

The nutrient quality and labelling of ready-to-eat snack foods with health and/or nutrition claims

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Background: Nutrition claims on food labels are used to attract attention to products. Inaccurate claims on ready-to-eat (RTE) snack food products may mislead consumers into consuming a higher volume of a seemingly 'healthy' product.

Objectives: A study was undertaken to determine the following surrounding the packaging of RTE snack food products: (i) compliance of health and or nutrient claims; (ii) average nutrient content per snack category; (iii) accuracy of the total energy content; (iv) eligibility to make claims once the R429 legislation is implemented.

Outcome measures: Nutrient content per 100 g and serving size was analysed. Claims related to nutrient content were audited.

Design: An analysis was undertaken of the labels of 93 South African-produced RTE snack food products from 10 categories, displaying health and or nutrition claims.

Results: Ninety-one products displayed nutrient content claims. Twenty-three (25.3%) nutrient content claims were non-compliant with the R146 legislation. Twenty-one (22.6%) displayed negative claims, three (14.3%) were ineligible. Eighteen products (19.4%) displayed endorsement claims, four (4.4%) were eligible. Sixty-four products (68.8%) displayed a higher total energy content when applying the conversion factors to the displayed macronutrient values. Only 22 (23.7%) products would be eligible to make health and/or nutrition claims once the R429 legislation is promulgated.

Conclusion: A higher proportion of eligible claims were found. More than 70% of food manufacturers will need to make changes to the nutrient content or labels once the R429 legislation is implemented. A two-pronged approach of manufacturer compliance and consumer education may improve food choices and reduce the incidence of obesity and NCDs.

Keywords health claims, labelling, nutrition, nutrition claims, ready-to-eat snack foods

Introduction

The prevalence of obesity amongst adults in South Africa is high. According to the 2016 Demographic and Health Survey, 35.9% of women and 7.9% of men between the ages of 15 and 49 years respectively were obese.¹ Obesity is a major risk factor for the development of non-communicable diseases (NCDs).² In 2016, NCDs contributed to 51.0% of deaths amongst South Africans.³

The term 'obesogenic' describes environmental factors that promote obesity; this includes convenient access to highly processed foods and larger serving sizes.⁴ The consumption of ready-to-eat (RTE) snack foods has increased, along with the rise of urbanisation in South Africa.⁵ Consumers may assume that foods displaying health and/or nutrition claims are healthier options and consume a higher volume, which may lead to a surplus energy intake and weight gain. Negative claims, which highlight the presence or absence of nutrients that are usually present or absent respectively from similar foodstuffs in the same category or class, may also influence consumer purchasing decisions on RTE snack foods.⁶

Consumers may therefore selectively purchase products with health and/or nutrient content claims in an effort to lead healthier lifestyles. This highlights potential influence of nutrient marketing on purchasing and consumption choices.⁷

In South Africa, food labelling is controlled by the Regulations Relating to the Labelling and Advertising of Foodstuffs, No.

R146 of the Foodstuffs, Cosmetics and Disinfectants Act, 1972. To enforce mandatory nutrition labelling on all South African packaged food products, the R146 legislation has been revised into the R429 regulations, which place a larger focus on regulating health claims and stipulate mandatory nutrition labelling of packaged food. Other countries that stipulate mandatory nutrition labelling include Australia, New Zealand, the United Kingdom and United States of America, and place a greater focus on regulating claims relating to health, weight loss and reduction of disease.⁸

To reduce the occurrence of inappropriate health claims, the R429 proposed a nutrient profiling model (NPM) to enable manufacturers to determine which claims are appropriate for labels.⁷ This should improve the delivery of accurate nutrition information to consumers. It is anticipated that the R429 legislation will result in manufacturers either removing misleading claims from labels or improving nutritional quality to fit the new criteria. The food industry in South Africa has a responsibility to consumers to share accurate nutrition information. It is therefore imperative that the regulations for food labelling be observed to prevent confusion among consumers.

A study that investigated the compliance of South African RTE snack food manufacturers with the current legislation, as well as the potential impact of the impending R429 legislation, was important to determine the trends in health and nutrition claims and whether accurate information was being presented to consumers.

Methods

Sample selection

A convenient sampling method was used whereby all South African produced RTE snack foods displaying health and or nutrition claims were purchased from six large pharmacies and grocery stores in East London, South Africa.

