

**An Investigation of the Compliance of Health
Claims made on Green/Herbal Tea Packaging
Found in Ethnic Shops in North Dublin.**

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List of Abbreviations

FSAI - Food Safety Authority of Ireland

PAT - Product Audit Tool

HSE - Health Service Executive

EFSA - European Food Safety Authority

EHO - Environmental Health Officer

EHS - Environmental Health Service

WHO - World Health Organisation

EFSA - European Food Safety Authority

EU - European Union

RASFF – Rapid Alert System for Food and Feed

FPN – Fixed Penalty Notice

Abstract

An Investigation of the Compliance of Health Claims made on Green/Herbal Tea Packaging Found in Ethnic Shops in North Dublin was undertaken.

The European Commission defines health claims as “any statement about the relationship between food and health” (European Commission, 2020). An example of a ‘general health claim’ is “Good for your skin”. In order, for this health claim to be compliant, it should then follow a statement such as “Iodine contributes to the maintenance of normal skin” which can be found in EU Register for nutrition and health claims (FSAI, 2014). Herbal teas are commonly mistaken as tea. Teas are originated from the *Camellia sinensis* bush. However, herbal tea ingredients are a combination of fruits, flowers, nuts, seeds and leaves (Ravikumar Chandini, 2014).

The principal aim of this project is to quantify the compliance of health claims marketed on the packaging of green/herbal teas under the governing EU Regulations. Supplementary to the principal aim, is to gain an understanding of what influences a consumer final purchasing decision when buying green/herbal tea. This research was achieved by carrying out primary and secondary forms of research. A Product Audit Tool was created to analyse the packaging of green/herbal tea labels and to determine whether they are compliant or non-compliant with Regulation (EC) No. 1924/2006 and (EU) No. 1169/2011. A questionnaire was created to gain an understanding of the consumers’ perception of health claims. An interview was conducted with an EHO from the EHS to gain a better understanding of their role as an EHO monitoring health claims. An objective of the interview was to identify what could be improved within the EHS to assist the improvement of the quality of health claims.

The key piece of information identified from the analysis of the 107 herbal teas found in ethnic and retail outlets, was that the health claims carried by 69 teas were identified as unauthorised health claims. Thus, as a result are non-compliant with Regulation (EU) No. 1924/2006. The result is concerning, as the presence of a health claim tends to contribute to the final purchasing decision, with 44% percent of consumers ‘Sometimes’ choosing the product with the health claim over the product in the absence of a health claim.

In summary, based on results obtained from the varying methods of the research, the monitoring of health claims in the Republic of Ireland should be formally reviewed. The

quantity of health claims referencing weight loss/ weight control marketed on green/herbal tea is an issue of concern for public health, as 62% of the population have been classified as obese or overweight in 2017 (CSO, 2017).

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Declaration

I hereby certify that this material, which I now submit as part fulfilment of the requirement for the award of B.Sc. (Environmental Health) is entirely my own work and has not been taken from the work of others save and to the extent such work has been cited and acknowledged within the text of my own work.



Signed:

Date: 19/03/2020

Chapter

1

Literature Review

1.0 Introduction

The definition of a health claim is any statement that suggests or implies that a relationship exists between a food category, a food or one of its constituents and health benefits. Health claims must be based on generally accepted scientific data and be well understood by the average consumer (Safe Food, 2018). An example of a health claim is 'Reduces body weight or improves your immune system'. Health claims associated with products sold within the European Union must be in compliance with Regulation (EC) No. 1924/2006 on nutrition and health claims made on foods. It is possible to view a list of approved and rejected health claims and the conditions of their use by accessing the Community Register (FSAI, 2019).

Health claims can be categorised into 4 different groups. Article 14 health claims are based on the reduction of disease risk and children's development and health. Article 13.5 health claims are based on new scientific based findings and Article 13 health claims, which are classed as general health claims, address the effect of a substance on a bodily function (FSAI, 2015). Health claims are used as a marketing tool for companies to increase their sales. This action has affected consumers both positively and negatively, as approved health claims can aid consumers in making healthier food choices. However, consumers may increase their intake of this food, presumably thinking the food is healthy, regardless of its nutritional information. Consumers may be misled by false or misrepresentative health claims. This literature review focuses on the legislation governing the field of health claims, the authorities who govern health claims, how marketing on packaging and labelling influences consumers' purchasing decisions and how health claims influence food purchases.

1.1.0 Governing Legislation

1.1.1 Regulation (EC) No. 1924/2006 on Nutrition and Health Claims made on Food

The primary aim of this regulation is to protect consumers from inaccurate or misleading information and to ensure that any claims made on food labels within Europe is apparent and is substantiated by scientific evidence (EFSA, 2019). The regulation applies to nutritional or health claims located on the packaging of the food product or through the advertisement of the food of which is available for the final consumer. The Regulation covers nutritional and health claims which address the following:

- Foods for nutritional uses
- Natural mineral water
- Water intended for human consumption
- Food supplements

The regulation covers foods intended for the supply to restaurants, hospitals, schools, canteens etc. The Regulation does not apply to claims made in non-commercial media or communications such as advice by public health authorities and bodies, information in the press and in scientific publications (FSAI, 2019).

The regulation addresses the application process for the authorisation of the use of a health claim. The main pieces of paperwork necessary to apply include information regarding the nutrient or substance on which the health claim is based, scientific based studies on the proposed health claim and a proposal for the wording of the health claim.

Article 12 sets an EU standard regarding what health claims are not authorised for use. Claims regarding that one's health could be compromised by not consuming this food are not permitted. Claims that imply a rate or amount of weight loss are not considered for authorisation (FSAI, 2015). Article 5 provides clarity for food manufacturers who intend to make health claims by highlighting the conditions of making a claim. The following should be considered.

- The nutrient or substance which is linked to the claim, must prove to have nutritional or physiological effects by generally accepted scientific principles.
- The substance or nutrient which is linked to the claim must be present and be of a significant quantity in the end product.
- The nutrient or substance for which the claim is made is in a form that is 'available for use by the body' (bioavailable).
- The claimed beneficial effect must be provided by a 'reasonable quantity of the consumed product'. This means that an adequate amount of the active nutrient or substance must be present in a reasonable amount of the food product.
- If the health claim is stating a beneficial effect due to the absence or reduction of a nutrient or substance, therefore the nutrient or substance should be absent or reduced to the extent that produces the nutritional or physiological effect claimed.

- The claim must refer to the food ready for consumption according to the manufacturer's instructions.
- The claim should use a level of language that the average consumer can decode, to avoid confusion and to clearly understand the beneficial effects detailed in the claim (FSAI, 2019).

Specific conditions are outlined in Article 10. Article 10 gives information based on what should accompany the health claim on the label of the product which carries the health claim. Failure to comply with the specific conditions will result in prohibition of use of the intended health claim on that particular product. The label should include a statement highlighting 'the importance of a varied and balanced diet and a healthy lifestyle'. The label should carry a statement of the quantity of the food required and how often the food should be consumed to achieve the claimed health benefit. When necessary, the label should also include information based on consumers who should avoid the food (EU No. 1924/2006).

Health claims are categorised into 4 different groups and are outlined in this regulation. Article 13 health claims are more commonly named 'general health claims' which reference the effect of a substance on bodily functions (FSAI, 2015) or 'psychological and behavioural functions'. Article 13 health claims also encapsulate claims referring to 'slimming or weight-control or a reduction in the sense of hunger' (EU No. 1924/2006). Article 13 (5) health claims relate to claims based on recent scientific findings, whilst Article 14 health claims are claims which mention a decrease in disease risk or claims which refer to a minor's development and health. It must be noted that Article 14 claims includes those claims subject to the foetus (FSAI, 2015).

When making a comparative health claim between two foods, the food must be of the same category. The difference in quantity of a nutrient and/or the energy value must be stated in the claim, and the comparison must relate to the same quantity of food (FSAI, 2019).

1.1.2 EU No. 1169/2011 on the Provision of Food Information to Consumers

The objective of this regulation, which is relevant to the use of health claims, is the objective to provide a standardised platform for final consumers to make ‘informed choices with particular regard to health and economical considerations’ (EU No. 1169/2011). The declaration of nutritional information is compulsory. However, Annex V states that ‘Herbal and Fruit Infusion Teas, which do not contain any other added ingredients other than flavourings which do not modify the nutritional value of the tea’ is exempted from supplying nutritional information on food packaging (EU No. 1169/2011). It must be noted that the presence of a health claim on food packaging, subjects the product to display nutritional information (FSAI, 2017).

1.1.3 The Wording of Health Claims

The authorised wording for health claims which have been approved by the European Commission and EFSA can be found in the EU Register of nutrition and health claims. However, food businesses may want to adjust the wording of the claim to aid in the consumer’s understanding. In order to remain in compliance with Regulation (EC) No. 1924/2006, the adjusted wording should not increase the intensity, strengthen or change the meaning of the authorised wording. However, certain terms strictly cannot be removed or replaced with another term, for example the word ‘normal’. When articulating the health claim, it should not reference the whole product, it should be exclusive to the nutrient, substance, food or food category for which the health claim has been previously authorised (FSAI, 2014).

1.2.0 National and International Bodies

The Environmental Health Service within the HSE and the FSAI are the competent authorities concerned with monitoring of health claims. The multinational body is the European Food Safety Authority (EFSA), which monitor health claims made within countries registered to the European Union.

1.2.1 The Role of the EHS Within the HSE in Relation to Health Claims

The Environmental Health Service is primarily made up of a body of health professionals named EHOs. The main function of this occupation is to enforce regulations on areas of work which they are responsible for, one of which is the monitoring of health claims made on food products (HSE, 2018).

1.2.2 The Role of the FSAI in Relation to Health Claims

The FSAI must be supplied with the relevant scientific evidence to substantiate the health/nutritional claim marketed on the product. The information will then be forwarded on to the European Commission and EFSA, who will then determine whether the evidence is substantial (Irish Times, 2007).

1.2.3 The Role of the European Food Safety Authority

The European Commission is the responsible body for the authorisation of health claims. The Commission grants the use of the claim based on the scientific evidence evaluated by the EFSA (European Commission, 2020). EFSA are the scientific panel, whose role entails the reviewal of the science behind the proposed health claims. EFSA have the power to deny or to authorise a health claim proposed by applicants based on their findings. EFSA have a number of specific criteria, which is used to review the health claims.

- Is the food or ingredient defined?
- Is the claimed effect defined?
- What is the evidence?

EFSA is the responsible body for the verification of the scientific knowledge behind the submitted claims. Upon conclusion, the panel reviews the number of studies in favour of and against the claim. The quality of the studies and the possibility of the claim is taken into consideration. The outcome can be of a positive or negative nature. Positive, meaning the panel is convinced and there is sufficient evidence available to substantiate the claim. A negative outcome would be as a result of the evidence not being convincing or of a poor standard due to the lack or non-existence of human studies to prove the claim (EFSA, 2019).

To conclude this point Europe has quite an extensive process for making health claims. However, countries such as the United States of America and Japan can make a qualified health claim which is suggested but not supported by scientific evidence (Lalor Fiona, G. Wall Patrick, 2011).

1.3.0 The Monitoring of Health Claims on Other Continents

1.3.1 Canada

Canada have a similar system for monitoring health claims to Ireland. The regulatory body responsible for the monitoring of health claims is the Canadian Food Inspection Agency (CFIA). They review the compliance of the packaging, labelling and advertising of foodstuffs (Government of Canada, 2008). The legislation that addresses health claims is under the Food and Drug Regulations. Health claims in Canada need to be approved based on scientific research before use on food packaging. Similarly to the EU Register for nutrition and health claims, there is a 'Food Directorate for Health Canada' where companies can check the acceptability of their claim from the list of registered claims (Government of Canada, B 2019). Contrary to Ireland, the only foods which can carry a weight reduction/maintenance claim are foods which come as pre-packaged meals, foods sold by a weight reduction clinic and foods used for low energy diets (Government of Canada, B 2019).

