouraged health promoters to use both insiders' and outsiders' perspectives when considering the creation of health promotion interventions. To date, no Canadian research has been done to explore, from both the patrons' (outsiders') and operators' (insiders') perspectives, the potential of altering RFs' food environments. In this needs assessment, we evaluated patrons' purchasing preferences at facilities, reasons for purchasing certain foods, and inclination for other food options. Second, we explored RF operators' receptiveness to and perspectives on the feasibility of providing healthy food choices. We also assessed what operators deemed their most popular food and beverage sales, as well as patrons' purchasing patterns and use of RFs.

The local board of health sanctioned the current study; board members were particularly interested in rural programming. Because of the substantial role rural RFs play in their communities, we agreed that paying particular attention to rural RFs was appropriate. At the request of the urban municipality participating in this study, only the most active urban RF was included.

METHODS

Ethics approval for this study was granted by the University of Western Ontario Office of Research Ethics, the Brescia University College Ethics Department, and the research and advisory committee of the local health unit.

This cross-sectional study involved the use of a self-administered, 16-item, paper-and-pencil patron survey that was previously developed and piloted but not validated (16). The patron survey included five questions inviting answer elaborations (i.e., "If 'no'/'yes,' why?"). The operator survey also had been previously developed and used, and included 23 items that were researcher administered (17).

To reach RF operator participants ("operators"), who would also provide access to patron participants ("patrons"), individual invitations to participate were sent to each rural municipal-

ity's mayor and copied to her or his respective operators. The lead author was invited to attend a county council meeting to recruit operators. Representatives from six of seven possible municipalities also attended and all agreed to participate. We also contacted the local urban municipality's recreation department, and the director of recreation services granted us permission to conduct the study at the largest and busiest RF in the city.

For the operator survey, a description of healthy eating patterns from Health Canada (18) and a description of unhealthy foods from the Ontario Society of Nutrition Professionals in Public Health (OSNPPH) (13) were provided before survey administration. Operators were asked if they understood what was meant by "healthy eating," and all indicated they had a good understanding of this definition by taking into consideration both the Health Canada (18) and OSNPPH (13) explanations. For any question with an open-ended response, member checking (19) was used to ensure the researcher understood the operator's answer and recorded it accurately.

In addition to completing the operator survey, all seven operators granted permission for the recruitment of patrons at their RFs. Twelve research assistants (RAs) received in-person training and procedural instructions for survey administration, and worked in pairs to recruit RF patrons. Following the operators' advice about their busiest days and times, RAs visited each facility for two hours at least twice between October 2007 and February 2008. Research assistants approached an adult (aged 19 or older) at the RF who was there for her or his child's or children's hockey or ice skating practice. If more than one adult was present, only one from each family was invited to complete the four- to six-minute patron survey upon entering the RF. When approaching potential participants, RAs explained the study and provided a letter of information outlining the research. Overall, 269 of 299 (89.9%) patrons agreed to take part. Reasons for not participating included "not interested" and "do not have the time."

Data were analyzed using SPSS version 16.0 (SPSS, Chicago, IL, 2007). Frequencies were assessed. Two researchers coded responses to open-ended questions independently, according to themes that emerged (20).

RESULTS

Patron surveys

The majority of patrons surveyed (n=269) were women aged 36 to 45 (55.8%). Approximately 44% of respondents visited the RF two to three times weekly, and 20.4% visited four to five times weekly (Table 1). Of the patrons who purchased foods from snack bars and from vending machines, 80.5% purchased food or beverages for their children and 44.7% purchased food or beverages for themselves. Table 2 highlights the most common types of foods and beverages purchased, such as sports drinks, french fries, chips, and candy.

Just over 46% of patrons indicated that they purchased only snacks (rather than meals) while at the RF. The top three factors that influenced purchases were convenience, cost, and the availability of healthier options at the RF (Table 3). Over 50%

