Investigating the Brand Image of Dietary Supplement Brands: a case for Health-conscious South Africans

By

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Abstract

With the escalating continual purchasing and consumption of dietary supplements (DS) widening the possibility for false and misleading advertising, properly informing consumers about the supplements they are ingesting becomes even more paramount for ensuring a positive brand image. It is known that there are grey areas with regards to health claims and advertising regulations pertaining to DS's in South Africa, as previous research indicates and confirms. DS advertising ethics in South Africa have been put in bad light previously but no attempts at reaching a health-conscious consumer centric approach for advertising supplements has been made. Global rises in health-consciousness is further exposing misleading DS advertising and health claims.

Four prominent DS brands were selected for the research whereby their nutritional contents were disseminated, their advertising and health claims intricately examined and analysed in conjunction with the South African Health Products Regulatory Authority's (SAHPRA) regulations on such health claims. The research reveals that some DS brands are misleading consumers through false health claims when their supplements contain trace elements harmful to humans. The research further uncovers a more promising way for DS brands to advertise their products; through empowering consumers through educating them to make informed decisions when it comes to their health, more specifically, to nutrition and nutritional supplementation. This report serves to encourage further research and analysis of the realm of DS's and the advertising of, as the current body of credible literature is lacking and the need for more information is growing. This research stands to prove that there is a better, more health-conscious way forward for DS brands which aligns with a positive and health-orientated brand image safe from harmful future scrutiny to the industry.

Key words: Dietary supplements, supplements, brand image, nutritional value, health-conscious, South Africa, SAHPRA and advertising.

I hereby declare that the Research Report submitted for the Honours in Strategic Brand Communication degree to The Independent Institute of Education is my own work and has not previously been submitted to another University or Higher Education Institution for degree purposes.

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29 November 2021

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Introduction

Dietary supplement (DS) brands are functioning on old models for the successful advertising of their products, which draw largely on consumer vulnerability and are failing more often due to the increase in global health-consciousness (Repko, 2020). This aspect is further fuelled by health-conscious consumers; misleading ways of advertising are being pointed out as optimal nutritional quality and transparent nutritional claims need to be made clearer, as the health-conscious consumers are more aware (Germano, 2020).

With governments and big food organizations from around the world advising consumers to ensure a sufficient intake of particular vitamins and minerals coupled with the global panic of being healthy to fight off the Coronavirus, has led to never before seen statistics in the Dietary Supplement world (Hamulka et al., 2020). Sales have been skyrocketing and the constant re-emergence of different Coronavirus strains has left no room for doubt in consumers' minds that there will likely be another virus/strain of the virus coming for them at some point (Peters, 2020).

Rationale

The study is of importance as the global rise in health consciousness is amplified by the pandemic. Hemulka, Bielak, Górnicka, Małgorzata and Monika (2021) highlight that the world-wide health crisis has set off the purchasing of dietary supplements astronomically, especially those of an immunity-boosting nature.
The importance of the study is thus clear as Senekal *et al.* (2021) found that out of the 301 participants in their study in Cape Town, South Africa, a total of 80.6% of 21-31 yr. old men and 81.3% of men over the age of 45 had used DS's in the past six months. This study reinforces the growing numbers of health-conscious individuals who are also turning to DS's in order to achieve their nutritional and fitness goals.

The study is important as it will assist the current body of knowledge to further encourage accurate representation of nutritional values in dietary supplements and to develop a new way of easily communicating nutritional values in a health-conscious manner which will lead to positive brand associations.

Ethical advertising standards need to be maintained and Schoones, Young and Volmink (2013) point out that these are rarely adhered to in South Africa. Consumers need to be

better informed and educated on the supplements which they are ingesting and the study seeks to further encourage clear and ethical advertising from supplement brands.

Problem statement

The problem identified is that dietary supplement brands are functioning on old models for the successful advertising of their products, which draw largely on consumer vulnerability and are failing more often due to the increase in global health consciousness (Repko, 2020). Schoones *et al.* (2013) point out that dietary supplements are poorly regulated in South Africa. This widens the possible gap for the inaccurate promotion of DS's in the media, through the use of nutritional claims claiming for health benefits. Germano (2020) points out that nutritional quality and nutritional claims need to be made more clear to consumers as misleading advertising becomes increasingly apparent. Senekal *et al.* (2021) reinforce this by stating that the advertising of DS's is usually dishonest, with the claims having little to no supporting evidence. South Africans, like other nationality's, have caught onto the importance and hype of vitamins, minerals and supplements through the global pandemic and misleading advertising of DS's is becoming more apparent (Ravagnani *et al*., 2021).

Purpose Statement

The purpose of this study is to develop a health-orientated framework that DS brands can adopt to better market their products contents to health-conscious South Africans to improve their brand image.

In-line with an inductive approach, a primary research question and sub-questions have been formulated (Gabriel, 2013).

Research Question

How can dietary supplement brands better market their products' contents without confusing consumers and offending health-conscious South Africans to ensure a positive brand image?

Based off of the main research question and in line with the research objectives, the following sub-questions were deduced:

- To what extent do consumers misinterpret the nutritional values in DS's?
- How to enhance DS brand image through the global health crisis to better promote health?
- How can dietary supplement brands better market their products without misleading and offending consumers?

Research Objective

To establish a health-orientated framework for dietary supplement companies to better market their products contents to health-conscious South Africans.

The research objectives for the following study include:

- To explore how consumers misinterpret the nutritional values in DS's.
- To investigate how dietary supplement brands can enhance their brand image to suite the current global stance on health and immunity and to connect more strongly with health-conscious South Africans.
- To analyse how dietary supplement companies can market their products in a more health-conscious manner, drawing less on consumer vulnerability.

Literature Review

Conceptualisation of Key Terms

The key concepts that are integral to this study are defined below.

Brand Image: The final accumulated impression that a brand is able to stamp into the minds of consumers (Mohajerani and Miremadi, 2012). It is important to note for the proposed research, that a positive brand image has a direct association to brand loyalty (Shabbir and Khan, 2017). DS brands looking to improve their brand image will thus ensure that they are generating healthy consumer loyalty, especially from Generation Z.

Dietary Supplement (DS): DS's are all products which contain concentrated sources of minerals, vitamins, probiotics or other bioactive as well as herbal compounds which allow for precision dosing (Ravagnani et al., 2021). DS's are manufactured with the clear intention of helping consumers to stay healthy, treat illnesses, the onset of certain diseases and to help consumers in attaining their health and fitness goals. This is mostly achieved through the intake of a certain amount of a particular vitamin and/or mineral. DS's come in all different forms such as powders, pills, tablets and liquids and are mainly used to treat nutritional deficiencies and to uphold certain intakes of particular nutrients (Baudischova, Straznicka, Pokladnikova and Jahodar, 2017).

Nutritional value: Nutritional value refers to the value of a particular nutrient which has been set out by governments from around the world (Karbownik et al., 2020). It is the amount usually of the specific nutrient, vitamin or mineral in milligrams (mg) or micrograms (ug). Our bodies require certain quantitates of such nutrients to perform bodily functions, in the various systems leading, often leading consumers to supplement for missing nutritional values in their daily diets (Sunley 2013). Zwanka and Buff (2020) put forward imperative evidence that consumers are eager to know what lays behind nutritional claims, meaning the true values of nutritional content on DS's.