1.3.2 Australia and New Zealand

Australia's State of Territory Health Agency and New Zealand's Ministry for Primary Industries have similar roles when monitoring health claims as the Environmental Health Service do in the HSE. Both Australia and New Zealand's health claims are regulated under Standard 1.2.7 on Nutrition, health and related claims. Health claims are categorised into general level and high-level health claims, similar to the categories outlined in Regulation (EU) No. 1924/2006, articles 13 and 14 health claims. Food businesses can refer to the 200 pre-approved health claims in the standard, which replicates the EU Register of nutrition and health claims. Contrary to the Regulation (EU) No. 1924/2006, food businesses have the option to self-substantiate health claims, by proving the food-health relationship based on requirements identified in the standard. However, Australia and New Zealand have a nutrient profiling scoring criterion (NPSC) which prohibits foods high in saturated fats and sugar from carrying health claims (Food Standards Australia New Zealand, 2016).

1.4 The Health Products Regulatory Authority

The role of HPRA entails the authorisation and monitoring of medicinal claims. Products with medicinal claims are subject to be categorised as a medicinal product and will need a marketing authorisation from the HPRA. The product packaging must present the PA no. (Product Authorisation) given. The HPRA have a sampling and analysis program to monitor unauthorised products making medicinal claims. Unauthorised products are subject to product recall (HPRA, 2014 B). “A medicinal claim is a health claim, which states or implies that a product has the property of treating, preventing or curing a human disease” (Food Safety Authority of Ireland, 2010). The Irish Medical Board is the principal authority controlling and licensing products bearing medical claims, for example slimming products such as green tea, foods with nutrients at medicinal levels and herbal medicines (Irish Health, 2018). The FSAI checks products for medical ingredients and if they are unsure they refer the product to the IMB (Food Safety Authority of Ireland, 2010).

1.5 Food for Special Medicinal Purposes

Often those whose health is compromised from a medical condition, disease or disorder eat food specially designed to meet their nutritional requirements. Regulation (EU) 2016/128 on Food for specific groups, which has applied since the 22nd February 2019, has introduced the prohibition to make both nutrition and health claims on foods for special medical purposes. The reasoning behind this is to prevent inappropriate promotion of products and to ensure legal clarity (European Commission, 2019).

1.6.0 EU Register for Nutrition and Health Claims

1.6.1 Prohibited Health Claim under the Register

Article 13(5) health claims are claims based on newly found scientific evidence (FSAI, 2015). The proposed claim addresses weight loss as it states, “Helps to burn fat”. In summary, the consumption of the combination of *Paullinia cupana* Knuth and *Camellia sinensis* is proposedly directly linked with weight loss. It has been concluded that the proposed claim is not permitted for use, as a non-compliance has been identified under Regulation (EC) No. 1924/2006. This claim has not been authorised for use as the connection between the burning of fat and the consumption of the outlined ingredients has not been substantiated based on the scientific evidence (European Commission, 2016).









Claim type 	Nutrient, substance, food or food category 	Claim 	Conditions of use of the claim / Restrictions of use / Reasons for non-authorisation 	Health relationship 	EFSA opinion reference / Journal reference 	Commission Regulation 
 Art.13(5)	A combination of <i>Paullinia cupana</i> Kunth (guarana) and <i>Camellia sinensis</i> (L.) Kuntze (green tea) extracts	Helps to burn fat	Non-compliance with the Regulation because on the basis of the scientific evidence assessed, this claimed effect for this food has not been substantiated.		Q-2012-00590	Commission Regulation (EU) No 155/2014 of 19/02/2014

Figure 1 Unauthorised Health Claim (European Commission, 2016)

1.6.2 Authorised Health Claim under the Register

An example of a ‘general health claim’ is ‘Good for your skin’ In order for this health claim to be compliant, a statement such as ‘Iodine contributes to the maintenance of normal skin’ should then follow. This claim is approved as a link has been identified based on scientific evidence between the ingredient Iodine and the maintenance of normal skin (FSAI, 2014).

1.7 Nutrient Profiling

As a result of health claims, consumers can often be led to believe that a product is healthier than it is. The introduction of nutritional profiling was suggested by the EU, to target food manufacturers who suggest health benefits about an ingredient in their products, which have a high percentage of another ingredient. For example, the product is marketed by a ‘low in salt’ claim although the product is high in saturated fat (Kaur Asha, 2015). The definition of nutrient profiling is ‘the science of classifying or ranking foods according to their nutritional composition for reasons related to preventing disease

and promoting health’ (WHO, 2020). Nutrient profiling can be used by food manufacturing companies to formally determine whether the product is permitted to make a health claim by ensuring the product meets minimal nutritional criteria. Nutrient profiling has been applied in countries such as America, New Zealand and Australia (Kaur Asha, 2015). The European Commission did not reach the deadline for establishing nutrient profiles, the due date was 19th of January 2009, and to date the nutrient profiles are still being worked upon (FSAI, 2017).

1.8.0 Tea

1.8.1 Herbal Tea

A common misconception surrounding herbal tea is that it is not in fact a tea. However, all teas originate from the *Camellia sinensis* bush. Herbal tea ingredients which can be referred to as ‘tisanes’ are made from a mixture of dried leaves, seeds, fruits, flowers, grass and nuts. Herbal teas are caffeine free in comparison to teas which originate from the *Camellia sinensis* bush. Herbal tea is often associated with medical and therapeutic benefits.

It may seem that the benefits of consuming herbal tea outweigh the potential negative outcomes. Yet certain chemicals such as dyes and enhancers added to herbal tea are notorious for being highly toxic. Common herbal tea ingredients include chamomile, peppermint and rosehips (Ravikumar Chandini, 2014).

1.8.2 Green Tea

During recent years the health benefits of including green tea and constituents of green tea into the diet have been under the microscope. Investigations and studies have been taking place to conclude whether green tea or its constituents can help prevent cancer or cardiovascular diseases and help lower cholesterol. Studies have also researched whether the tea has antioxidative, antiviral and antibacterial characteristics. *Camellia sinensis* is a plant consumed as green tea. Green tea is produced by gathering freshly harvested leaves and steaming them to prevent fermentation. During the steaming process enzymes responsible for deteriorating colour pigments are destroyed, allowing the tea to maintain its green colour in the rolling and drying stage. The aim of this process is to preserve the health promoting agents e.g. natural polyphenols (Chacko Sabu M et al., 2010). In a study conducted in Dublin, 8 different teas were examined, and 19 different health claims were

identified. The most common health claims found were on the topic of ‘antioxidants’, ‘protecting the body from the damage caused by free radicals’ and ‘digestive system/metabolism’ (Lalor Fiona, 2010).

1.9 Herbal Medication

The definition of herbal medication is ‘the art or practice of using herbs and herbal preparations to maintain health and to prevent, alleviate, or cure disease’ (Merriam Webster, 2020). The potential issue surrounding the use of herbal remedies is the possibility of it interfering with other medication. As a result of the interaction between herbal remedies and prescribed medication, the potency of the drug may increase or prevent the drug from acting on the body (NHS,2018). The NHS have reported on research carried out in South Africa, whereby 49 reports of adverse reactions were analysed. It was concluded that 59% of those reports were probably due to the interaction of herbal remedies and prescribed medication. A finding of the study suggested that some of those who were taking Warfarin, a conventional blood thinning drug, experienced cardio-vascular disease due to the interaction between Walfarin and herbal Green Tea and Chamomile (Awortwe Charles et al., 2018).

1.10 Consumer Behaviour

According to Kamal Khan et al., 2016, the packaging of a product allows the brand to set apart from its competitors. Packaging is used as a tool in marketing to boost the sales of products. Printed information is a critical independent variable used for packaging, as the consumer can change their purchasing decision based on the information available or unavailable on the packaging. Packaging is critical as within a 30-minute shopping period, consumers can be exposed to approximately 20,000 different product choices. Packaging helps paint a picture of the product in the consumer’s mind. Labelling’s function is to provide information, the consumer’s decision in regard to purchasing is not only influenced by taste but by brand awareness, labelling, origin and most importantly price. When consumers are under pressure for time, research shows they tend to choose products with distinctive packaging and information which is stated in simple accurate terms. As obesity is a worldwide pandemic, growing health and nutrition concerns have resulted in consumers looking at the labelling information (Zekiri, 2015).

A study consisting of 395 consumers, which was inclusive of a mixed demographic, was carried out. The respondents of the survey included those from different backgrounds, a variety of age groups and workers of different occupations and rates of income. 53% agreed that the printed information on the packaging helped the process of buying and 48% of consumers agreed that the label on the packaging influenced their buying behaviour. 35% agreed that the language used on the packaging influenced their purchasing decision (Zekiri, 2015).

1.11 Influence of Health Claims on Food Purchases

The primary objective of nutrition and health claims is to inform the customer before making decisions in relation to purchasing and consumption. According to a study consisting of 156 consumers, the result concluded that 85% of participants looked at the health claim longer than the nutritional or taste claim on the product (Steinhauser Johann, 2019).

Health claims have both positive and negative effects on the consumer. Nutritional and health claims on food packaging can influence/persuade consumers to purchase healthier food choices. However, positively influencing consumer perceptions of food can simultaneously increase the consumer's consumption of that food (Benson Tony et al., 2018).

As a result of the growing rate of obesity in Ireland (39% of people are overweight & 23% are obese), the trend of the use of nutritional and health claims on food packaging has increased (Healthy Ireland, 2017). Consumers can be misled, and their perception of healthiness can be altered with the use of a health claim. A metaphor is used to explain the issue, 'The Health Halo Effect'. When a customer reads 'no cholesterol' it stimulates them to ascribe the product with positive traits unrelated to the original claim (Kaur Asha et al., 2017). For example, the nutrition claims read that the product is 'low in fat'. Therefore, it reduces heart diseases etc. The customer sometimes generalizes the product with 'no cholesterol' to be healthy, regardless of its nutritional content (Benson Tony et al., 2018).

Health claims can be misleading to consumers and create a sense of positivity bias, where a consumer may perceive a product with a health claim on its label more positively than a product in the absence of a health claim. However, the product without the health claim

may have more nutritional benefits, but the consumer may not check the nutritional content (Kaur Asha et al., 2017). Consumers may attribute excessive health benefits to consuming a food with a health claim. This can be explained by using the ‘Magic Bullet Effect’ metaphor. Consumers may be under the illusion that eating excess amounts of foods with health claims will make them permanently slim and healthy without being aware of the nutritional content (Kaur Asha et al., 2017). Although the use of health claims has both positive and negative effects, companies continue to make use of them as a marketing tool as it increases customer appeal towards the product and results in a growth of sales. The breakfast oats company ‘Quaker Oats’ added an approved US health claim to its packaging ‘Gut Healthy, Heart Healthy’. As a result of the addition of the health claim there was a remarkable 4% increase in the company’s sales of the oats for the following year (Gregory L. Paul PhD et al., 2015).

1.12 Subliminal Messages

Subliminal messages are defined as ‘messages passed to the human mind without the mind being consciously aware of it’ (Collins, 2020). Subliminal messages can be in visual or auditory form; the appearance of the visual image is fast, or the audio is at such a low intensity that consumers do not necessarily detect it (Sofi Shakeel et al., 2018). The use of subliminal messaging dates back to 1957. James Vicary, who pursued a career in market research edited a single frame into a movie which said, ‘Eat Popcorn and Drink Coca Cola’. It was believed that there was a significant increase in sales of Coca Cola (18.1%) ‘Subliminal persuasion’ is a commonly used marketing tool. Successful subliminal persuasion results in information being inserted into a target market’s mind; this information alters the attitude of the market on a certain subject without their conscious awareness (Sofi Shakeel et al., 2018).