Imported RTE snack foods without health and/or nutrition claims and products sold in rural areas were excluded.

Data collection

Data collection took place between 2016 and 2017. Information on the front, back and side panels was included. Products were separated into 10 categories based on product name and/or composition. These 10 categories included: oat, corn or rice cakes; crisps or chips; pretzels and crackers; protein snack bars; energy or high-performance bars; trail mix; fruit bars or snacks; chocolates; biscuits; and popcorn.

Assessment of nutrition information

The nutrient content per 100 g and per serving was extracted from the nutrition information table and the mean nutrient content calculated for each category. The following nutrients were analysed: energy, protein, carbohydrate, sugar, mono- and disaccharides, dietary fibre, total fat, saturated fatty acids (SFA), polyunsaturated fatty acids, monounsaturated fatty acids, cholesterol, sodium, vitamins and minerals. The total energy content was assessed for accuracy by applying the R146 energy conversion factors to each of the macronutrient values.

Assessment of nutrition claims

Nutrition claims were categorised into nutrient content claims, comparative claims, negative claims and endorsements to determine prevalence, and audited against criteria to determine eligibility.

The nutrient profile score of each RTE snack food product was calculated by inserting the energy, total sugar, SFA, sodium, percentage of concentrated fruit, vegetables and legumes, percentage fruit, vegetables, nuts and legumes, and protein content into the R429 NPM. The nutrient profile score was used to determine whether the RTE snack food product would qualify to display a health or nutrition claim when the R429 is promulgated.

Data analysis

The information collected from the nutrition labels was double entered into a Microsoft® Excel® 2013 spreadsheet (Microsoft Corp, Redmond, WA, USA) to ensure that the information had been accurately captured. The data were imported into the Statistical Package for the Social Sciences (SPSS version 22) software (IBM Corp, Armonk, NY, USA). The following tests were used: chi-square test of independence, Fisher's exact, binomial, one-sample *t*-test, chi-square goodness of fit and Kruskal–Wallis to determine whether there were any significant associations between variables. A level of $p < 0.05$ was considered significant.

Ethical clearance

Exemption from ethical clearance was obtained from the University of KwaZulu-Natal Humanities and Social Sciences Research Ethics Committee (reference number: HSS/0218/016M).

Results

A total of 93 RTE snack food products were included and distributed across the 10 categories as follows: trail mix ($n = 29$, 21.0%); oat, corn or rice cakes ($n = 22$, 15.9%); protein snack bars ($n = 21$, 15.2%); energy or high-performance bars ($n = 14$, 10.1%); crisps or chips ($n = 12$, 8.7%); fruit bars or snacks ($n = 20$, 14.5%); pretzels and crackers ($n = 6$, 4.3%); biscuits ($n = 5$, 3.6%); chocolates ($n = 3$, 2.2%); and popcorn ($n = 2$, 1.4%).

Compliance of nutrient content and comparison, negative and endorsement claims

As displayed in Table 1, 134 health and nutrition claims were found on the 93 RTE snack food products as several products displayed various types of claims. The most commonly displayed claims were nutrient content claims ($n = 91$, 67.9%), followed by negative claims ($n = 21$, 15.7%), endorsement claims ($n = 18$, 13.4%) and comparative claims ($n = 4$, 2.9%).

Nutrition content claims

The categories of RTE snack foods most likely to display specific nutrient content claims were investigated (Table 2). High in fibre and source of fibre content were the most prevalent claims ($n = 55$, 33.7%), amongst the total nutrient content claims ($n = 163$) followed by energy ($n = 29$, 17.8%), protein ($n = 19$, 11.7%) and sodium ($n = 14$, 8.6%). Source of fibre claims ($n = 27$, 16.6%) were significantly more likely in the trail mix category ($n = 10$, 6.1%), fruit bars or snacks ($n = 6$, 3.7%), and biscuits ($n = 3$, 1.8%) (Fisher's exact = 31.69, $p < 0.006$). Fibre claims were significantly more likely to be absent on the protein snack bars ($n = 10$, 6.1%), energy or high-performance bars ($n = 8$, 4.9%) and chocolates ($n = 2$, 1.2%) categories (Fisher's exact = 31.69, $p < 0.006$).