Health-conscious: Health-conscious refers to when consumers select, organise and interpret certain sets of information in order to establish a frame for what it means to be living a healthy life which includes beliefs, behaviours and attitudes (Rootman and Galloway, 2013). Limsuwan (2020) highlight the raise in global health consciousness through the COVID-19 pandemic, making it a phrase that's becoming increasingly popular. Ravagnani *et al.* (2020) elaborate on this by noting consumers have had to become health-conscious to a certain extent since the onset of the pandemic.

The above defined concepts are relevant for the purpose of this study as the research seeks to investigate the brand image of dietary supplements, to reveal the negative impacts these brands are exposing themselves to and to propose a new health-orientated framework that can be adopted by DS brands. Nutritional value is to be used as a benchmark to uncovering the misrepresentation of nutritional value and corresponding health benefits claimed in the advertisements of DS's.

Theoretical Foundation

For the purpose of this study, the truth-default theory (TDT) has been used as the theoretical foundation. TDT insists that consumers passively accept communication efforts as truthful unless they are triggered and will experience scepticism, suspicion and disbelief (Levine, Narissra, Carter and Moore, 2020). This means that consumers are in a default mode of believing communication efforts and deeming them as true. This is an aspect which has been escalated since the onset of COVID-19 as consumers have been gullible to believe health claims from DS brands, especially through their promotion from top world-wide governments and corporations (Ravagnani et al., 2021).

As consumers have been becoming more health-conscious and misleading advertising which draws on consumer vulnerability is becoming more apparent (Repko, 2020), the place for TDT in this study is cemented. TDT goes hand in hand with nutritional claims being made by DS brands, as consumers have been buying into these claims and products as a result of naively accepting them to be true. TDT states that consumers believe information unless they have a clear reason not to (Levine et al. 2020). Currently, consumers are vulnerable and have a lot of reason to believe DS brands as they feel their health is more threatened than ever largely due to the threat of COVID-19 and look to self-medicate with DS's (Karbownik, Dobielska, Paul and Kowalczyk, 2020).

Taking into consideration consumers default setting of always believing communication efforts (unless triggered) and the current misrepresentation of health benefits through nutritional claims. This study seeks to put forward a more health-orientated approach that DS brands can use to ensure their positive brand image, by informing consumers in a more truthful and transparent manner. TDT is to be used to evidently show the deceptions being created by DS brands in order to formulate new ways of generating sales and ensuring positive brand image without deceiving consumers of their own health.

Literature Review

The following literature has been synthesized into different themes and is of a multicultural nature, the literature coming from all over the world. Brazil, Sweden, USA, Russia, Thailand, India as well as Poland are countries from where the literature has its origins set.

Grosso (2016), who specializes in implementing multicultural literature at institutions, notes that incorporating multicultural literature allows for a deeper understanding of what is being said and enables a global perspective on a matter, showcasing global competency. The world has never known a time whence the global community has been more alive than it is today (see Working Together for a Peaceful World – Dalai Lama, 2020). A multicultural lens enables a critical examination into the issue of DS brand image and nutritional claims.

The 'Rainbow Nation', which is South Africa, boasts a multicultural land whereby there are eleven official languages and where ethnic groups are further divided into sub ethnic groups (SA History Online, 2021). It is appropriate, to say the least, that a multicultural lens is of absolute importance to providing any credibly sound academic work and hence the reason why multicultural literature has been consulted, from both developed and developing countries. South Africa is a developing nation and benefits from analyzing the successful workings in fully developed countries, that the nation can only learn from (Carattini, Grosnell and Tavoni, 2019).

Literature concerning DS's amidst COVID-19

With national governments (Australia, Brazil, Canada, Italy, Spain and United States) and health organizations, such as the Food and Agriculture Organization of the United Nations, World Health Organization, United Nations Children's Fund, Center for Disease Control and Prevention and the European Food Information Council suggesting that intakes of iron, selenium, copper, zinc and vitamins A, B, C and D play an essential role in promoting a healthy immune system, it is no surprise that the sales of DS's have been reaching new heights (Ravagnani et al., 2021). DS use has been escalating the past few decades and has escalated astronomically since the onset of the Coronavirus, with some DS's raking in triple-digit growth rates during the start of the pandemic (Hamulka et al., 2020). This is made apparently clear by Hamulka et al. (2020) who state that the global DS market was set at USD 101.38 billion in 2018, 140 billion in 2020 and is set to increase comfortably with an annual growth rate of 8,6% going into the future.

Hamulka et al., (2020) place specific emphasis on the huge increases of sales on immunity related DS's much alike Zwanka and Buff (2020). Interestingly, nearly all the participants involved in the study of Hamulka et al., (2020) started using DS's during the first wave of COVID-19 that swept the globe. This, clarified by Zwanka and Buff (2020), is

known as the initiation consumption phase which consumers are driven into through their worries towards their own health and immunity. Consumers have a new and most compelling reason to purchase DS's and that reason is to keep themselves and their immunity's healthy and strong, to stay uninfected by COVID-19 and to keep themselves strong in case they come into contact with the virus (Ravagnani et al., 2021).

Adams, Baker and Sobieraj (2020) draw attention to the fact that there are physicians, mainly in China, who have spoken on various media-outlets claiming that they have treated patients with COVID-19 with incredibly high doses of IV administered vitamin C. Vitamin C is one of the fastest grossing supplements on the market, alongside multivitamins and fish oil (Hein, 2021). It is no mistake that such a product is selling out as medical professionals, governments and worldly health organizations actively promote its consumption (Ravagnani et al., 2021). DS's are thus been promoted on a social and medical level, making them essential commodities of the future. However, consumers need to be educated first and foremost because, as an example, high doses of vitamin C are known to start the formulation of kidney stones and other supplements are renowned for producing gastrointestinal side-effects in high doses (Adams, Baker and Sobieraj, 2020). It is more likely that consumers will choose to self-medicate with DS's before they actually take themselves to the doctor when feeling sick and ill (Adams, Baker and Sobieraj, 2020). It is due to this reason that the correct promoting and advertising of DS's is conducted without brands merely making nutritional claims.

Literature regarding nutritional claims and packaging importance

Svederberg and Wendin (2011) looked to uncover how the thoughts and perceptions of consumers towards nutritional claims being made were largely influenced by both a lack of understanding and credibility behind such claims. This is significant as it reveals that consumers are extremely suspicious of DS's when the nutritional claims been made are not thoroughly elaborated on and appear to lack in empirical evidence. Consumers who are concerned for their own as well as their family's health and well-being want to know first and foremost the truth behind nutritional claims been made (Svederberg and Wendin, 2011). This is the case more so than ever before as the onset of the Coronavirus has resulted in the biggest global health scare the world has ever known. Through the study of Vanesse (2016) it was uncovered that females and consumers scoring highest on health consciousness scales were the most likely to be influenced by the packaging on food-

related products. This is significant as it indicates a niche need that is continuously growing, starting with more health conscious individuals. Consumers are wanting to know what is behind the packaging and nutritional claims been made by DS brands as they have been awoken through culture, society and self-development (Svederberg and Wendin, 2011).

Consumers are under an immense amount of stress and health care systems are strenuously stained, leading consumers to seek out the best possible information which can assist them in maintaining good health and well-being (Adams, Baker and Sobieraj, 2020).

Svederberg and Wendin (2011) make clear that there is a need to supply consumers with the necessary information they require and emphasize the importance that nutritional claims need to be understood. These are two paramount factors to the proposed research, which holds the same stance; consumers need and want to know more behind nutritional claims been made by DS brands. If DS brands keep putting out misleading nutritional information about their products contents, they will ultimately tarnish their brand image, especially as rises in global health consciousness have been escalating (Repko, 2020). Sekhri and Kaur (2014) bring attention to the importance of raising awareness regarding correct DS usage, in order to prevent consumers from adverse side-effects. This is important for DS brands who want to uphold a good and caring image, they need to inform and educate their consumers on their products instead of simply advertising through nutritional claims.