1.13 Statistics

A study was conducted on the 1,880 most purchased packaged foods within the region of Dublin. 17.8% of the labels studied carried one or more health claim. The food category with the highest percentage of health claims was within the yoghurt and yoghurt drinks category, where 66 of 132 products examined presented a health claim. Within the number of labels analysed (113), processed meats and frozen vegetables & fruit labelling did not state a health claim. Breakfast cereals presented a series of health claims, with 15% of the 70 products with a health claim carrying a 'slimming' claim (Lalor Fiona, 2010). The most popular health claims in the ROI & NI are statements relating to the digestive system, cholesterol or the cardiovascular system (Benson Tony et al., 2018).

1.14 Conclusion on Literature Review

To conclude, in Ireland health claims are mostly featured on the packaging of foods such as yoghurt and yoghurt drinks. Products marketed with health claims generally are more profitable. Establishing that food products which carry health claims are more lucrative to food companies, indicates that companies are more likely to incorporate them as a marketing tool. Thus, consumers need to be informed that the presence of a health claim does not necessarily mean the product is healthy, and that reading the nutritional information is critical to determine whether the product has health benefits. Health claims are closely monitored, but it proved to be difficult to locate information on the procedure which is taken when a product is marketed with an unauthorised health claim. This lack of information could be for many reasons, one being that it is very difficult to act upon a non - compliance.

1.15.0 Aims and Objectives

1.15.1 The Aim of the Study

The primary aim of the dissertation is to analyse the compliance of health claims on green/herbal tea products sold within ethnic shops in north Dublin. An Ethnic shop retails goods in association with a specific ethnic group (Barret Tyler et al., 2019). The study will focus on packaged and non - packaged green tea products from 19 multicultural retail outlets (Brazilian, Portuguese, African, Asian, Polish, Lithuanian, Romanian). Product information and health claims will be analysed to determine compliance with Regulation (EU) No 1169/2011, Regulation (EU) 1924/2006 and EU Register for nutrition and health claims. The study will also compare the level of compliance of green/herbal teas sold within health shops in comparison to ethnic shops. A health shop can be described as a shop which retails a range of health foods, supplements and alternative medicines (Health Store, 2018).

1.15.2 The Specific Objectives of the Study

- Design and compile a Product Audit Tool (PAT) which will enable the assessment of the product to FIC labelling requirements in Regulation (EU) No. 1169/2011.
- Develop a questionnaire and target green/herbal tea consumers, to gain a better understanding as of why people buy green/herbal tea products and their knowledge of green tea.
- Create a database to compile the data collected.
- Carry out a statistical analysis using Excel on the data gathered from the PAT and questionnaires.
- Identify trends in the data.
- Display the results using coherent graphs alongside a statistical discussion.
- Suggested resolutions to concerns raised during the study.
- Identify most popular green/herbal teas.
- Interview an EHO from the EHS to gain a better understanding of their role as an EHO monitoring health claims.

Chapter

2

Methodology

2.0 Introduction

Before permission was granted by TU Dublin to complete this research project an ethics and risk assessment was carried out. The project regulations established by TU Dublin were paramount when designing the study.

The following research will be elaborated upon within this chapter.

- Distribution of questionnaires to consumers of green/herbal tea to analyse the public's perception surrounding what health claims on green/herbal tea labels are compliant, to quantify whether the presence of a health claim affected the consumers' final purchasing decision and whether consumers are leading towards herbal remedies.
- Visit 50 Ethnic shops and take photographs of the green/herbal teas sold within the vicinity.
- Visit 2 Health stores and take photographs of the green/herbal teas sold within the vicinity.
- An interview will be conducted with an EHO from the EHS to gain a better understanding of their role as EHO regarding health claims.

The limitations of the study will be identified and discussed within this chapter.

2.1 Pilot Questionnaire

A draft questionnaire was created for the purpose of a pilot study. The pilot study was completed by students of TU Dublin. The purpose of the pilot questionnaire was to clarify that the questions asked were transparent and interpreted correctly. The pilot questionnaire participants left feedback on the anonymous feedback section supplied.

After distributing the pilot questionnaire, the feedback attained was considered and incorporated into the final questionnaire. The main suggestion was to use the 'Likert Scale' as answering options to a specific question. The question originally read 'How important is the presence of a health claim on the packaging of green/herbal tea when making your purchasing decision?'. The answering options were originally worded as '10%', '50%' and '100%'. The original options created a sense of confusion amongst the participants. Therefore, the options were replaced with 'Extremely important', 'Very important', 'Somewhat important', 'Not so important' and 'Not at all important'.

2.2 Questionnaire Design, Target Audience, Distribution and Layout

2.2.1 Design

The design of the survey was influenced by the aims and objectives set for this study, which was to improve the understanding of consumers' perception of health claims.

2.2.2 Target Audience

The questionnaire was aimed at both male and female consumers of green/herbal tea in Ireland who have attained the age of 18 years.

2.2.3 Distribution

The questionnaire was distributed using an online survey tool 'Survey Monkey.com'. The survey was then shared using social media platforms such as Twitter, Instagram, LinkedIn and Snapchat. The survey was sent directly to Herbal Tea focus groups on Facebook.

2.2.4 Layout

The questionnaire consisted of a total of 10 closed questions, all of which were compulsory other than the final question.

2.3 Justification of the Questionnaire Questions

Shown below is the justification for the questions asked within the questionnaire.

	Questions	Justification
Q.1	Gender	To gain insight regarding the target audience of green/herbal teas. To get a representation of the number of males and females drinking green/herbal teas.
Q.2	Age	In addition to Q.1, this question identifies the target audience. To get a representation of the age groups purchasing green/herbal teas.
Q.3	Do you continue to purchase the same brand of green/herbal tea?	To calculate the level of consumer loyalty to green/herbal tea brands.
Q.4	Do you think green tea naturally contains caffeine?	To get an insight of the level of knowledge of consumers regarding green/herbal tea.
Q.5	When selling a tea do you think a company can use a health claim such as 'helps you lose weight'?	To gain an understanding of what health claims consumers think are compliant.
Q.6	When choosing what tea you would like to purchase, would you purchase the product with the health claim over the product without the health claim?	To estimate the impact health claims have on consumers' final purchasing decisions.
Q.7	Do you look at the nutritional information on the packaging?	To estimate the importance of the presence of nutritional information on packaging to consumers.

Q.8	When buying green/herbal tea, is the primary reason of your purchase for the purpose of the health claim?	To estimate whether the consumer purchases the product for what the health claim claims to do. The correspondence to this question will highlight the importance of monitoring health claims.
Q.9	How important is the presence of a health claim on the packaging of green/herbal tea when making your purchasing decision?	Similarly, to Q.6, this question estimates the impact health claims has on consumers' final purchasing decision. The reasoning behind rephrasing Q.6 is to gather a more accurate answer.
Q.10	If you take medication, please answer the following question. Would you reduce or cease the intake of prescribed medication and replace/compensate with the consumption of herbal teas?	To estimate the public's interest in replacing prescribed medication with herbal teas.

Table 1 Justification of questionnaire questions

2.4 Pilot Product Audit Tool

A pilot PAT was drawn up to record the data regarding the green/herbal teas found in the ethnic/health stores. This pilot study was completed by visiting 2 ethnic stores and recording the data into the PAT. During this study all difficulties were noted, which later influenced the design of the final PAT. Initially the information was being recorded in a table formed in a Word document. This caused implications when calculating the data. The PAT was transformed into an Excel sheet.

2.5 PAT Design, Data and Use

2.5.1 Design

The Product Analysis Tool was constructed for the purpose of determining the compliance of the packaging information and the health claims identified on the packaging of the green/herbal teas. This tool was created using the EU Register for nutrition and health claims and Regulation (EU) No. 1169/2011. The tool was created using Excel. Its design consisted of labelled columns and drop-down menus for the answering options. As shown in the table below, columns 1-4 recorded the brand name, the sub-name of the product, the name of the shop which supplied the product and the type of shop (ethnic/health shop). Column 5 recorded the tea type, for example green tea or mixed herb. Columns 6 and 8-15 covered Regulation (EU) No. 1169/2011 which indicates what information is required on packaging of food products. Columns 16-24 relates to the compliance of the health claims.

Brand of Tea		Sub name	Name of shop		Type of Shop		Tea Type	Name of food on product label		Form of Tea	Language	Language used
German Herb (Thai) & Co		Sliming Herb	Asian Food Co	Ethnic	Mixed Herb		Mixed Herb	Yes	Teabag		English & Foreign	
Finte		Herbal Infusion	Asian Food Co	Ethnic	Mixed Herb		Mixed Herb	Yes	Sachets		English & Foreign	French, Swedish, Dani
Finte		Herbal Infusion	Asian Food Co	Ethnic	Green Tea		Green Tea	Yes	Teabag		English & Foreign	French, Swedish, Dani
European Address of FBO		Date of minimum durability	List of ingredients		Allergen Information		Special Storage Conditions		Prepare Action	Health claim present	D or I	Cont.d
No		Expiry	Yes		No		No		Yes	Yes	Both	Picture
Yes		Expiry	Yes		No		Yes		Yes	Yes	Indirect	Picture
Yes		Expiry	Yes		No		Yes		Yes	Yes	Indirect	Picture
Nature of Claim		Nature of Claim		Recorded claim				Compliance with EU Regi		Comments on compliance		
Weight-loss				good for overweighted person with				No		No registered health claim for se		
Weight-loss				Picture of slim woman				No		No registered health claim for se		
Weight-loss				Picture of slim woman				No		No registered health claim for C		

Table 2 Product Audit Tool Design

2.5.2 Data

The teas critiqued using the PAT were found in 19 different Ethnic retailers and 2 Health retailers in north Dublin. 107 teas were critiqued. The health claims included in the analysis were only analysed if they were on the surface of the packaging which could be observed directly by the consumer.

2.5.3 Use

The PAT will aid when analysing the compliance of the products to the EU Register for nutrition and health claims and Regulation (EU) No .1169/2011. The results obtained will be critiqued to identify any trends.

2.6 Retail outlets

A list of 50 ethnic retail outlets in north Dublin was created to aid the investigation. This list was created using google maps. The list included details regarding whether the shop was open upon arrival, did the store sell green/herbal teas and whether it was possible to record details of the green/herbal teas.

2.7 Identification of the Most Commonly Available Green/Herbal Teas found in Ethnic/ Health Retail Outlets

Inserted below is the tool which was created to record the presence of a tea if it was found in multiple stores. This tool will determine the most popular green/herbal tea amongst the retail outlets visited. The brand of tea and the sub name were recorded. 'X' is placed in the column beneath the corresponding shop name when the tea is found within that premises.