Trail mix items displayed most of the 'high in' energy claims ($n = 7$, 4.3%). The biscuits category was found to contain a significant number of claims for both 'high in' ($n = 3$, 1.8%) and 'low in' energy ($n = 2$, 1.2%) (Fisher's exact = 47.74, $p < 0.000$). The 'source of' protein claim ($n = 8$, 4.9%) was more likely to be displayed on RTE snack foods in the protein snack bars (1.8%, $n = 3$), oat, corn or rice cakes ($n = 3$, 1.8%) and energy or high-performance bar ($n = 1$, 0.6%) categories (Fisher's exact = 40.51, $p < 0.05$). The claim 'very low in sodium' was found to be higher in the trail mix category ($n = 4$, 2.5%) (Fisher's exact = 26.18, $p < 0.013$).

A total of 139 (85.3%) out of 163 nutrient content claims were compliant with the R146 legislation. The highest prevalence of non-compliant claims was for 'low in energy' content ($n = 11$, 6.7%), particularly in the crisps or chips category ($n = 4$, 2.5%) (Table 3). Non-compliant claims were found for fibre ($n = 2$, 1.2%) and mono- and disaccharides ($n = 2$, 1.2%), both mostly found displayed on items in the oat, corn or rice cakes category.

Of the six 'source of' vitamins and minerals claims, three were invalid as the products contained insufficient vitamins and minerals to make this claim. Of the 14 'low in' and 'very low in' sodium claims, one 'very low in' sodium claim in the trail mix category was found to be non-compliant as it contained 83 mg of sodium per 100 g, which is more than double the maximum cut-off of 40 mg sodium per 100 g according to the R146 legislation.

Comparison claims

As per Table 1, comparison claims were found on four RTE snack foods (2.9%), two from the crisps or chips category and two from the energy or high-performance bars categories. All were compliant with the R146 legislation. Items from the crisps or chips category claiming to contain '50% less fat' contained 54.0% to

Table 1: Frequency of health and/or nutrition claims across RTE snack food categories. Values which are of statistical significance are in bold.

Category	Trail mix		Oat, corn or rice cakes		Protein snack bars		Energy or high-performance bars		Crisps or chips		Fruit bars or snacks		Pretzels and crackers		Biscuits		Chocolates		Popcorn		Total claims	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Nutrient content claims	20	22.0	15	16.5	13	14.3	10	11.0	7	7.7	12	13.2	6	6.6	5	5.5	2	2.2	1	1.1	91	65.9
Negative claims	9	42.9	2	9.5	2	9.5	0	0.0	3	14.3	3	14.3	0	0.0	0	0.0	1	4.8	1	4.8	21	15.2
Endorsement claims	0	0.0	5	27.8	6	33.3	2	11.1	0	0.0	5	27.8	0	0.0	0	0.0	0	0.0	0	0.0	18	13.0
Comparative claims	0	0.0	0	0.0	0	0.0	2	50.0	2	50.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	4	2.9
Total claims	29	21.0	22	15.9	21	15.2	14	10.1	12	8.7	20	14.5	6	4.3	5	3.6	3	2.2	2	1.4	134	100

58.4% less total fat and 67.8% to 89.8% SFA when compared with regular potato chips from the same brand. Interestingly, both products contained 93.4% to 94.3% more sugar, and 28.6% to 34.8% more carbohydrates than the comparison product.

Items in the energy or high-performance bars category that claimed to contain '83% less total sugar' contained 82.6% less sugar and, interestingly, 25% to 27.3% less fibre when compared with an energy bar from the same brand. One of these bars contained 43.2% less total fat and SFA.

Negative claims

Twenty one out of 93 RTE snack foods (22.6%) displayed negative claims (Table 1). The prevalence of negative claims in the trail mix ($n = 9$, 45%), popcorn ($n = 1$, 100%) and crisps or chips ($n = 3$, 43%) categories were significantly higher than other categories (Fisher's exact = 17.76, $p < 0.05$). Three of the 21 negative claims (14.3%) in the chocolates ($n = 1$, 33.3%) and protein snack bars ($n = 2$, 66.7%) categories were non-compliant due to incorrect wording as specified in the R146 legislation.

Endorsements

Eighteen out of 93 (19.4%) RTE snack foods displayed endorsements (Table 1). These included logos describing added nutraceutical ingredients, weight-loss properties and Halaal status. Endorsements were significantly more likely in the oat, corn or rice cakes category ($n = 5$, 27.8%), energy or high-performance bars ($n = 2$, 11.1%), fruit bars or snacks ($n = 5$, 27.8%) and protein snack bars category ($n = 6$, 33.3%) (Fisher's exact = 19.65, $p < 0.05$).