Svederberg and Wendin (2011) shed light on a European Regulation passed on by the European Parliament which states that the use of nutritional claims shall only be allowed if ‘the average consumer’ is expected to fully understand the true benefits of the nutritonal claims been made. It should be noted that consumers in different countries and parts of the world interpret nutritional value in a different manner (Svederberg and Wendin, 2011). South Africa and Africa as a whole can utilize this stance as there are gaps for the misrepresentation of nutritional values in DS’s and food products alike, (Amato, 2018). More importantly to take into consideration: a continent (Africa) plagued by malnutrition and a lack of fresh nutritious food would benefit from the use/implementation of DS to aid struggling populations in fulfilling their daily nutritional requirements.

Interestingly, Svederberg and Wendin (2011) note that products that have a nature of been portrayed through nutritional claims are driven by the influence in the medical sphere as well as the respective ways the product is been portrayed on a social level. This is significant as, in line with the facts put forward by Ravagnani et al., (2020), who make clear the encouragement by national governments (Australia, Canada and the United States [to name but three]) and big health organizations such as the World Health Organization, have been actively encouraging the consumption of certain vitamins and minerals to maintain good health during the pandemic and subsequently DS's.

Svederberg and Wendin (2011) draw attention to the fact that consumers are strongly influenced by environmental issues and their own health in relation to such issues. Currently consumers face what could be their most drastic environmental threat they have ever faced in their livelihoods, COVID-19. This further reiterates the magnitude that DS are currently prevailing towards.

Literature regarding behavioural and purchasing shifts in relation to DS's

The global pandemic and health crisis have and will continue to change the traits, buying patterns and psychographic and physiological behaviors of consumers as well as the ways in which DS's are marketed (Zwanka and Buff, 2020). One of these behaviors is self-medicating with Dietary Supplements, for reasons such as maintaining good health, to procure healing of illnesses and alleviate symptoms of disease (although Adam, Baker and Sobieraj (2020) put forward evidence that medical physicians have actually treated patients with COVID-19 with insanely high doses of vitamin C) (Sekhri and Kaur, 2014). Ravagnani et al. (2021) provide a better understanding of this in relation to the current global health situation by stating that the chances that self-isolation is to cause emotional and psychological stress, changes in sleep, mood and exacerbating chronic health conditions is highly likely. Karbownik, Dobielska, Paul and Kowalczyk (2020) ironically note that such a situation is likely to worsen non-COVID-19 diseases. This is more than enough reasoning to prompt consumers to purchasing DS's.

Stressful life occurrences result in either the initiation, intensification or general shifts in consumption patterns (Zwanka and Buff, 2020). A relatable global shift in mega-mass product consumption was notoriously experienced in many nations which was the stocking-up and selling out of toilet paper, when news first broke about the pandemic, due

to widespread stress and nervousness about the unknown future (Moore, 2020). This fact just serves to showcase the drastic severity that intensification of consumer consumption can reach. This is also referred to as excessive over-consumption (Kjellberg, 2008).

Zwanka and Buff (2021) elaborate on consumers stocking up during the pandemic by placing a strong emphasis on supplements that claimed to heal and prevent colds and flu (also those of an immune-boosting nature). With consumers feeling off-guard, they began stocking up, Zwanka and Buff (2020) tighten this aspect up by stating such an event is a 'pre-cursor to items that will be kept in ready supply' in times to come. This is significant as it serves to prove the need, that is DS's, the world is coming to know, especially due to rising health consciousness and escalating demands for healthy products (Zwanka and Buff, 2020). It is thus imperative to create proper awareness around DS's and the correct implementation of DS's, in conjunction with a whole food balanced diet (Sekhri and Kaur, 2014).

Literature Review Conclusion

Ultimately, there is a lot of world-wide pressure on governments, health care systems, institutions, organizations and on consumers at large due to the ravaging COVID-19 pandemic. The use of DS's has been encouraged by prominent governments, health organizations, physicians and medical practices as well as throughout mainstream media, (Ravagnani et al., 2020). This is the case as the globe has gone health crazed as having a strong immune system has been one of the most effective and proven measures to increasing one's likelihood of remaining relatively unaffected (physically) from the virus (Karbownik et al. (2020). The world has seen mad instances of stock up mentality which is a foreseeable trend of the future (Zwanka and Buff, 2020). DS sales have been and continue to soar as the billion-dollar industry draws more on the lack of knowledge consumers have towards nutritional contents, whereby consumers are drawn to DS's through their own vulnerable emotions, thoughts and circumstances (Karbownik et al., 2020). Zwanka and Buff (2020) uncovered that consumers are eager, to say the least, at finding out what lies behind nutritional claims been made by DS brands, now more so than ever as more supplements emerge onto the market due to high demands. DS brands looking to maintain a positive brand image in the future need to take into consideration consumers awareness around products and nutritional contents. If consumers are made more aware of the nutritional contents in DS's, they are more likely to make an informed

purchasing decision. Not only this, but DS brands have the duty to inform a public which is under extreme stress and never before experienced conditions. DS brands have the opportunity to alleviate some consumer anxiousness around their health and well-being by providing them with credible, scientific-backed evidence and reasoning for why they should consume the DS in the first place (Karbownik et al., 2020).

Research Design and Methodology

Research Paradigm

The proposed research will adopt an axiological position of critical realism. The paradigm of critical realism, in-line with the proposed research, sees knowledge as being socially constructed and that people experience the world based on their own realities (du Plooy-Cilliers, Davis and Bezuidenhout, 2014). This is important to the study as consumers have been pre-conditioned by society and societal norms which has left them gullible to misleading DS advertising (Sunley, 2013). What is imperative to this study is that the researcher is to understand and explain, first and foremost, as opposed to making predictions. This will credit the newly constructed information which will have factual evidence to substantiate it. Critical realists stand up to their responsibility to make a societal transformation in the form of a contribution that has exposed and critiqued unjust practice in society (du Plooy-Cilliers *et al*., 2014). The main aim of this study is therefore to create a transformation in society by establishing a health-orientated framework that can be used by DS brands in order to better inform consumers through their marketing efforts to ensure a positive brand image.

Through an axiological position, the researcher fully accepts their own bias as the value in the research cannot be understated for critical realists (Du Plooy-Cilliers, Davis and Bezuidenhout, 2014). To inform this study in a South African perspective, Key literature from South Africa is to be disseminated, such as from Schoones, Young and Volmink (2013), Gerricke and Bekker (2008) and Senekal et al. (2021), although there is a lack in the body of DS literature, especially in a South African context. DS use is prevalent in South Africa and as health-conscious individuals have become more aware of their and their families health and well-being, it is time to pave a new way forward for the marketing of DS's.

Through the lens of critical realism, factual evidence is to be collected and synthesised in order to provide a framework whereby the variables used have been proven to be efficient in their respective placings. Such variables are that of the correlation between positive brand image and consumer perception of supplements advertised, in relation to the nutritional claims been made. Svederberg and Wendin (2011) dive deep into the thoughts and perceptions of consumers towards such nutritional claims made and are to be referred to closely. The changes of behaviour, attitudes and perceptions into the global pandemic are also to be taken into account. In conjunction with this, evidence is to be collected from the labelling on three different DS's with regards to the nutritional contents and this is to be analysed in accordance with the way in which the product has been advertised (also taking into account the South African advertising laws pertaining to DS's).