Brand of tea	Subname	Name of shop						
		Asian food Co	Star Asia foods	Super Asia Foods	Ayla	Oriental Pantry	The Spice of Life	Eurasia Supermarket
Fitne	Herbal infusion/green	x	x	x				x
German Thai (Thai) &	Sliming herb	x	x	x				
Dragons tower	Special Gunpowder	x		x				x
Fitne	rbal infusion/Mixed Hr	x		x				
Ahmad Tea	Green Tea	x			x	x		
Slinmy Brand	Jasmine					x		
Dr Stuarts	Skin Purify							
Herbapol	fication - Spalanie + o							
Herbapol	anie + praca watrobv (
Herbapol	nie - Femi age (Diet Su							
Greenfield	Flying Dragon							
Big Active	4 x super slim							
Big Active	Relax							
Chamain	: & Slim Optimal Suppc		x					

Table 3 Most Common Green/Herbal Teas

2.8 Interview with an Environmental Health Officer

An oral interview was conducted with an EHO from the Environmental Health Service whose expertise lies in the area of food hygiene. The interview was based on the role of the EHO in terms of monitoring health claims made on food products sold within the Republic of Ireland. In preparation of the interview the aims and objectives were established in order to articulate relevant questions. The interview consisted of 5 questions which were answered over a 30-minute period. The questions addressed topics such as:

- The role of the EHO when monitoring health claims
- The connection between the FSAI and EHS regarding health claims
- Issues and concerns regarding health claims
- Suggested improvements relating to the quality of health claims

2.9 Limitations of the Study

- The respondents may not be green/herbal tea consumers. The respondents may believe the information/health claims on the packaging does not affect their purchasing decision. However, this may be untruthful as the respondent may be in denial that it does affect their final purchasing decision.
- The data obtained in the questionnaire is largely affected by the characteristics of the respondents e.g. level of knowledge, memory capacity.
- The product information may not be available in English. Therefore, the meaning of the health claims may be altered in translation. The absence of English information may result in a product not being surveyed.
- It may have not been possible to photograph green/herbal tea products within the premises, effecting the PAT's sample size.
- The collection of results from the questionnaire may be biased due to ages 18-24 being the most dominant age group amongst the respondents.
- The sample size used in the questionnaire may affect the results; having a larger sample size would result in more accurate data.
- The questionnaire was widely available on social media platforms and on herbal tea focus group pages on Facebook. Due to the lack of control over who could answer the

questionnaire, respondents may be from other countries affecting the outcome of the questionnaire's data.

- The maximum number of teas surveyed from each retail outlet was 10.

Chapter 3 Results

3.1 Introduction

The main objective of this chapter is to display the results obtained from the questionnaire and the PAT in the most transparent fashion.

The questionnaire had a total of 100 respondents, containing 80 females and 20 male participants. 61 of the 100 respondents were between the ages of 18-24. The high number of female participants may be an indication that green/herbal teas are more commonly consumed by women between the ages of 18-24.

The PAT consisted of the analysis of 107 teas. The aim of the analysis was to identify whether the packaging of the tea carried a health claim and whether the health claims carried were compliant with Regulation (EC) No. 1924/2006 by using the EU Register of nutrition and health claims made on food. Health retailers (2) and Ethnic retailers (19) were visited during the study; 4 of the Ethnic retailers visited were major franchises e.g. Moldova and Polonez.

3.2.0 Questionnaire Results

3.2.1 Gender (Q.1)

The questionnaire had a total of 100 respondents, containing 80 females and 20 male participants. The high number of female participants may be an indication that green/herbal teas are more commonly consumed by women.

3.2.2 Age (Q.2)

The age range between 18-24 was the most common age group amongst the questionnaire participants, with 61 respondents ranging from that age group. The figure below demonstrates the distribution of the different age groups which participated in the questionnaire.

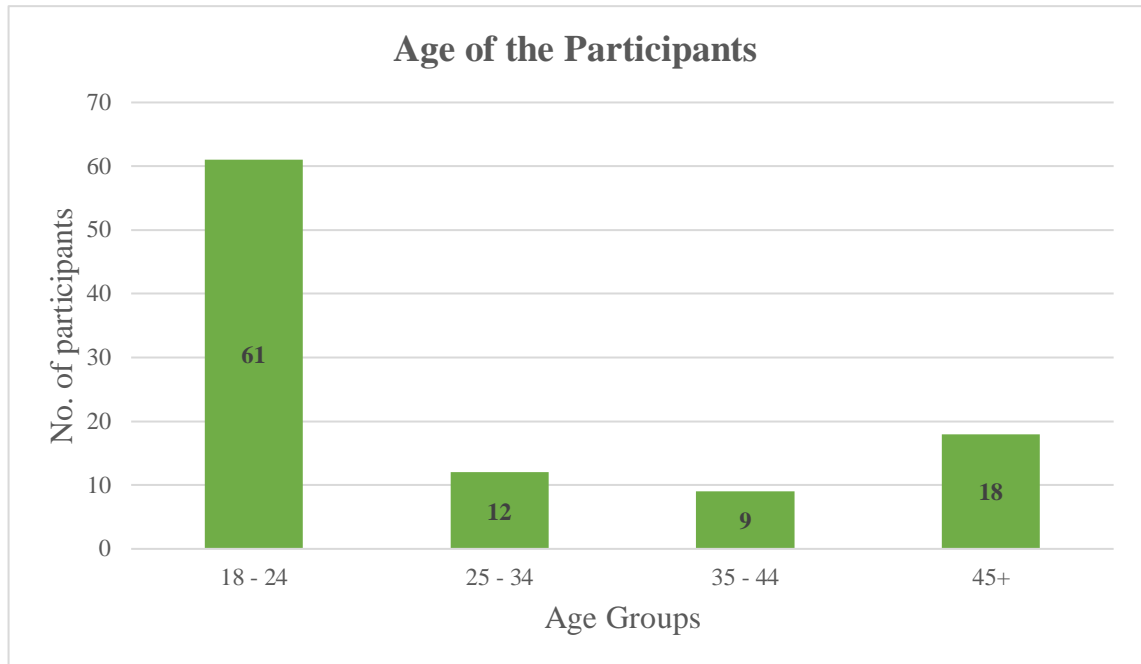


Figure 2 Age of the Participants

3.2.3 Brand Loyalty (Q.3)

Regarding the questionnaire feedback, fewer consumers gravitated towards the same brand of green/herbal tea when making their next purchase. 43% agreed that 'yes' they would continue to purchase the same brand of green/herbal tea, whereas 57% disagreed and said 'no'. This result demonstrates the low level of brand loyalty expressed by consumers of green/herbal tea brands.

3.2.4 The Presence of Caffeine in Green Tea (Q.4)

Consumers were asked 'Do you think green tea naturally contains caffeine'? 58% responded 'yes' and 42% responded 'no'.

3.2.5 The Consumer's Perception of Compliant Health Claims (Q.5)

The results presented as similar when consumers were asked 'when selling tea do you think a company can use a health claim such as 'helps you lose weight''. As seen in the figure below 28% thought 'yes', 41% responded 'no' and 31% were unsure and answered 'maybe'.

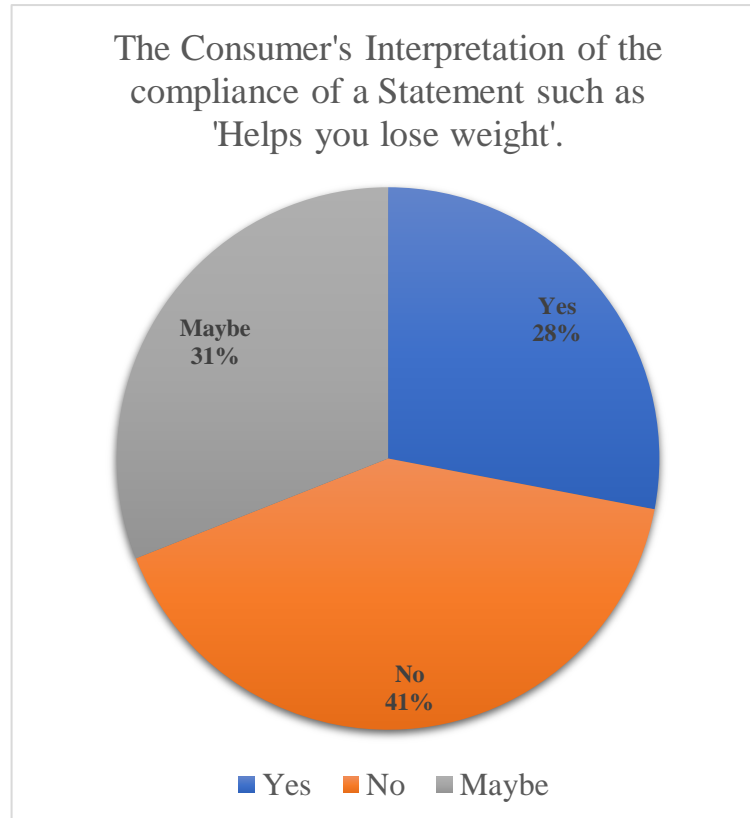


Figure 3 The Consumer's Perception of a Compliant Health Claim

3.2.6 The Impact of Health Claims (Q.6)

The consumers presented a wide range of answers as seen in the below figure, when asked ‘when choosing what tea you would like to purchase, would you purchase the product with the health claim or the product without the health claim’. ‘Sometimes’ was the most prevalent answer, with 44% sometimes buying the product with the health claim, instead of the product without the health claim.

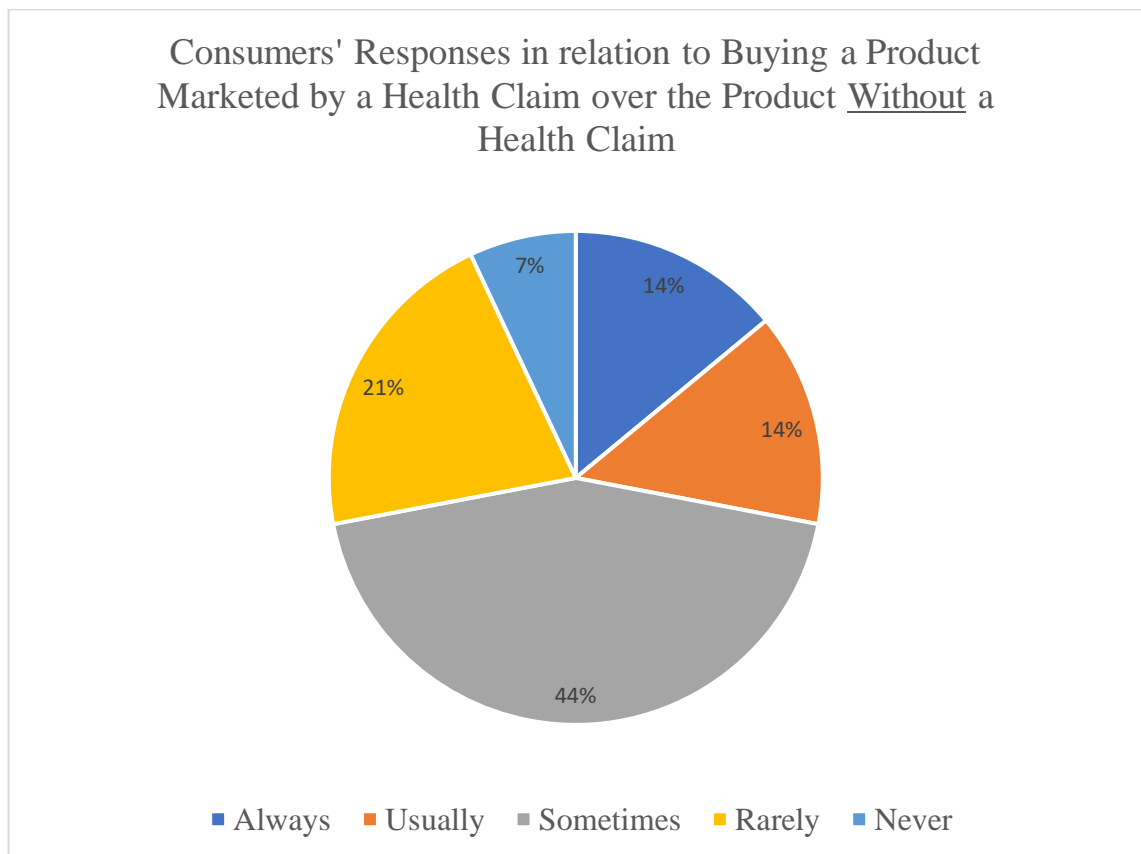


Figure 4 Consumers' Responses in relation to Buying a Product Marketed by a Health Claim over the Product Without a Health Claim

3.2.7 Importance of Nutritional Information to the Consumer (Q.7)

Surprisingly, 44% of respondents, being the majority, do not read the nutritional information on the packaging. The figure below illustrates the wide variety of results.