Table 1

Description of recreation facility patrons (n=269) who responded to the survey

Descriptive item	n	(%)
Sex		
Male	N/A ^a	
Female	N/A ^a	
Age		
19-25	15	(5.6)
26-35	43	(16.0)
36-45	150	(55.8)
46-54	35	(13.0)
≥55	20	(7.4)
Time of day using RF		
Morning (6 am–12 pm)	145	(54.7)
Afternoon (12:01 pm–3 pm)	102	(38.5)
Late afternoon (3:01 pm–5 pm)	77	(29.1)
Evening (5:01 pm–8 pm)	166	(62.6)
Late evening (after 8:01 pm)	48	(18.1)
Frequency of use of RF (weekly)		
0 times	36	(13.4)
1 time	38	(14.1)
2-3 times	117	(43.5)
4-5 times	55	(20.4)
≥6 times	22	(8.2)
Purchase food at the snack bar		
Yes	109	(40.8)
No	158	(59.2)
Purchase food from the vending machine		
Yes	82	(30.8)
No	183	(99.6)
For whom are you purchasing food?^b		
Self	117	(44.7)
Child(ren)	211	(80.5)
Friends	13	(5.0)
Parents	4	(1.5)
Not applicable	29	(11.1)
Other	6	(2.3)

N/A = not available; RF = recreation facility

^a This information was not collected because the surveys used from a previous study did not include this information and had not undergone rigorous validation processes.^b Patrons could give more than one answer.

of respondents were satisfied with RF food choices. In an open-ended question asking for an explanation, patrons who were dissatisfied attributed their dissatisfaction to a lack of healthy (or healthy enough) options, poor food quality and variety, and costliness of foods. The majority (65.5%) of respondents stated they often brought food and beverages from home to the RF (Table 4). Types of foods brought into RFs included healthier foods and beverages, such as water, juice, fruit, and vegetables.

An open-ended question asking for suggestions about food alternatives showed that, overall, patrons wanted healthier choices. The majority (65%) reported that they would be willing to pay \$3 to \$5 for these different options (Table 5).

Table 2

Foods purchased by recreation facility patrons

Type of food	n	(%)
Snack bar foods^a		
Beverages	84	(71.8)
French fries	67	(57.3)
Candy, chocolate, chips	43	(36.8)
Hot menu items	26	(22.2)
Other	12	(10.3)
Vending machine foods^a		
Sports drinks	37	(47.4)
Chips	13	(16.7)
Chocolate or candy	19	(24.4)
Water	10	(12.8)
Pop	27	(34.6)
Juice	6	(7.7)
Other	6	(7.7)

^a Patrons could give more than one answer.**Table 3**

Patrons' opinions of foods and beverages available at recreation facilities

Responses	n	(%)
What influences your purchases at the snack bar or vending machine (n=250)?^a		
Cost of item	98	(39.2)
Portion size	21	(8.4)
Convenience	119	(47.6)
Freshness	30	(12.0)
Healthy choices	81	(32.4)
Hot options	43	(17.2)
Cold options	18	(7.2)
Food that smells good	28	(11.2)
Other	36	(14.4)
What meals, if any, do you eat at the RF (n=254)?		
Not applicable	108	(42.5)
Breakfast	2	(0.8)
Lunch	19	(7.5)
Supper	8	(3.1)
Snacks	117	(46.1)
Are you satisfied with the food choices available at the RF (n=251)?		
Yes	131	(52.2)
No	120	(47.8)
Why are you dissatisfied with the food choices at the RF (n=95)?^a		
Too expensive	5	(5.3)
Unhealthy	70	(73.7)
No variety/poor quality	13	(13.7)
Other	7	(7.4)

RF = recreation facility

^a Patrons could give more than one answer.

Patrons who did not purchase anything from the vending machines cited several reasons, including a lack of healthy options at the RF and bringing their own foods from home (Tables 3 and 4). Table 6 shows the types of foods these patrons brought from home.

Table 4

Patrons' reasons for not purchasing foods or beverages from the snack bar or vending machine

Reasons	n	(%)
No snack bar purchases^a		
Bring food from home	37	(29.6)
Lack of healthy food choices	43	(34.4)
Too expensive	31	(24.8)
Timing inconvenience (e.g., snack bar closed)	16	(12.8)
Poor quality and variety of foods offered	10	(8)
Other	18	(14.4)
No vending machine purchases^a		
No healthy choices	28	(21.1)
Too expensive	44	(33.1)
Bring own from home	40	(30.1)
Poor quality	8	(6.0)
Go to snack bar instead	9	(6.8)
Other	31	(23.3)

^a Patrons could give more than one answer.

Operator surveys

Operators reported that slushies, soft drinks, sports drinks, french fries, hot dogs and hamburgers, and candy had the best sales at snack bars and vending machines. Four of seven operators revealed their RF was bound by food service contracts that restricted the brands of foods and beverages they were allowed to provide for patrons.