Research Design

A qualitative approach will be followed for the purpose of the proposed research. A qualitative approach provides the essence for what is needed for this study as in depth data will lead to the 'what', 'why' and 'how' of the focus (du Plooy-Cilliers *et al*., 2014). As the research problem is multi-faceted, an approach that accommodates this was chosen. A qualitative approach to this study will include diverse perspectives and varying types of textual and visual data (Maree, 2019). These data include three different DS's nutritional content, the ways in which these DS brands have marketed the products; using health claims, South African advertising laws pertaining to DS's and the brand image of the DS's.

Crowe et al. (2011) note that a case study approach to research allows for a multi-faceted exploration of an issue and is the most useful when the researcher needs to gain a more in-depth regard of an issue. With the current body of knowledge substantially lacking when it comes to DS's and their misrepresentation in the media in a South African context, research into this spectrum needs to reveal more about the phenomena occurring (Harrison et al., 2017). An advancing understanding of the misrepresentation of nutritional content in DS's and the negative brand image associations is needed, and thus a case study approach is to be adopted (Cousin, 2006). Du-Plooy Cilliers *et.al*., (2014) note that the main aim of case study research is to present the case originally and genuinely. Maintaining this is important to this study.

The case study research which is to be conducted is going to be a collective case study as it is to incorporate different aspects into one study (Crowe et al. 2011). This study will incorporate a content analysis of DS's nutritional values with the health benefits advertised in conjunction with South African advertising laws pertaining to DS's and the DS brands images in relation to these. (Maree, 2019) note that through collective case study research, different cases are to be analysed in different settings and the findings are to be drawn up and compared, with the goal of finding similarities. For this reason DS brands that have been revered in good light and one that has been previously slated for its misleading claims (Sacco 2019).

In-line with the chosen paradigm of critical realism, an interpretive approach will be undertaken for this study. Maree (2019) point out that interpretivism is sometimes referred to as constructivism as it enables the researcher to generate meaning. The possible problem this approach makes apparent is that it can lead the researcher to thinking that there is one possible and correct interpretation for the case (du Plooy-Cilliers *et al*., 2014). This study acknowledges the possibility for multiple interpretations and does not seek to present an absolute or the only correct interpretation of the research.

Inductive reasoning is to be adopted whereby a bottom-up approach is going to occur which allows for progressive research to be done (du Plooy-Cilliers *et al*., 2014), lending forth to a new health-orientated framework for DS brands. Inductive reasoning is applicable to this research study as the study seeks to put forward a new health-orientated framework that can be used by DS brands to enhance their brand image towards health-conscious South Africans.

Population

The population involves all that is of importance to the researcher and to the study (du Plooy-Cilliers *et al*., 2014). The population is therefore DS's and DS brands and the advertisements used in conjunction with promoting their supplements. Whereas the target population is everything that lays within the population parameters (du Plooy-Cilliers *et al*., 2014). The target population is thus DS's and DS brands that have made health-claims in relation to the nutritional content of the supplements. Furthermore, the target population will involve the corresponding DS advertising efforts for the product and the South African advertising laws and regulations pertaining to DS's.

The key population parameters are that the advertisements are in a South African context, relating specifically to South African advertising laws and regulations in order to make this study more concise and beneficial to local society. The DS's are all manufactured in South Africa and are going to all have the commonality of being promoted as immune-boosting DS's, as these have become the most popular world-wide (Ravagnani *et al.,* 2021).

Sampling

For the purpose of this study, non-probability sampling was undertaken as Maree (2019) points out that non-probability sampling is acceptable to use when time is limited and when the population is too hard to access. The population including all DS brands, products and advertisements is too expansive to be studied and thus a sample is to be taken. The sampling method undertaken was that of purposive sampling. It was undertaken whereby DS's of an immune-boosting nature were selected as the sample, as these are the most popular DS's, largely due to the onset of COVID-19 and waves of health-consciousness as more consumers seek to supplement in their nutritional requirements as well as taking preventative measures from catching any sickness (Ravagnani *et al.,* 2021). Adding to the DS's; their nutritional content and the way in which the specific supplement has been advertised were all selected in accordance with the sampling technique stated. The sample of advertisements was selected. The advertisements which were selected included that of Berocca's chameleon Roccy in their 'be more Berocca' advertisement (see Berocca Chameleon dancing to Panjabi music – Berocca UK, 2017), Avogel's Echinaforce with local actress Shaleen Surtie-Richards (see Echinaforce – Avogel, 2021), Revite's Combo Omega-3 and 6 advertisements and lastly a combination of Bio-straths advertisements. Thus the sample of DS's is to include that of Berocca (Performance), Avogel's Echinaforce droplets and tablets, Revite's Combo Omega-3 and 6 and Bio-Strath's Syrup. The unit of analysis which was chosen was the nutritional content (mg) of various vitamins, amino acids and minerals as well as the South African advertising laws and regulations pertaining to DS's been marketed. These are both quantifiable when used against the claims and misrepresentations by DS brands.

Data Collection and Analysis

Introduction

The proposed study is of importance as the global rise in health consciousness is amplified by the pandemic. Hamulka, Bielak, Górnicka, Małgorzata and Monika (2021) highlight that the world-wide health crisis has set off the purchasing of dietary supplements astronomically, especially those of an immunity-boosting nature. Immune-boosting supplements have been encouraged to the public by governments and big food organisations which has largely been a result of the onset of COVID-19 (Hamulka et al., 2020). An additional herbal supplement Avogel Echinaforce has been added to the research due to the widespread popularity of these supplements (Senekal et al., 2021). The proposed research seeks to assist the current body of knowledge to further encourage accurate representation of nutritional values in dietary supplements and to develop a new way of easily communicating nutritional values in a health-conscious manner which will lead to positive brand associations.

Data-collection Method(s)

This study made use of two main forms of data collection, which were done in-line with the proposed content analysis. The first form of data collection which took place was that of a textual and numerical data collection (Maree, 2019). Textual data needed to be collected and synthesised in the form of academic journals on misleading DS claims in South Africa and elsewhere. Further research was discovered which goes against some of the health claims which is to be discussed in the findings. It is important to note that only authoritative sources were consulted in the process of the data collection and photographs and screenshots have been attached as proof of the information collected (see Annexures and figures). Du Plooy-Cilliers *et al*. (2014) highlight the importance of not mixing the textual data with content from the literature review, this principle was followed strictly as the literature review does not form part of the data. Another aspect of the textual data collection involved paying extremely close attention to the South African advertising laws and regulations pertaining to DS's. The South African Health Products Regulatory Authority released new regulations and guidelines for DS health claims; what brands were allowed to claim from the specific quantity and quantity of ingredients. The Complementary

Medicines – Heath Supplements Safety and Efficacy was thoroughly searched through and examined. Screenshots highlighting the relevant information pertaining to the sample have been attached in the Annexures as figures (see annexure A-F). The advertising laws and regulations were then contrasted with the current brand image of the DS's and the ways in which the DS brands have been marketing their products contents.

The numerical data collection that was undertaken involved the collection and tabulation of the nutritional contents (in mg's or umg's) of the DS's. The nutritional makeup of each of the sample DS's was tabulated and screenshots and photographs have been attached in the annexures to ensure validity of the information which has been relayed. The nutritional contents of the DS's were then compared to the actual benefits being marketed by the DS brands and if such benefits could in fact truly be attained through the dosages of respective nutritional values.