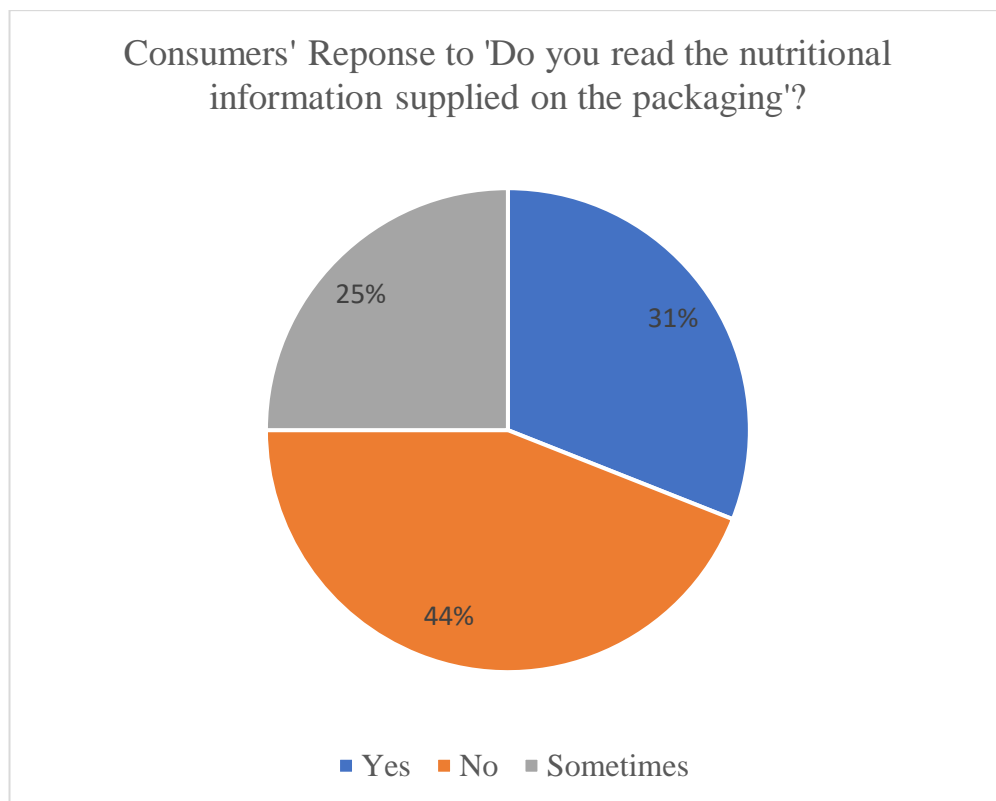


Figure 5 The Importance of Nutritional Information to the Consumer

3.2.8 Purchasing for the Purpose of the Health Claim (Q.8)

The results were equal when consumers were asked 'when buying green tea is the primary reason of your purchase for the purpose of the health claim'. 50% replied 'yes', leaving 50% responding 'no'.

3.2.9 Importance of the Presence of a Health Claim (Q.9)

The results in the figure below demonstrates that 35% of consumers found the presence of a health claim ‘somewhat important’ when making their purchasing decision. The most unpopular answer was ‘extremely important’, with only 7 consumers agreeing that the presence of a health claim impacted their final purchasing decision.

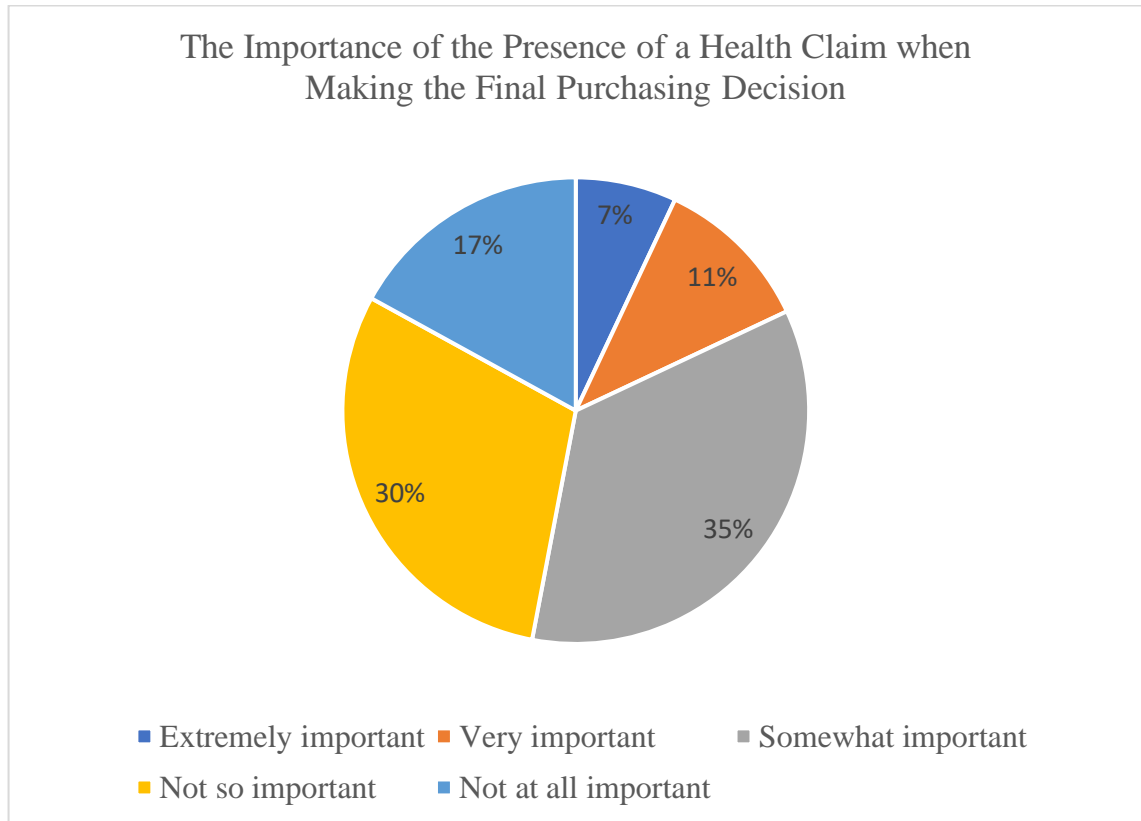


Figure 6 The Importance of the Presence of a Health Claim when Making the Final Purchasing Decision

3.2.10 Consumer Interest in Herbal Remedies (Q.10)

Question 10 was directed at those who take medication, of which a total of 89 participants out of 100 answered the final question regarding reducing or ceasing the intake of prescribed medication and replacing or compensating with herbal teas. As seen in the figure below, 65 participants would not opt to change from prescribed medication to herbal teas, 17 were unsure responding 'maybe' and 9 consumers would replace or compensate prescribed medication with herbal tea.

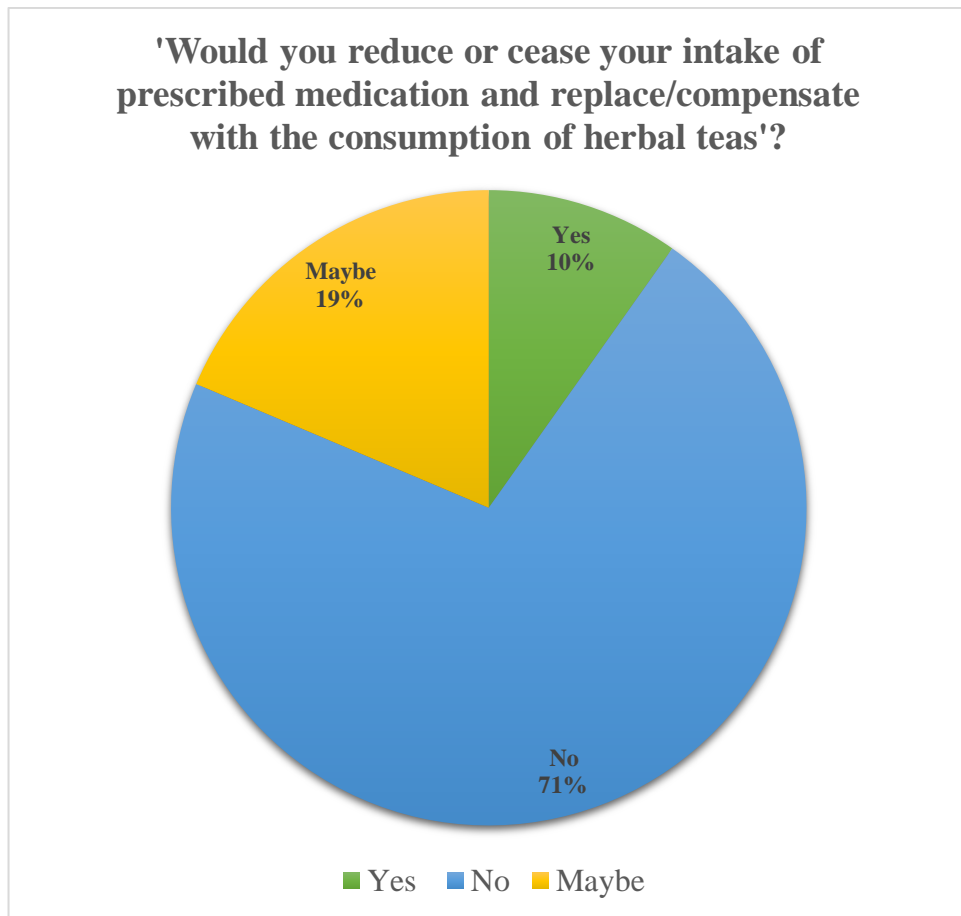


Figure 7 Consumer Interest in Herbal Remedies

3.3.0 Product Audit Tool Results

3.3.1 Health Retailers

Within the health retailers, 16 teas were analysed. 5 teas were found to have no health claim present on the packaging. However, 11 teas carried a health claim and each health claim was non-compliant.

3.3.2 Ethnic Retailers

91 teas were under analysis supplied from Ethnic retailers in the north Dublin region. 33 teas did not carry a health claim. However, 58 teas carried a health claim, all of which were non-compliant.

3.3.3 Summary of Results

As seen in the table below, a total of 107 teas were analysed from health and ethnic retailers. **69 teas carried a health claim, all of which were unauthorised under the EU Register for nutrition and health claims.**

	Ethnic Retailer	Health Retailer
No. of shops visited	19	2
No. of teas analysed	91	16
No. of teas marketed by health claims	58	11
No. of teas in absence of a health claim	33	5
No. of unauthorised health claims	58	11
Percentage of teas marketed by health claims	63.74%	68.75%
Percentage of teas marketed by health claims that were unauthorised	100%	100%

Table 4 Statistical Results from the PAT

3.3.4 List of the Ethnic Retailers Surveyed

	Ethnic Retailers
1	Aiysha Spice House – Coolmine Industrial Estate
2	Asian Food Co – Mary Street
3	Ayla – Capel Street
4	Best Halal Food – Coolmine Industrial Estate
5	Drogeria – Moore Street Shopping Mall
6	Eurasia Supermarket – Fonthill Industrial Estate
7	Flavour Food Market – Coolmine Industrial Estate
8	Made in Brazil – Capel Street
9	Moldova – Capel Street
10	Moldova – Coolmine Industrial Estate
11	Mróz – Moore Street Shopping Mall
12	Netto – Coolmine Industrial Estate
13	Oriental Pantry – Moore Street
14	Paprika Store – Ryders Row
15	Polonez – Mary Street
16	Polonez – Moore Street
17	Star Asia foods – Parnell Street
18	Super Asia Food – Capel Street
19	The Spice of Life – Moore Street

Table 5 List of the Ethnic Retailers Surveyed

3.2.5 List of the Health Retailers Surveyed

	Health Retailers
1	Holland & Barrett – Mary Street
2	The Health Store – Mary Street

Table 6 List of the Health Retailers Surveyed

3.4.0 Unauthorised Health Claims

Listed below are photographs of unauthorised health claims marketed on green/herbal teas, all of which were available in Ethnic Supermarkets.