When asked about current "healthy food and beverage" choices, all operators listed granola/cereal bars, milk (chocolate and white), and fruit juice. Of these, chocolate milk and fruit juice generated the most sales.

While six operators indicated they had offered healthy food choices in past years and continued to do so periodically, five reported that poor sales of healthier foods indicated patrons did not value these options. These healthier food options included sandwiches, wraps, soups, yogurt, fresh fruits and vegetables, and muffins. When asked about their reasons for discontinuing healthy choices, six operators cited poor sales and an associated loss of revenue. All operators said they would be eager to offer healthier food choices if they understood better what their patrons would actually buy. All seven operators mentioned that they had consistently been operating in a deficit situation over at least the past decade of operation; consequently, they were cautious about providing foods and beverages that could contribute to the ongoing loss of revenue.

DISCUSSION

Discrepancy of perception

Operators and patrons were interested in and receptive to healthier food options at RFs. However, a discrepancy of perception seemed to exist; operators felt they did offer some healthy alternatives, whereas patrons' main expressed concern was a lack of healthy-enough options. The extent of healthfulness and the

Table 5

Patrons' suggestions for alternatives to existing recreation facility food choices

Suggestion	n	(%)
Type of food (n=135)^a		
Fruits and vegetables	58	(43.0)
Water and juice	18	(13.3)
Crackers and cheese, granola bars	40	(29.6)
Hot foods (chicken nuggets, Pogo sticks, hamburgers)	14	(10.4)
Sandwiches, wraps, salads	47	(39.8)
"Healthier" options	29	(21.5)
Breakfast items	17	(12.6)
Other	18	(13.3)
How much would you be willing to pay for these alternative food choices (n=217)?		
≤ \$2	40	(18.4)
\$3-\$5	141	(65.0)
\$6-\$10	31	(14.3)
\$11-20	3	(1.4)
>\$20	1	(0.5)

^a Patrons could give more than one answer.

Table 6

Types of food brought to the recreation facility from home

Type of food (n=179) ^a	n	(%)
Hot beverages	27	(16.3)
Cold beverages	134	(80.7)
Fruits and vegetables	68	(41.0)
Granola and/or power bars	51	(30.7)
Chips, cookies, candy	11	(6.6)
Sandwiches, wraps, bagels	14	(8.4)
Cheese, crackers, trail mix	30	(18.2)
Other	32	(19.3)

^a Patrons could give more than one answer.

specific type of "healthy" food may have been more at issue than whether food falls into a dichotomous category of "healthy" or "unhealthy." Oakes and Slotterback (21) examined the extent to which adult men's and women's perceptions of popular food names complemented the perceptions of descriptions of the same foods' nutrients. The authors found that people have beliefs about food names that do not always match the descriptions of foods' nutritional content, and that names of some types of foods were often comprehended to be healthier than their related descriptions (e.g., fruits) (21).

In another study, Harrison and Jackson (22) explored the symbolic connotations that youth associate with food. In this study, participants organized foods into healthy and unhealthy categories, as well as into an "in-between" group that included nutritionally augmented foods (e.g., foods labelled "reduced salt" or "low fat"). Participants thought these foods in their original form were "bad," but when the "bad" component (e.g., salt,

fat) was removed or reduced, this did not transform the food into a healthy option (22). The participants indicated that foods have multiple meanings for youth (22), which create further complexity when one is trying to define clearly what “healthy” means in relation to food and beverages in the RF setting. Before additional healthier choices are offered, patrons therefore should be exposed to an education and awareness campaign that defines “healthy” in relation to foods and beverages typically found in RFs.

The eating environment

In the current study, operators were eager to know which healthy items would sell, which indicates a willingness to meet patrons’ needs for healthier foods. Operators’ concerns about finding out what will sell are important, given that Crisp and Swerissen (23) found healthy catering was “achieved far less often and... more difficult to implement” (p. 150) in recreational settings.

Interestingly, this challenge has not deterred the municipality of Gatineau, Quebec, whose city council voted recently to eliminate unhealthy foods from hockey arena canteens over the next three years (24). For example, items such as soft drinks and candy bars will be banned altogether in favour of healthier choices, and, like many of the operators in the current study, the arena operators in Gatineau must work within their current beverage provider contract (e.g., to provide water and sports drinks instead of soft drinks).