The second form of data collection that was undertaken was that of a visual analysis of the advertisements of the above mentioned DS brands. A visual analysis meant unpacking the visual advertisement' s (videos, posters, photographs and banners) in order to fully understand the messages been communicated from the DS brands (Riffe, Lacy and Fico, 2008). Once the messages had been unpacked and understood the next step was to perform this in conjunction with an interpretive analysis (Maree, 2019). The goal of the analysis was to understand the advertisement' s as the general consumer would understand them. An interpretive analysis is necessary and will be undertaken with an open mind so that an unbiased analysis can occur.

Application of data-collection Method(s)

The data collected have been attached in Appendix E, refer to this appendix for alternative sources of textual data collection.

The benefits been advertised have been attached in the appendixes to be used in the data analysis and findings.

<u>Textual data collection</u>

Nutritional Content of Bio-Strath Syrup

Building substances	Vitamins	Amino Acids	Minerals and Trace Elements
Lecithin	B1 - Thiamine	Alanine	Calcium (Ca)
Lecithin phosphate	B2 - Riboflavin	Arginine	Chromium (Cr)
Mannan	B6 - Pyridoxine	Aspartic + asparagine	Cobalt (Co)
Glucan	Niacin	Cystine	Copper (Cu)
Glutathione	Biotin	Glutamic acid + glutamine	Geranium (Ge)
Choline	Pantothenic acid	Glycine	Iron (Fe)
Desoxyribonucleic acid (DNA)	Folic acid	Histidine	Magnesium (Mg)
Ribonucleic acid (RNA)	B12 - Cobalamin	Isoleucine	Manganese (Mn)
ATP (adenosine triphosphate)	C – Ascorbic acid	Leucine	Molybdenum (Mo)
L-Carnitine	Inosit	Lysine	Nickel (Ni)
Ubiquinone (coenzyme) Q6	Ergosterol (Provitamin D2)	Methionine	Phosphorous (P2O5)
Ubiquinone (coenzyme) Q7		Phenylalanine	Potassium (K)
Ubiquinone (coenzyme) Q9		Proline	Selenium (Se)
		Serine	Silicic acid (Si)
		Threonine	Sodium (Na)
		Trytophan	Total sulphur (S)
		Tyrosine	Tin (sn)
		Valine	Vanadium (V)
			Zinc

➔ See figure 2.4.

It should be noted that:

➔ Bio-Strath do not supply the actual amounts of building substances, vitamins, amino acids nor the minerals and trace elements within the dietary supplement.

Numerical data collection

Nutritional Content of Berocca Performance

Contents	Amount per one tablet (mg/umg)
Vitamin C	300mg
Vitamin B1	15mg
Vitamin B2	15mg
Nicotinamide	25mg
Vitamin B6	10mg
Folic acid	400umg

Vitamin B12	10umg
Biotin	150umg
Pantothenic acid	23mg
Magnesium	100mg
Zinc	10mg
Calcium	100mg

➔ See figure 4.3.

Nutritional Content of Revite Combo Omega-3 and Omega-6

Contents	**Amount per one tablet (mg)**
Evening Primrose Oil (Omega-6)	500mg
Gamma-linolenic Acid (GLA)	50mg
Linoleic-Acid (LA)	350mg
Omega-3 EPA + DHA Concentrate	500mg
EPA (Eicosapentaenoic Acid)	90mg
DHA (Docasahexaenoic Acid)	60mg
Natural Vitamin E	Not specified

➔ See figure 3.4.

It should be noted that:

➔ Evening Primrose Oil is comprised of GLA and LA
➔ Omega-3 Concentrate is comprised of EPA, DHA and Natural vitamin E

Recommended dose:

Nutritional Content of Echinaforce Echinacea Drops

Contents	**Amount per dose (ml/mg)**
Echinacea purpurea Herb	0.95ml equivalent to 79mg dried herb
Echinacea purpurea Root	0.05ml equivalent to4.5mg dried root
Alcohol (ethanol)	0.67ml

Recommended dose:

- 30 drops, three times daily (prevention)
- 30 drops, five times daily (acute treatment)

➔ See figure 1.4.

Nutritional Content of Echinaforce Echinacea Tablets

Contents	**Amount per tablet (mg)**
Echinacea purpurea Herb	6.35mg equivalent to 31.7mg of dried herb
Echinacea purpurea Root	0.33mg equivalent to 1.8mg dried root
Fresh Echinacea tincture	400mg

Lactose	Not specified
Potato starch	Not specified
Vegetable magnesium stearate	Not specified

Recommended dose:

- Two tablets, three times daily (prevention)
- Two tablets, three to five times daily (acute treatment)

➔ See figure 1.5.

<u>Visual analysis</u>

Refer to Annexures for data collected for visual analysis.

Data Analysis Method(s)

Before the data analysis could occur, it was imperative to get the data ready by thoroughly checking and inspecting the data a long every step of the process, as well as saving the data so that it can be re-checked again at later stages (Maree, 2019). This was done through the context of the content analysis.

The data analysis begun by having the samples described in great detail. This included the ingredients, nutritional values, the DS brands and the reasons as to why the specific DS's and corresponding advertisements were chosen. A discussion of the context of the study followed the initial descriptive process. A close eye was kept for any emerging patterns amongst the sets of data gathered.

Once collected, the sets of data were organised mainly through the refinement of the data sets, by cutting down on redundant information and highlighting key points. Original data sets were and have been kept, such as the nutritional content and the required nutritional amounts needed for advertised health benefits (according to SAHPRA), in order to take new found important pieces of data to keep re-contextualising the study and the direction of the study. The data was then transcribed, such was the case with the above mentioned advertisements where voice-overs were typed out word for word as well as all the visual elements coming into play. This was deemed important as it could reveal reasons as to why DS brands are opting for certain marketing tactics and can lead to the generation of new health-conscious marketing tactics.

Once the data sets had been disseminated and refined to their core elements and meanings, a thorough and clear understanding of all the data became the main goal of the researcher. In order to conduct qualitative research through the position of axiology and the lens of critical realism, a deep understanding needed to be developed and maintained (du Plooy-Cilliers *et al*., 2014). This is important as no new valid information could be considered without knowing the researcher has an intrinsic understanding of the data presented (Maree, 2019).

After a thorough understanding was developed, the data then underwent coding whereby it was broken up into analytical units which would be characterised by specific words and symbols (Maree, 2019). The codes that were generated for the content analysis included descriptive words such as 'lacking in Vitamin B6' or 'insufficient Vitamin C for immune-boosting claims'. This assisted in grouping the data, finding similarities and will aid in building a case.

Application of Data-Analysis Method(s)

Visual Analysis

Avogel Echinaforce

Time	Occurrences
00:00	Scene opens on Shaleen - Holding a bunch of pink Echinacea flowers wrapped in a ribbon which says "Echinacea" - Grinning
00:02	Shaleen asks a customer "Who are they for?"
00:03	Customer #1 responds "My friends getting married in winter" - Customer #1 reaches out to receive the flowers - The scene expands to show the inside of a flower store/nursery - Customer #2 (Arthur) with hat enters the store - Butterflies begin to fly around Shaleen
00:04	Shaleen replies "ahg nobody wants to catch a cold" and hands customer #1 the flowers
00:06	Customer #2 (Arthur) timidly approaches Shaleen at the counter and says in a worried/panicked voice "My wife's got the flu…. If it's bronchitis…"
00:07 00:13	Shaleen interrupts Arthur and says "ahg don't worry man Arthur. These will help prevent bronchitis.." – Shaleen hands Arthur the Echinacea flowers and continues to say "and faffing husbands"
00:14	Arthur replies as he exits the store "I heard that"
00:14	Shaleen laughs and grimaces and says "Good"
00:15	Customer #3 walks into the store and asks "Can I have some of those for my little girl, her nasty cold is leading to more antibiotics.."