3.4.1 Fares, Laxativ, Herbal Tea

Below is a herbal tea with the sub name ‘Laxativ’, which acts as a direct health claim. Consumers may be under the impression that this product will aid constipation. There is no authorised health claim for the ingredients in this product which prove to have a laxative effect.



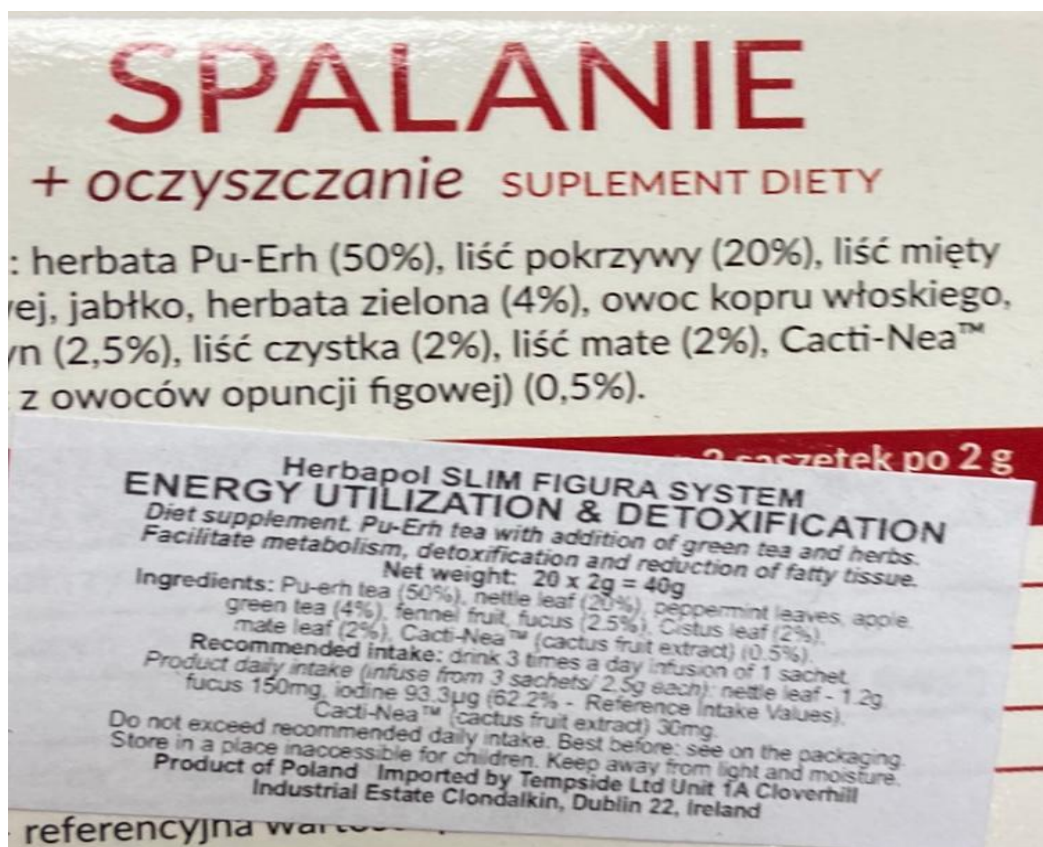
Photograph 1 Fares, Laxativ, Herbal Tea

3.4.2 Herbapol, Spalanie, Herbal Tea

Below is an image of a herbal tea with a direct and indirect health claim. The image of the slim woman may cause consumers to associate this product with weight-loss. The name of this product translates to ‘Energy utilization and detoxification’ and the statement on the back of the product substantiates the name by explaining how the ingredients work: ‘Facilitates metabolism, detoxification and reduction of fatty tissue’. The ingredients in this product does not yet have a corresponding, authorised health claim which allows the company to market their product with a health claim regarding weight-loss or detoxification.



Photograph 2 Herbapol, Spalanie, Herbal Tea (Front)



Photograph 3 Herbapol, Spalanie, Herbal Tea (Back)

3.4.3 Chamain, Fit & Slim, Herbal Tea

Photographed below is a herbal tea with a sub name which acts as a health claim 'Fit & Slim' and the product also presents an image of a measuring tape surrounding a slim waist, highlighting no. 38 on the tape to highlight the person's weight-loss. Consumers may associate the image as an indirect health claim for weight-loss. The statement on the back of the packaging is associated with weight loss, 'Help cut down appetite, supporting the digestive system, burning accumulated and regulating digestive and excretion processes comforting the intestine'. The product does not contain any ingredients with a corresponding authorised health claim addressing weight-loss or metabolism.



Photograph 4 Chamain, Fit & Slim, Herbal Tea (Front)



Photograph 5 Chamain, Fit & Slim, Herbal Tea (Back)

3.5 Health Claims Related to the Most Frequently Added Ingredients to Green/Herbal Teas

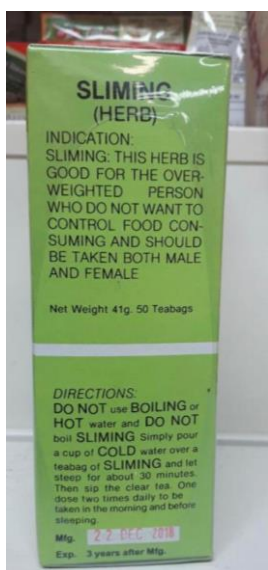
The most frequent ingredients used for herbal tea mixtures were

- Senna Leaves

Products containing Senna Leaves and Senna Pods were found to carry claims about weight loss and detoxification. As seen in the photograph below, the name of the product ‘Sliming Herb’ and the health claim it carries ‘good for the overweighted person’ is related to weight loss.



Photograph 6 Sliming Herb (Front)



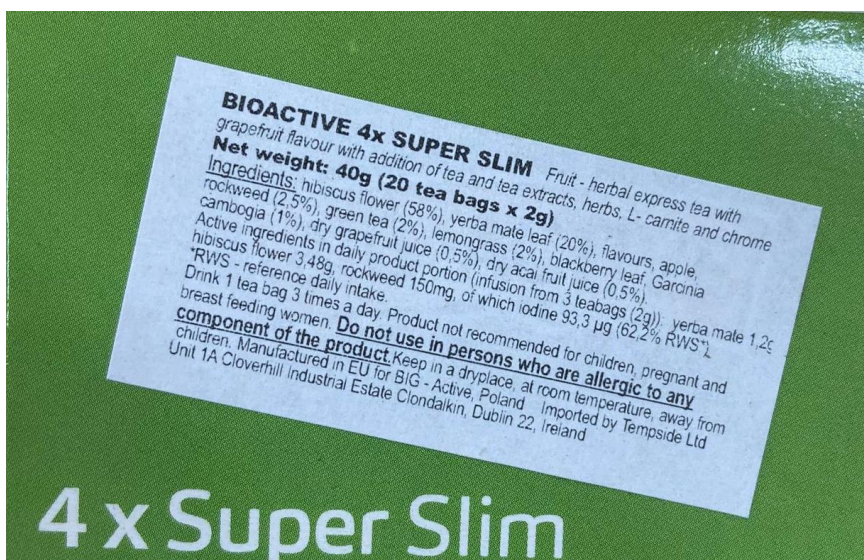
Photograph 7 Sliming Herb (Back)

- Green Tea

When Green Tea was used as an ingredient the claims suggested that the product would aid weight loss by using terms such as ‘fat burning’, ‘4 x super slim’ and ‘burning accumulated’.



Photograph 8 Big Active, 4x Super Slim (Front)



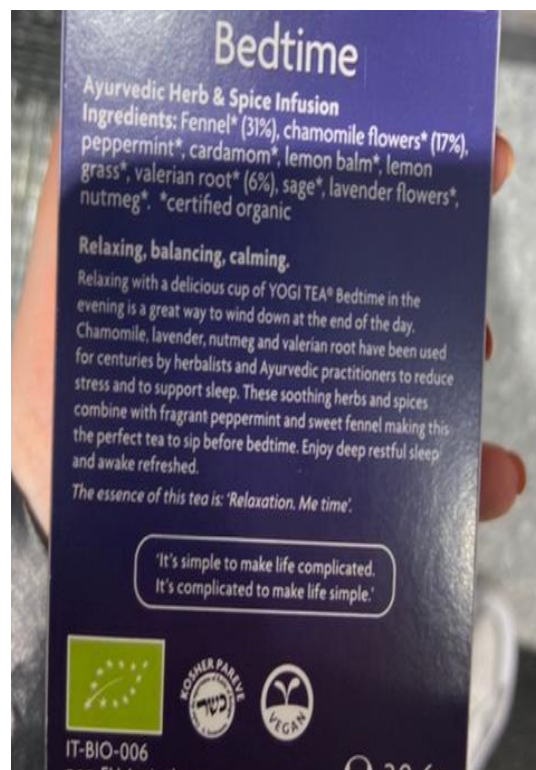
Photograph 9 Big Active, 4x Super Slim (Back)

- Chamomile

As seen in the photograph below, the ingredient Chamomile was related to claims which addressed relaxation. The product seen below may cause consumers to believe that the product acts as a sleep therapy as its sub name is 'Bedtime'.



Photograph 10 Yogi – Tea, Bedtime (Front)



Photograph 11 Yogi Tea, Bedtime (Back)

- Hibiscus

The ingredient Hibiscus was directly related to health claims surrounding cholesterol and heart health.

- Ginkgo Biloba

The ingredient Ginkgo Biloba was related to health claims about improving/raising energy levels.

- Oolong Tea

Demonstrated in the photograph below, the ingredient Oolong Tea is connected with health claims surrounding detoxification.



Photograph 12 Cho – Yung, Perfect Body, Tea-Tox

3.6 Categories of Health Claims

The most popular categories of health claims addressed matters such as cholesterol, weight loss/control, energy, relaxation, fitness and digestion. However, there were several other categories addressed through the claims such as respiration, appetite, wellbeing, detoxification, sleep and immunity.

Note: Many health claims fell into more than one category. 69 teas were found to have carried health claims. However, for the purpose of this graph not all of the health claim categories were considered, as the purpose of this graph was to identify the most popular health claims.