Similarly, in Hamilton, Ontario, the Community Services Department proposed a resolution, which was passed. This resolution recommended increasing the percentage of healthy foods in RF environments from 25% to 50% of total products available, as well as introducing the Making the Healthy Choice the Easy Choice campaign. The campaign improves the accessibility of healthy foods and beverages in all food service configurations (snack bars, vending machines) of municipally run facilities, and also concerns the related marketing of these products (25).

Unfortunately, the literature related to healthy food and beverage choices in recreational settings is scarce. Food intake and physical activity have been identified as two of the most likely intermediaries of the environmental stimulus on body weight (26). However, little evidence isolates the influence of the *food* environment in the recreation setting. What *is* known is that the eating environment has a strong influence on individual food choice (18). Research by Irwin and colleagues (27) has indicated that parents’ busy lifestyles lead them to feel they must choose between taking their children to recreation opportunities or preparing a healthy meal. Perhaps healthy meal alternatives at RFs could enable families to engage in physical activity *and* healthier eating. At the same time, knowing whether healthier options will be chosen when high-fat items are still competing for patrons’ taste buds and dollars is difficult, given that taste and cost influence food choices (28).

Funding and pricing strategies

French et al. (28) studied pricing strategies to promote healthy options in vending machines and high school cafeterias. To encour-

age healthier buying while subsidizing the higher costs of these choices, French (29) suggested increasing the prices of unhealthy foods while simultaneously decreasing the costs of healthier choices. Given that the majority of patrons in the current study reported they would be willing to pay only \$3 to \$5 for healthy options, this may be one strategy for RF operators to consider.

All RF operators in the current study were receptive to improving food options in their RFs. This finding is promising, given the 2009 federal budget (30), which will provide over \$500 million over two years to support construction of new recreation facilities and upgrades to existing facilities across Canada. Revamping RF kitchen facilities to provide staff with the proper equipment would make healthier choices more readily available (e.g., through the presence of stove-tops instead of grills and deep fryers). The federal budget document (30) indicates this economic initiative will “contribute to a higher quality of community recreational facilities and promote national spirit” (p. 146); this is a notable goal that could foster the marriage of healthy eating and physical activity in the RF environment.

Study limitations

Although its implications are valuable, the current study has limitations. First, while the surveys had been used previously, were deemed user-friendly, and were appropriate for the current study (i.e., they had good face validity), they had not undergone rigorous validation processes (i.e., had their psychometric properties assessed in a validation study). Had the tools been validated more rigorously, we could have stronger confidence in the study findings.

In addition, because of local board of health recommendations, rural RFs were over sampled as we worked specifically with them. Eight RFs are in the rural jurisdiction of the local health unit, and, therefore, 75% of rural RFs were included in the current study. Eleven city-run RFs are in the urban municipality under the health unit’s jurisdiction. Only the busiest RF was included in this study. For future studies, analyzing results for each RF would be a way to learn about possible differences among all RFs. Conducting this study with more participants from a wider geographical area would enhance external validity.

Future directions

The current study makes a meaningful contribution to the limited body of RF research. This is the first study in which an attempt has been made to gain an understanding of both operators’ and patrons’ perspectives of the potential for altering RF food environments. The study is timely and relevant to public health nutrition practice because the 2008 Ontario public health standards (31) highlight the need for local boards of health to “work with municipalities to support healthy public policies and the creation or enhancement of supportive environments in recreational settings and the built environment with respect to healthy eating and healthy weights” (p. 20).

This study demonstrates patrons’ purchasing preferences in the RF environment and operators’ inclination to provide healthy foods therein. The challenge identified is RF opera-

tors' ability to provide healthier foods that will meet patrons' demands, while generating sufficient revenue to maintain a healthier menu.

RELEVANCE TO PRACTICE

Building upon the results of this study, we plan to develop, implement, and evaluate a pilot RF healthy-food intervention with specific parameters for healthy foods and beverages. The pilot intervention will involve the use of insights from the current study, and commence with an education and awareness campaign describing healthy foods in the RF environment. Additionally, the pilot intervention will incorporate patrons' specific healthier food preferences with agreed-upon marketing strategies to ensure operators earn revenue while promoting healthy food options. The RF environment can influence these choices and provide a backdrop for healthy nutrition in concert with physical activity; to ensure this goal, registered dietitians (RDs) must be part of the team working to improve RF food environments and to find additional ways to encourage operators to provide those healthier choices and patrons to purchase them. Furthermore, RDs need to develop and come to a consensus on a consistent definition of what constitutes "healthy" food and beverage choices. Such a consensus will facilitate healthy food and beverage options in RFs and other public environments.

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