00:22	Shaleen interrupts customer#3 and says as she hands over the flowers "Proven to cut the use of antibiotics by 76%."
00:23	The scene then jumps to a shot of Avogels Echinaforce range of products on a stool alongside some Echinacea flowers that Shaleen is placing next to the products as she voices over and says "Avogels Echinaforce, clinically proven to support imunity, prevent and treat colds, flu's and their complications."
00:24	The scene comes to an end with the product range, brand name and website all visible on the screen.

Data Coding for Data Analysis

Variable	**Item Code**	**Coding**
Nutritional Content	NC	Strong =5 Above average =4 Average = 3 Below average =2 Inferior =1
Health Claims	HC	Strong =5 Above average =4 Average = 3 Below average =2 Inferior =1
Health Benefits Marketed	HBM	Strong =5 Above average =4 Average = 3 Below average =2 Inferior =1
Health Supplement Claim Regulation	HSCR	Strong =5 Above average =4 Average = 3 Below average =2 Inferior =1

Brand & Product	**Nutritional Content**	**Health Claims**	**Health Benefits Marketed**	**Health Supplement Claim Regulation**
Avogel Echinaforce (Drops)	**2**	**5**	**4**	**2**
Avogel Echinaforce (Tablets)	**2**	**5**	**4**	**2**
Berocca, Berocca Performance	**3**	**3**	**3**	**4**
Bio-Strath, Bio-Strath Syrup	**1/5**	**5**	**5**	**4**

Revite Omega-3 and 6 Combo	**4**	**3**	**3**	**5**

Data Collection and Analysis Conclusion

The data collection process required searching through a lot of information of multiple origins which would then be sorted according to the relevant DS brand, product, advertising, nutritional contents and the appropriate regulations of health claims set by SAHPRA (South African Health Products Regulatory Authority, 2020). The data then underwent an analysis whereby it was deeply studied and analysed to produce sets of data with codes which are to be used to generate the research findings.

Reliability and Trustworthiness

Only authoritative primary and secondary sources are to be consulted and the information taken from the different sources is to be consolidated in an unbiased manner whereby understanding of the information is the top priority of the researcher.

Intra-coder reliability is to be performed on the sets of data, whereby the researcher uses the same code for the same sets of data in a reliable and steadfast manner, in order to ensure reliability across the data sets (Maree, 2019). This is to be done during the coding phase of the data analysis to ensure the coding of the data is of a reliable nature.
Maree (2019) notes that trustworthiness is one of, if not the most important aspect of any qualitative research study especially when it comes to data findings, analysis and conclusions drawn. Trustworthiness is to be maintained throughout this study as the chosen research design aligns with both the research question and proposed methodology (Maree, 2019). Notes will be taken throughout the data collection and analysis process in order to showcase the researchers thinking processes and reasoning behind disseminations and consolidations of data sets. In-depth description of phenomena will be rigorously elaborated on in order to close any gaps and fully substantiate for proposed reasoning (du Plooy-Cilliers *et al.,* 2014).

Findings and Interpretation of Findings

Introduction

After the data were collected and analysed they could be presented as findings, further interpreted, explained in context and then used to address the primary research question, objective and problem in order to synthesise the research into a coherent direction forward for DS brands and DS marketing efforts alike.

Presenting the Findings

The most important aspects of the research findings have been formulated into pie charts, line graphs and tables respectively in order to visually present key data. What follows are the nutritional make-up of the dietary supplements as well as the nutritional contents of Berocca Performance and Revite's Omega-3 and 6 in comparison to the regulations set out by the South African Health Products Regulatory Authority (SAHPRA, 2021). The data which were collected during the collection phase have been attached as appendixes (see Appendix A-F) and some key figures are to be referred to.

Figure 1: Nutritional Content of Berocca Performance

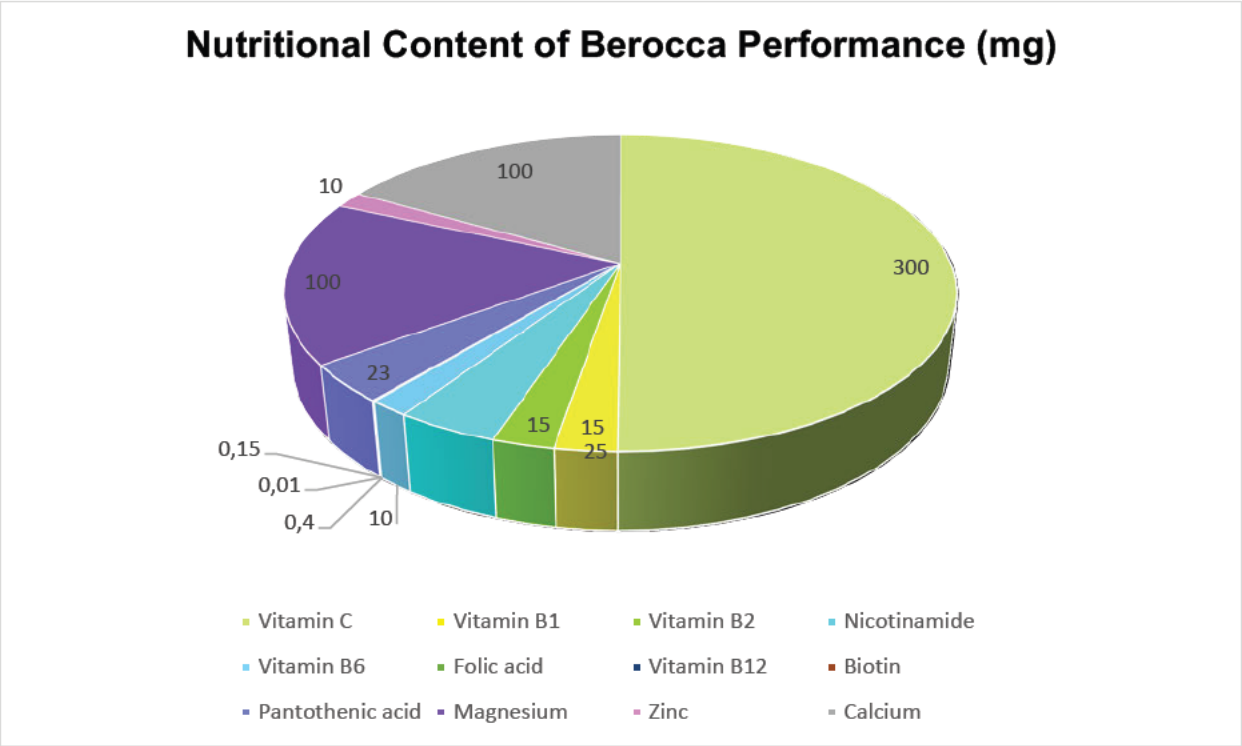
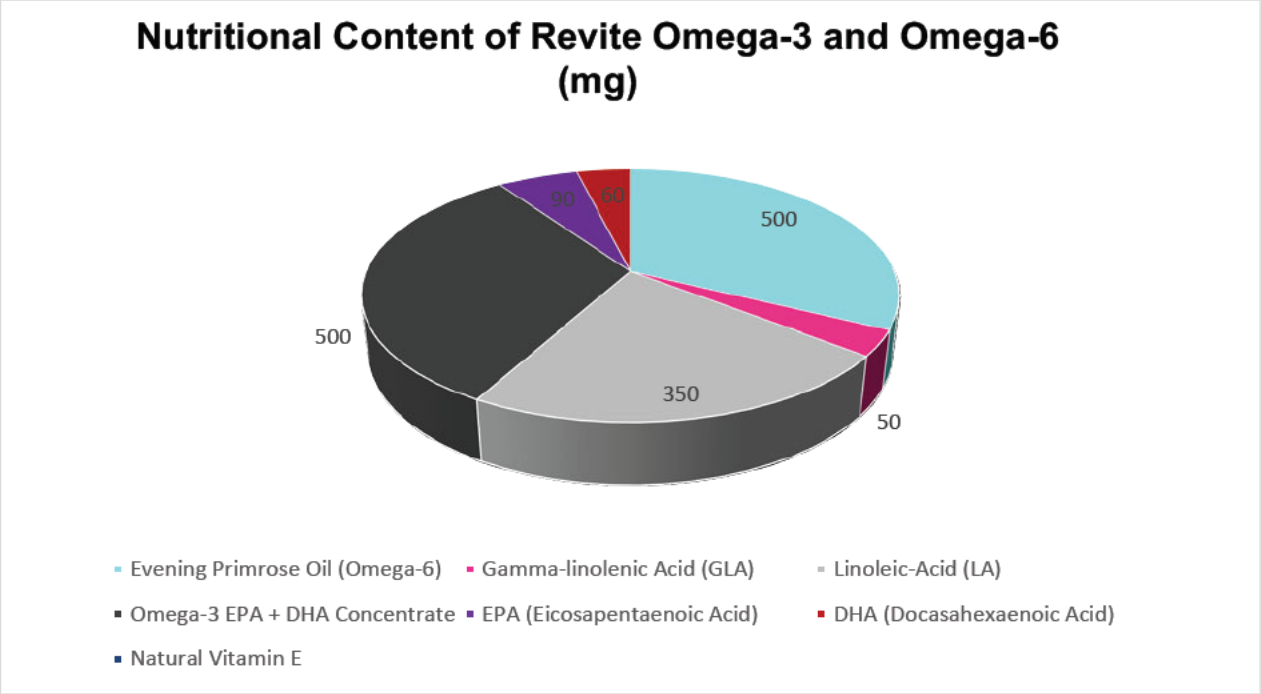