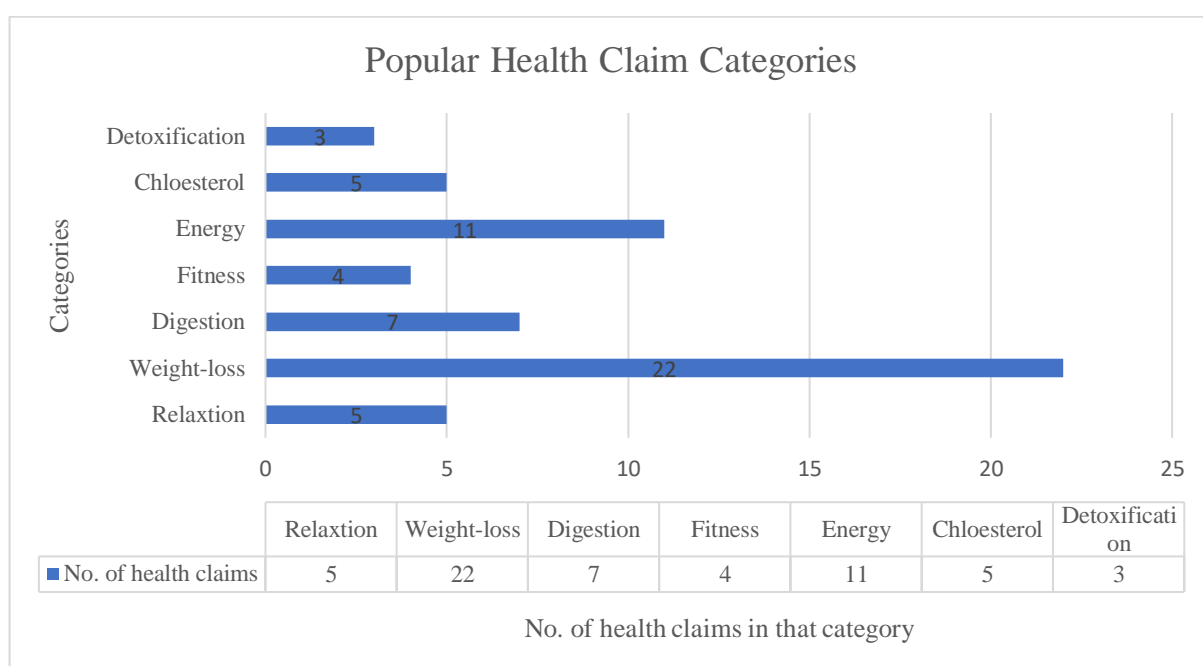


Figure 8 Popular health claim categories

3.7 Most Commonly Available Tea

As seen in the figure below, Fitne Herbal Infusion Tea is the most popular green tea amongst the retail outlets surveyed and carries unauthorised health claims. The tea is made of the following ingredients

- Senna Tea
- Garcinia Atrovirdis
- Green Tea

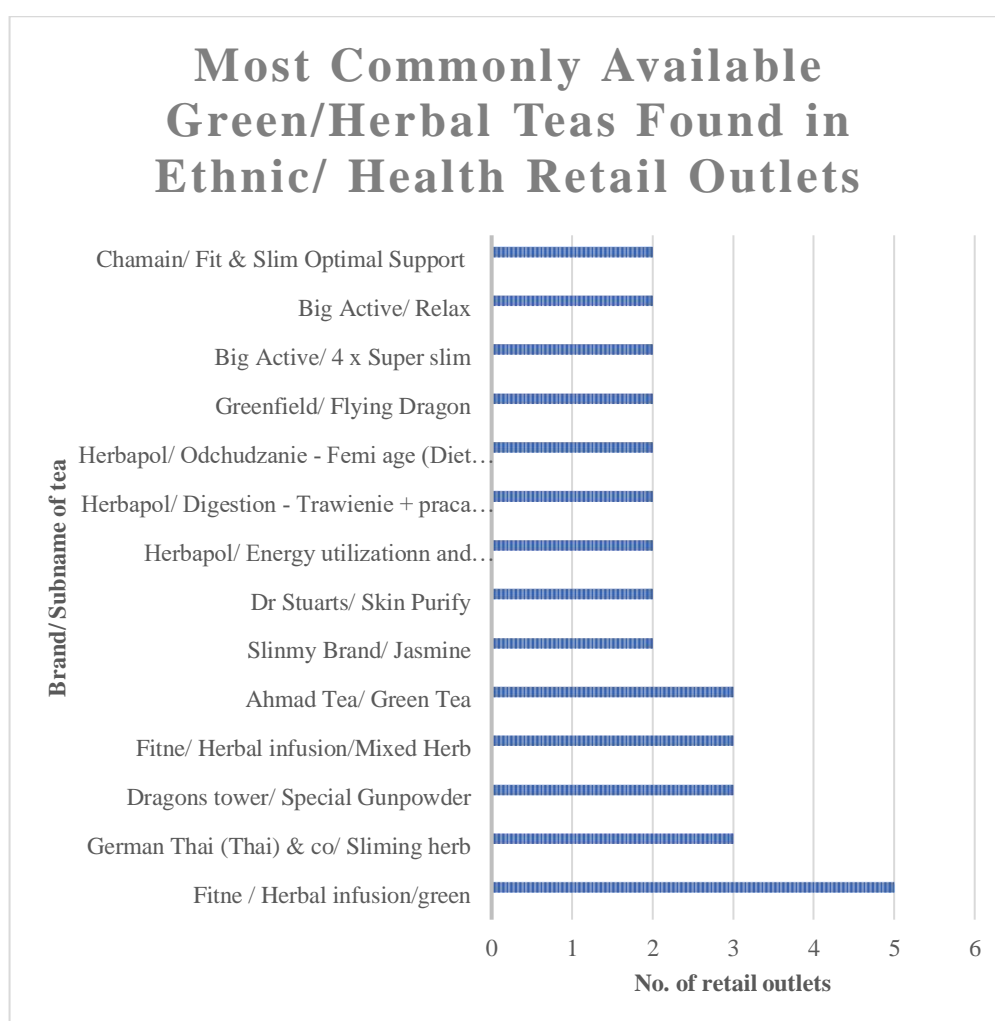


Figure 9 Most commonly available green/herbal teas

According to the EU Register of nutrition and health claims made on foods, none of the ingredients used in ‘Fitne Herbal Infusion Tea’ have been scientifically proven to improve fitness as portrayed on the packaging. The packaging has both direct and indirect health claims. The brand name ‘Fitné’ does not have a direct translation from Danish to English.

However, the consumer may relate the brand name ‘Fitné’ to fitness/weight loss. The packaging also displays an image of a slim woman, which may mislead consumers to believe they may look similar to this woman after consuming the product. Other words are used on the packaging such as ‘slimming’. This specific tea is available online directly from the brand ‘Fitné’ and the following claims are made in the description of the product.

- “Prevents accumulation of fat”
- “Enhanced slender body”
- “loosens the bowels”
- “constipation relief” (Fitné, 2020)

The above statements are not authorised in Ireland.



Photograph 13 Fitné, Herbal Infusion

3.8 Interview with Environmental Health Officer from the HSE

The aim of this interview was to strengthen the understanding of the role of an Environmental Health Officer regarding the monitoring of health claims made on food products. The following questions were asked in the interview.

Q.1 Did EHOs always have the role of monitoring health claims?

A. The Food Safety Authority of Ireland are in contract with the Environmental Health Service. The contract enables EHOs to monitor health claims. EHOs were chosen to be the body monitoring health claims because they are the ‘feet on the street’ protecting public health.

Q.2 What is function of the FSAI regarding health claims?

A. The EHO will refer the matter up to the FSAI, if the premises which manufactures the product bearing the health claim is not located within the Republic of Ireland. The FSAI will then further investigate the issue. The FSAI receive a list of any health claims recorded by the EHO every quarter.

Q.3 Do EHOs monitor health claims during food hygiene inspections?

A. Yes, health claims are monitored during manufacturer food hygiene inspections, one product label is inspected by the EHO. Compliance to regulation (EU) No. 1169/2011 commonly known as FIC and (EC) No. 1924/2006 is checked by using the appropriate E-Sheets which are then uploaded to EHIS.

Q.4 Does the Environmental Health Service have any issues and concerns regarding health claims?

A. As EHOs are the ‘feet on the street’ and are the primary body in Ireland monitoring health claims in retail outlets, restaurants and manufacturers etc. However, an EHO will not plan to audit health claims on products at retail level, only when a complaint is made by a member of the public, in response to a RASFF alert or they find the product accidentally upon inspection of a retail outlet.

Q.5 Do you have any suggested improvements the Environmental Health Service could make to improve the quality of health claims?

A. The sampling plan at standing for testing foods for toxic substances/ levels of substances or unpermitted ingredients does not include an analysis of the packaging. During sampling this would be an ideal time to carry out an analysis of the labelling on the packing regarding Regulation (EU) No. 1169/2001 and Regulation (EU) No. 1924/2006.

Chapter

4

Discussion

4.0 Discussion

Brand Loyalty

It was recorded that 57% of the participants would not purchase the same brand of green/herbal tea. The lack of brand loyalty may be influenced by the broad range of green/herbal teas available at retail level. The nature of herbal tea must be taken into consideration when analysing this result, as the consumer may want to try different blends from different brands due to the wide variety of ingredients in herbal and green teas. Consumers may also be influenced by any promotions on in the store i.e. Buy One Get One Free or discounted prices. This result can also be justified by the results of the PAT. Green/Herbal teas carry a wide range of health claims, some addressing weight loss and others may address cholesterol. Depending on the consumer's health situation, they may opt for a different brand of tea which carries a health claim that fulfils their health needs at that given time.

Caffeine and Green Tea

Green tea naturally contains caffeine (Khan Naghama et al., 2013). However, 42% believed it did not contain naturally occurring caffeine. 'The health halo effect' may have attributed to this result, as the presence of a health claim can be misleading to a consumer. The presence of a health claim on the packaging of the tea can trigger consumers to have positive beliefs related to the product that are unrelated to the health claim (Kaur Asha et al., 2017). Perhaps, the 42% of consumers who were unaware of the naturally occurring caffeine may have been exposed to green teas with health claims, resulting in the consumer generalising the product based on the health claim as healthy, regardless of the ingredients (Benson Tony et al., 2018).

Consumers Preference

When consumers were asked 'would you purchase the product with the health claim over the product without the health claim', there was a wide range of responses. The most popular response was 'sometimes', whereby 44% of the respondents 'sometimes' purchase the tea with a health claim, rather than the tea in absence of a health claim. Other consumers responded 'always' (14%) and 'usually' (14%). Health claims tend to cause a sense of 'positivity bias'. Positivity bias may attribute to the result of this question, as consumers may perceive the product marketed by a health claim more positively than the product without one (Kaur Asha et al., 2017). Consumers with

responses such as ‘rarely (21%) and ‘never’ (7%) may be educated on the authorisation of health claims on food products and read the list of ingredients before making their final purchasing decision, resulting in the health claim having little to no effect on their purchasing decision.

Nutritional Information

According to the results the majority of consumers are not attentive to nutritional information (44%). However, the presence of a health claim tends to contribute to the final purchasing decision, with 44% percent of consumers ‘Sometimes’ choosing the product with the health claim over the product in the absence of a health claim. These results give substantial rise to believe that consumers believe the health claim without identifying what ingredients are in the product. If a higher percentage of consumers presented to have brand loyalty, the number of consumers who do not pay attention to nutritional information would be slightly more justified, as consumers could possibly be aware of the nutritional information from previous purchases.

Annex V of (EU) No. 1169/2011 on the provision of food information to consumers confirms that herbal and fruit infusion teas do not have to declare nutritional information. However, if a health claim is present nutritional information must be declared. From the results of the PAT it was identified that the presence of health claims and the declaration of nutritional information was not consistent.

Unauthorised Health Claims

The key piece of information identified from the analysis of the 107 herbal teas from 21 different retail outlets, is that the 69 teas (64%) which carried health claims were not registered health claims and therefore are non-compliant with Regulation (EU) No 1924/2006. To simplify the finding, there was 100% non-compliance identified when a health claim was made on the packaging of a green/herbal tea. The importance of this finding is strengthened with respect to the results of the survey. When consumers were asked ‘Is the primary reason of your purchase for the purpose of the health claim?’ 50% responded ‘yes’.

A higher percentage of teas carried non-compliant health claims within the health retailers (68.75%) than the ethnic retailers (63.74%). Having such a high percentage of non-

authorised health claims, puts the verification process of health claims made on products sold within health retailers into perspective.

Prevalence of Health Claims

A similar study was conducted in Ireland in 2007, with the aim of identifying the number and proportion of health claims present on commonly purchased foods within the Irish market. Information such as type of retailers and the type of teas examined was not disclosed in the study. However, of 38 teas that were examined, 9 had a health claim present on the label (Lalor Fiona et al., 2010). 64% of the teas which were analysed for the purpose of this study were marketed by a health claim in comparison to 24% in the study by Lalor et al. This suggests that in between the years 2007- 2019 there has been a 40.81% increase in the use of health claims on teas.