Mean nutrient content per ready-to-eat snack food category

The average nutrient content per serving was calculated for each of the RTE snack food product categories (Table 4) to determine which categories were healthier snack food choices. Items found to be significantly higher and lower in each particular nutrient were indicated with the symbols '#' and '*' respectively.

The pretzels and crackers; oat, corn or rice cakes; and fruit bars or snacks contained a lower average energy content while items in the protein snack bars contained more energy, total fat and SFA than the mean. Items in the energy or high-performance bars and trail mix categories were higher in energy and carbohydrates. The pretzels and crackers, oat, corn or rice cakes and fruit bars or snacks contained less total and SFA than the mean across all categories. The crisps or chips category also contained less SFA.

The pretzels and crackers, oat, corn or rice cakes, fruit bars or snacks and biscuits contained less protein than the mean while the protein snack bars contained more. Items in the trail mix contained more sugar than the average across all categories. The pretzels and crackers and oat, corn or rice cakes contained less sugar and less fibre. The trail mix and fruit bars or snack contained lower sodium levels than the mean while the crisps or chips and protein snack bars contained more.

Accuracy of reported total energy content

When compared with the energy value calculated using the macronutrient conversion factors specified in the R146 legislation, 69.6% ($n = 64$) of the RTE snack food products contained more energy than displayed as the total energy content. A chi-square goodness of fit test demonstrated that snack foods in

Table 3: Frequency of non-compliant nutrient content claims across RTE snack food product categories

Factor	Oat, corn or rice cakes (n = 9)		Chips or crisps (n = 4)		Pretzels and crackers (n = 2)		Protein snack bars (n = 0)		Energy or high-performance bars (n = 2)		Trail mix (n = 2)		Fruit bars or snacks (n = 0)		Chocolates (n = 0)		Biscuits (n = 2)		Popcorn (n = 0)		Total (n = 21)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Energy	2	18.2	4	36.4	2	18.2	0	–	0	–	1	9.1	0	–	0	–	2	18.2	0	–	11	100
Mono- and disaccharide	2	100	0	–	0	–	0	–	0	–	0	–	0	–	0	–	0	–	0	–	2	100
Total fat	0	–	0	–	0	–	0	–	1	100	0	–	0	–	0	–	0	–	0	–	1	100
Dietary fibre (AOAC)	2	100	0	–	0	–	0	–	0	–	0	–	0	–	0	–	0	–	0	–	2	100
Sodium	0	–	0	–	0	–	0	–	0	–	1	–	0	–	0	–	0	–	0	–	1	100
Cholesterol	1	100	0	–	0	–	0	–	0	–	0	–	0	–	0	–	0	–	0	–	1	100
Vitamins	0	–	0	–	0	–	0	–	0	–	0	–	0	–	0	–	0	–	0	–	0	100
Minerals	0	–	0	–	0	–	0	–	0	–	0	–	0	–	0	–	0	–	0	–	0	100
Vitamins and minerals	2	66.7	0	–	0	–	0	–	1	33.3	0	–	0	–	0	–	0	–	0	–	3	100

Table 4: Mean nutrient content per serving across RTE snack food product categories. Values which are of statistical significance are in bold.

Factor	Mean (SD, range)	Oat, corn or rice cakes	Crisps or chips	Pretzels and crackers	Protein snack bars	Energy or high-performance bars	Trail mix	Fruit bars or snacks	Chocolates	Biscuits	Popcorn
Serving size (g)	30.6 ± 12.8; 18.8–44.8	14.8	24.0	18.0	44.8	43.6	40.6	27.7	50.0	22.8	20.0
Energy (kJ)	487.6 ± 250.7; 0–1075.8	248.1*	448.2	341.8*	697.1#	731.0#	642.3#	311.3*	572.5	443.2	405.0
Carbohydrate (g)	14.7 ± 7.8; 0–30.8	10.3	12.9	11.1	14.5	23.2#	20.1#	11.8	2.0	15.6	8.5
Total fat (g)	4.5 ± 3.5; 0–16.5	1.4*	4.5	3.3*	5.5	6.0	6.8	2.0*	12.5	4.1	5.3
Saturated fat (g)	1.9 ± 1.9; 0–10.0	0.7*	1.0*	0.7*	4.1	2.9#	1.9	0.5*	8.0	2.2	0.6
Protein (g)	3.8 ± 4.5; 0–20.0	1.1*	2.6	2.0*	11.1#	5.6	3.6	1.5*	2.5	1.7*	2.5
Sugar (g)	8.0 ± 6.8; 0–28.0	0.8*	4.5	0.8*	9.7	9.5	17.1#	10.7	2.0	5.8*	0.0
Dietary fibre (g)	2.1 ± 1.7; 0–7.8	0.5*	2.0	1.4*	2.1	2.3	3.5#	2.1	5.0	0.9*	2.6
Sodium (mg)	69.2 ± 78.9; 0–345.2	54.4	163.2#	114.7	125.0#	83.4	16.8*	40.1*	16.5	69.8	141.0

*indicates values which are significantly lower than the mean nutritional content.

#indicates values which are significantly higher than the mean nutritional content.

the oat, corn or rice cakes ($\chi^2 = 2, p < 0.022$), protein snack bars ($\chi^2 = 2, p < 0.050$), trail mix ($\chi^2 = 2, p < 0.004$), energy or high-performance bars ($\chi^2 = 2, p < 0.050$) and fruit bars or snacks ($\chi^2 = 11, p < 0.000$) categories were significantly more likely to have a higher calculated energy content than what was reported.

Eligibility of claims using the proposed R429 nutrient profiling model

According to the R429 NPM, foods in category B (which includes RTE snack foods) require a nutrient profile score of not more than 4 to be eligible to make a nutrient or health claim. When the nutrient profile score of each RTE snack food was analysed to determine eligibility to make a health and/or nutrition claim, 67 (72.0%) products among 8 of the 10 categories (indicated with * in Table 5) would be unable to make health and/or nutrient claims on implementation of the R429 ($\chi^2 = 2$) = 67.670, $p < 0.05$).

Accuracy of reported total energy content

When compared with the energy value calculated using the macronutrient conversion factors specified in the R146 legislation, 69.6% ($n = 64$) of the RTE snack food products contained more energy than displayed as the total energy content. A chi-square goodness of fit test demonstrated that snack foods in the oat, corn or rice cakes ($\chi^2 = 2, p < 0.022$), protein snack bars ($\chi^2 = 2, p < 0.050$), trail mix ($\chi^2 = 2, p < 0.004$), energy or high-performance bars ($\chi^2 = 2, p < 0.050$) and fruit bars or snacks ($\chi^2 = 11, p < 0.000$) categories were significantly more likely to have a higher calculated energy content than what was reported.

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Discussion

Frequency and compliance of health and or nutrition claims

Nutrient content claims (65.9%) were the most common type of claim, most of which related to fibre content (33.7%). The occurrence of nutrient content claims was lower than in the North American survey, which investigated 56 900 packaged foods,

27 881 (48.1%) of which used nutrition marketing where 21 105 (75.7%) products displayed nutrient content claims of which most related to calcium and fat content.⁹ A Brazilian study on packaged foods ($n = 535$) targeted at children found that 50.5% ($n = 270$) displayed nutrient content claims, most of which were 'high in' and 'source of' vitamins and minerals.⁸ The R429 legislation places a larger focus on nutrient content claims, which may improve regulation of this type of claim as it is the most prevalent health or nutrition claim.

A South African study found that 67% of consumers trust the information and nutrition claims displayed on food products and may even select products on this basis.¹⁰ Only 85.3% of the nutrient content claims, however, were compliant with the South African R146 legislation. The highest prevalence of non-compliant claims was for 'low in energy' content (6.7%), particularly in the crisps or chips category (2.5%). When compared with the energy value calculated using the macronutrient conversion factors specified in the R146 legislation, 69.6% of the RTE snack foods, particularly chocolates, pretzels and crackers and chips or crisps, contained a higher energy content than displayed as the total energy content. Products in these categories may therefore contain more energy than displayed on the label, which may result in overconsumption and an excessive energy intake, potentially contributing to the obesity crisis in South Africa. This suggests that consumers wanting to restrict energy intake may select products displaying 'low fat', 'fat free' and 'low in energy' claims.