Inconsistency of Health Claims

It must be noted that certain health claims do not directly relate to the ingredients within the herbal tea. For example, ‘Hermani Slim Tea’, with mint as its main ingredient suggests it aids in ‘weight loss’. However, this health claim contradicts online articles believing that mint’s main benefit is to soothe the digestion process (Ravikumar Chandini, 2014). Although the health claim suggesting that mint aids weight loss is not scientifically proven, the health claim on the label is contradictory to beliefs of herbalists. This suggests that poor research is carried out prior to the placement of the health claim on the product.

Category of Health Claims

A description of Article 13 health claims is outlined under Regulation (EC) No. 1924/2006 on nutrition and health claims made on food. Article 13 health claims are those with no attachment to the disease reduction or children’s development and health. Article 13 health claims reference to the effect of a substance on a body function or ‘slimming or weight control or reduction in sense of hunger’ (EU No. 1924/2006). According to the results of this study, 22 health claims referenced weight loss. Thus, Article 13 general health claims was the most predominant category of health claims recorded from the 107 teas evaluated.

The health claims address matters such as cholesterol, weight loss/control, detoxification, energy, relaxation and digestion. Whilst many claims were made, claims relating to the reduction in cholesterol and weight loss/control were the most popular. The ‘Sliming

Herb' mixed herbal tea of which the ingredients include senna pods and senna leaves has both a direct and indirect health claim present on the packaging. The product claims to be 'good for the 'overweighted person who do not want to control food consuming' and the name of the product and the image of the slim woman on the packaging indirectly suggests weight-loss. The level of detail and the number of matters addressed varies widely within the claims, making some teas more attractive to consumers than others. A prime example of a descriptive claim which addresses several matters such as weight loss, fitness and bowel regulation is by the brand 'Chamain'. The tea's sub-name is 'Fit & Slim Optimal Support'. Similarly to the 'Sliming Herb', direct and indirect health claims are carried on the product. The packaging has a picture of a measuring tape and its name has words such as 'Fit & slim' which implies weight-loss. The product also states the following: 'Help cut down appetite, supporting the digestive system, burning accumulated and regulating digestive and excretion processes comforting the intestine'. The nature of the claim is much more descriptive and could potentially be more appealing to consumers. It is important to address the fact that the health claims can be followed by medical claims. Some products are described as a laxative. In contrast to weight loss claims, health claims relating to cholesterol mainly just use indirect claims and use the word 'cholesterol' as the name of the product. For example, the brand 'Ziola Mnicha' have a product named 'na cholesterol'. It must be noted that the name of the brand or the sub name of the product can potentially be a health claim, for example the Cho – Yung' 'perfect body tea tox' may be interpreted by a consumer as a health claim relating to detoxification and weight-loss.

Medical Claims and Health Claims Aimed at Children

Amongst the abundance of non-compliant health claims, medical claims were also identified. The brand Herbapol's 'Herbatka fix ANEMIKA' has a direct medical claim stating 'Anemic Tea Fix' which claims to cure Anaemia. Other herbal teas had health claims regarding minors which are classified as Article 14 health claims under Regulation (EC) No. 1924/2006. Article 14 health claims reference children's development and health (EC No. 1924/2006). A particular tea named 'Baby calm' by the brand Fares is for the use of 'infant and toddlers' which supposedly helps 'eliminate abdominal discomfort in infants and toddlers. Health claims towards children are not prohibited but follow the same approval procedure as adult health claims.

Interview with an Environmental Health Officer

Based on the interview carried out with an Environmental Health Officer, the monitoring of health claims within the Republic of Ireland should be thoroughly reviewed. From this study 69 teas claimed to be marketed by a health claim, all of which were available at retail level. However, Environmental Health Officers do not review health claims made on food products at retail level unless a complaint is made by a member of the public or in response to a RASFF alert. The lack of monitoring may be multicausal. The Environmental Health Service may not have the resources in place i.e. Staff and Time. In addition to the above point, the monitoring of health claims may not be prioritised due to a lack of monitoring of the availability of food products marketed by health claims at retail level. Furthermore, during food hygiene inspections the EHO has many different aspects of the business to review i.e. structure, temperature control, allergens etc. It is not practical for the EHO to analyse food products for the presence of health claims due to time constraints. However, none of the teas were manufactured in Ireland. Therefore, Irish Environmental Health Officers would not receive the opportunity to review the health claims made on the products, due to the green/herbal teas being manufactured overseas.

Chapter 5

Conclusion &

Recommendations

5.0 Conclusion

The research question was to investigate the compliance of health claims made on green/herbal tea packaging found in Ethnic Shops in north Dublin. The research question has been satisfied and it can be verified that from the 107 teas analysed, 69 of the teas carried health claims. The percentage of teas marketed by an unauthorised health claim was 100%.

The secondary aim of this study was to gain a more advanced understanding of consumers' perception of health claims specifically relating to green/herbal teas by means of a questionnaire. This was achieved by asking questions which acknowledge the impact of health claims on the final purchasing decision. The questions addressed the importance of the presence of nutritional information to consumers and whether consumers were purchasing the teas for the purpose of the health claim. The overall aim of the questionnaire was to highlight the importance of monitoring health claims if it is identified that the wordy health claims influence consumers' purchasing decisions.

A question was created in the study to estimate the public's interest in replacing prescribed medication with herbal teas. The results were as anticipated as many respondents showed no interest. However, 19% responded 'maybe' which is alarming in respect to the results obtained in this study, as it has been concluded that there was 100% non-compliance regarding health claims on the green/herbal tea labels.

Without doubt monitoring practices should be improved upon. This study can aid in the progression of on-going compliance from herbal tea manufacturers as the on-going non-compliances have been identified.

This study has also identified non-satisfactory labelling. The (EU) No. 1169/2011 (FIC) highlights what is necessary to make a label compliant. Popular non-compliances have been identified such as the availability of information in English, the name of the food type not being mentioned, the European address of the food business operator not being identified, and the absence of the instructions for storage conditions.

The Central Statistics Office has verified that obesity in Ireland is on the rise with 60% of the population classified as obese or overweight in 2015, with an increase of 2% in 2017 (CSO, 2017). In summary, the increase of obesity in Ireland should motivate the responsible bodies to improve health claims on food products in Ireland, as the majority of the health claims have reference to weight loss/control and are not authorised.

5.1 Recommendations

- EHOs are the primary body in Ireland monitoring health claims in retail outlets, restaurants, manufacturers etc. However, an EHO will not plan to audit health claims on products at retail level, except when a complaint is made by a member of the public, in response to a RASFF alert or they find the product accidentally upon inspection of a retail outlet. It is advised that the monitoring of health claims is prioritised within the Environmental Health Service business plan with respect to the results of this study.
- Per manufacturer inspection, one product label is inspected by the EHO. Compliance to regulation (EU) No. 1169/2011 commonly known as FIC and (EU) No. 1924/2006 is checked. The number of product labels inspected should increase with more attention allocated to the compliance of health claims.
- The sampling plan within the Environmental Health Service should be reviewed and focus should be put upon the monitoring of health claims. Currently the packaging of the products collected for sampling is not reviewed.
- EHOs are currently waiting for the release of the S.I. relating to (EU) No. 625/2017. S.I. 117/2010 provided EHOs with the powers to detain foods. The provision for Fixed Penalty Notices is contained within (EU) No. 625/2017. The addition to penalise retailers for the supply of non-compliant misleading health claims on products within the retail outlet should be considered. This additional power will aid in highlighting the importance of scientifically proven health claims and will encourage retailers to analyse the claims being made on food products they are ordering from manufacturers. FPNs shall adversely put pressure on manufacturers to produce only authorised health claims. Failure to do so will potentially result in a lack of sales and loss of customers for the manufacturer.
- The European Commission have failed to meet the agreed deadline to establish nutrient profiles. Countries such as Canada, Australia and New Zealand actively use nutrient profiling. Going forward, nutrient profiles should be established in a timely manner, as they act as an aid to food manufacturing companies when determining whether the product is permitted to make a health claim by ensuring the product meets minimal nutritional criteria.

- The construction of a campaign targeting consumers on the ‘conditions of making a health claim’ should be considered by the HSE. This campaign would aid consumers’ understanding of what health claims are acceptable and unacceptable in terms of compliance.
- The creation of a campaign comprised of ‘naming and shaming’ manufacturers who retail food products with unauthorised health claims should be considered by the HSE and the FSAI. Examples of unauthorised health claims could be posted on the HSE’s and FSAI’s social media platforms such as Twitter and LinkedIn for consumers to see. This campaign will pressure manufacturers to amend or remove the health claims, as the campaign could potentially affect the brand’s reputation and relationships with their customers.
- Spot checks for health claims made on food products imports should be carried out by the HSE at DPEs (Designated Points of Entry) i.e. Dublin Airport and Dublin Port.
- Manufacturers located outside of the EU who export food products with health claims should sign a declaration that they have read and understood Regulation (EC) No 1924/2006 on nutrition and health claims made on food and EU No. 1169/2011 on the provision of food information to consumers. This declaration should be readily available at DPEs.
- The development of a focus group where they are presented with health claims on food packaging could aid in the understanding of the impact of health claims on consumers by monitoring the reaction of those in the group.

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Appendices

1.1 Copy of questionnaire

Questionnaire for Green/ Herbal Tea Consumers

Page Title

The purpose of this questionnaire is to identify whether the health claim listed on the packaging of tea affects the consumers purchasing decision. This survey must be completed by green/herbal tea drinkers only.

Note: Definition of health claim - A health claim is any statement that suggests or implies that a relationship exists between a food category, a food or one of its constituents and health

This survey will take between 2 to 3 minutes to complete and consists of 10 questions. This survey is anonymous, and the results obtained will be used as part of my final year research project.

- Respondents must be a resident of the Republic of Ireland
- By taking part in this survey you agree that you:
 - Attain 18 years of age
 - Understand the information presented above and give consent to the information that you provide being used in this study.

For queries in relation to the study, please contact:

Shauneen Kerrigan E: C16455582@mytudublin.ie

*** 1. Gender**

☐ Male

☐ Female

*** 2. Age**

☐ 18-24

☐ 25-34

☐ 35-44

☐ 45 +

*** 3. Do you continue to purchase the same brand of green/herbal tea?**

☐ Yes

☐ No

*** 4. Do you think green tea naturally contains caffeine?**

☐ Yes

☐

*** 5. When selling tea do you think a company can use a health claim such as 'helps you lose weight'?**

- ☐ Yes
- ☐ No
- ☐ Maybe

*** 6. When choosing what tea you would like to purchase, would you purchase the product with the health claim or the product without the health claim?**

- ☐ Always
- ☐ Usually
- ☐ Sometimes
- ☐ Rarely
- ☐ Never

*** 7. Do you look at the nutritional information on the packaging?**

- ☐ Yes
- ☐ No
- ☐ Sometimes

*** 8. When buying green/herbal tea, is the primary reason of your purchase for the purpose of the health claim? i.e if the product had a health claim suggesting weight loss, would you purchase it based on the health claim?**

☐ Yes

☐ No

*** 9. How important is the presence of a health claim on the packaging of green/herbal tea when making your purchasing decision?**

- ☐ Extremely important
- ☐ Very important
- ☐ Somewhat important
- ☐ Not so important
- ☐ Not at all important

10. If you take medication, please answer the following question. Would you reduce or cease your intake of prescribed medication and replace/ compensate with the consumption of herbal teas?

- ☐ Yes
- ☐ No
- ☐ Maybe