Also potentially contributing to the obesity crisis are foods labelled 'low in fat', as consumers may perceive foods with low fat claims as lower in total energy than those without. A North American study found people who were given granola labelled as low fat consumed 50.1% (351.1 kJ) more granola than the same granola labelled as regular.¹¹ The perception that foods with 'low fat' or 'fat free' claims contain less kilojoules may lead to an unintentional excessive intake of these foods, which could result in an excessive energy intake. Products in the crisps and chips category displaying comparison claims of being 50% lower in fat also contained 93.4% more sugar and 34.8% more carbohydrates than the comparison product.

The display of a nutrient content claim may not indicate that a food product has a superior overall nutrition content.¹ Those RTE snack foods claiming less sugar tended to have a lower fibre content. The North American survey found that 59% of packaged foods displaying nutrition marketing ($n = 33\ 343$) contained high levels of greater than 20% of the percentage daily value of SFA of sodium and or sugar.⁹ The Brazilian study

Table 5: Mean nutrient profile score across categories of RTE snack food products

Food category	n (89)	Mean nutrient profile score	SD	Minimum	Maximum
Biscuits	5*	18.80	3.899	16	24
Protein snack bars	11*	15.36	2.335	12	18
Crisps or chips	7*	14.43	4.117	10	20
Energy or high-performance bars	12*	10.83	8.321	-1	22
Pretzels and crackers	6*	10.17	2.137	7	12
Popcorn	1	10.00	-	10	10
Chocolates	2	8.00	0.000	8	8
Oat, corn or rice cakes	13*	6.77	10.584	-6	23
Trail mix	20*	6.00	7.841	-10	19
Fruit bars or snacks	12*	5.25	4.883	-1	15

*indicates values which are significantly lower than the mean nutritional content
#indicates values which are significantly higher than the mean nutritional content.

concluded that items in the sauce and ready meals category with nutrient content claims had a higher energy, carbohydrate, sodium, total fat and SFA content than those without claims,¹¹ suggesting that nutrient content claims may mask a less desirable overall nutrient profile.

Average nutrient content across RTE snack food product categories

For consumers wanting to restrict energy, fat particularly SFA, and sugar, the pretzels and crackers and oat, corn and rice cakes and fruit bars appeared to be the most suitable options. The other categories were higher in energy, carbohydrates and sugar despite displaying nutrient content claims to attract consumer attention and show that these were better or healthier options. It is therefore important for consumers to look at the overall nutrient content and not the presence or absence of one single nutrient.

Potential implications of R429 labelling legislation

The current criteria permitting claims to be displayed on South African RTE snack foods is lenient as demonstrated by the high incidence of claims (72%) that will become ineligible on the implementation of the R429 NPM. Once implemented, manufacturers will be required to either remove current claims from labels or improve nutritional content to be in line with that of the new legislation and international labelling regulations, which has the potential to protect consumers from being misled.

Conclusion

Health and nutrition claims, particularly nutrient content claims, are commonly displayed on South African produced RTE snack food labels. Although many were compliant with the current legislation, more than 70% of these food manufacturers will need to make changes to the nutrient content or nutrition labels of RTE food products displaying health and or nutrition claims once the R429 legislation has been promulgated. The R146 legislation was implemented to regulate nutrition labelling in South Africa; however, it contains an evident lack of guidance and control of health and nutrition claims.¹² The revised R429 legislation, which is in line with international food- labelling policies, in conjunction with the new NPM, may improve the accuracy of RTE snack foods labels. A two-pronged approach of ensuring food manufacturer compliance and strengthening consumer label education may be necessary in improving food choices and in turn reduce the incidence of obesity and NCDs.

The implementation of stricter nutrition labelling in South Africa may better educate South African consumers and therefore positively influence purchasing and consumption patterns; however, it is important that legal consequences for inaccurate labels in breach of the Consumer Protection Act are implemented from a governmental level.

Recommendations

The implementation of the R429 legislation will see the requirement for mandatory nutrition labelling and the use of an NPM

for the validation of health and nutrition claims. Food manufacturers should use this opportunity to provide transparent, honest labels to enhance consumer health. Practical education by dietitians and nutritionists regarding the evaluation of food labels may further aid consumer food choices. For the purpose of this study RTE snack foods were collected only from stores in urban areas; however, future research should explore RTE snack foods available in rural areas with limited access to large grocery stores, where the obesity and NCD prevalence is increasing rapidly. It may be useful, in future studies, to investigate the accuracy of the label information of imported RTE snack foods with health and nutrition claims.

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