Figure 2: Nutritional Content of Revite Omega-3 and Omega-6

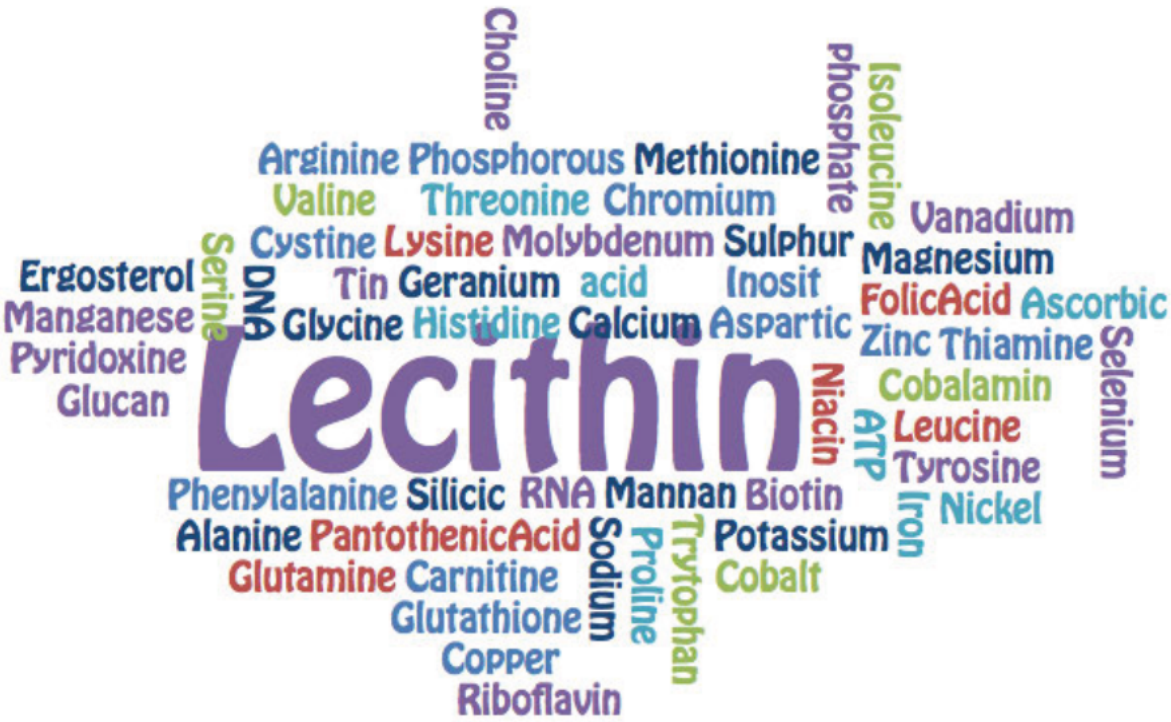


As the amounts of nutritional contents in Bio-Strath Strath Syrup are unknown, the composition of ingredients has been best displayed as a word cloud which follows as figure 3.

Figure 3: Nutritional Ingredients of Bio-Strath Strath Syrup

Nutritional Ingredients of Bio-Strath Strath Syrup

Figure 4:



Nutritional Content of Echinaforce Echinacea Drops

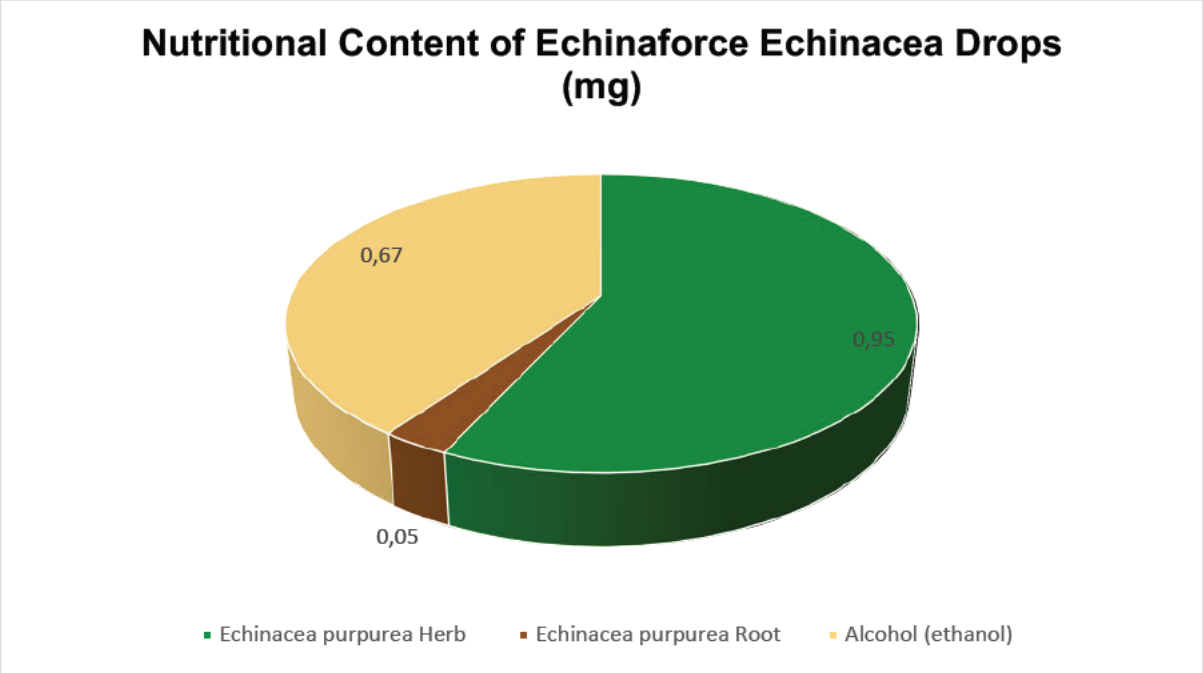


Figure 5 : Nutritional Content of Echinaforce Echinacea Tablets

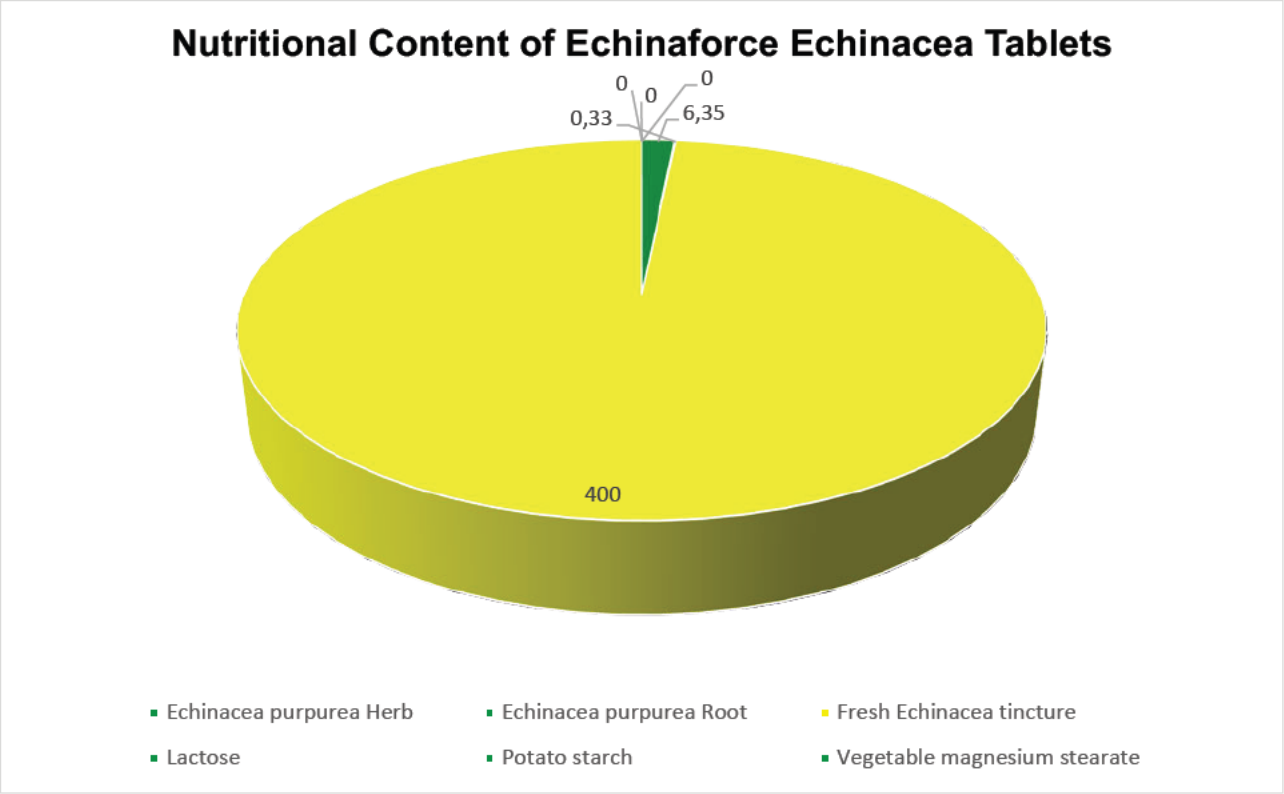


Figure 2.1 : Berocca Performance and SAHPRA (2020) Regulatory Amounts of Nutritional Contents

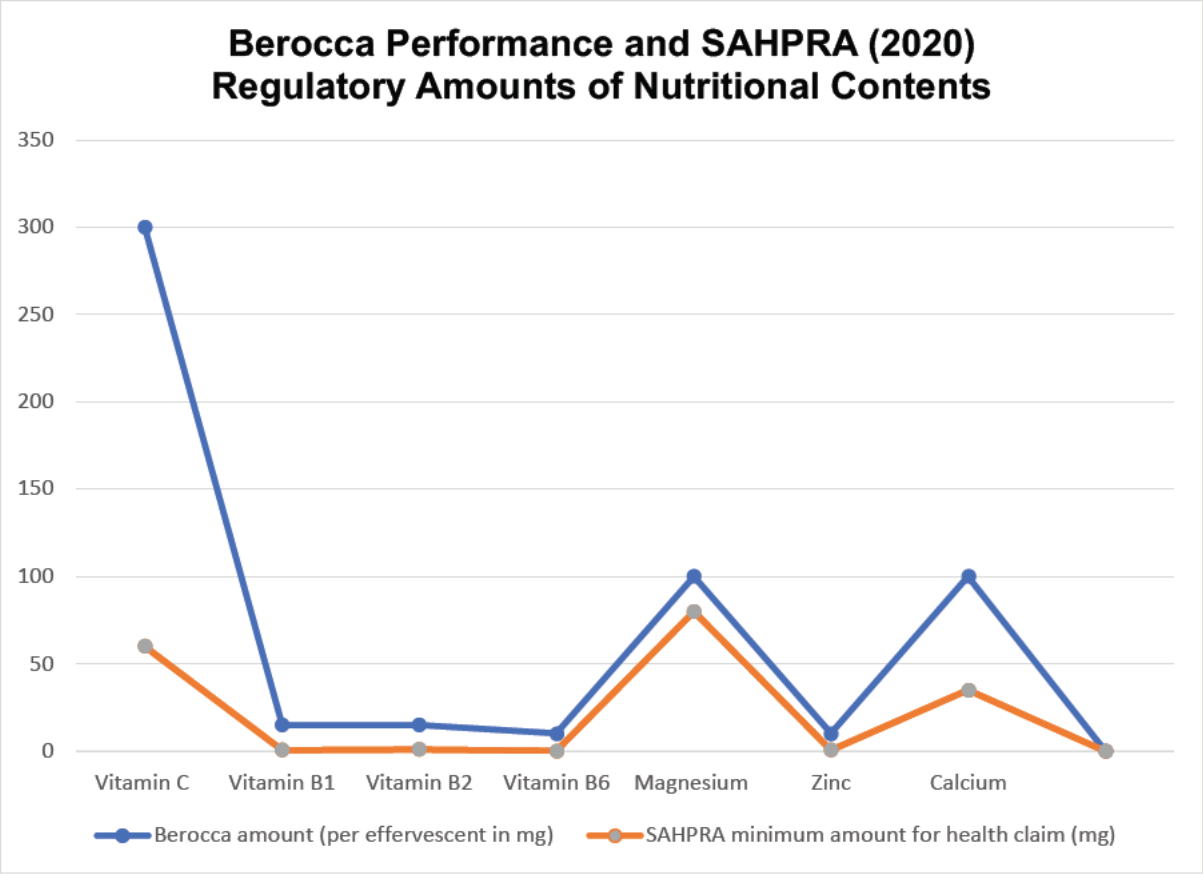


Figure 2.2 : Revite Omega-3 and 6 and SAHPRA (2020) Regulatory Amounts of Nutritional Contents

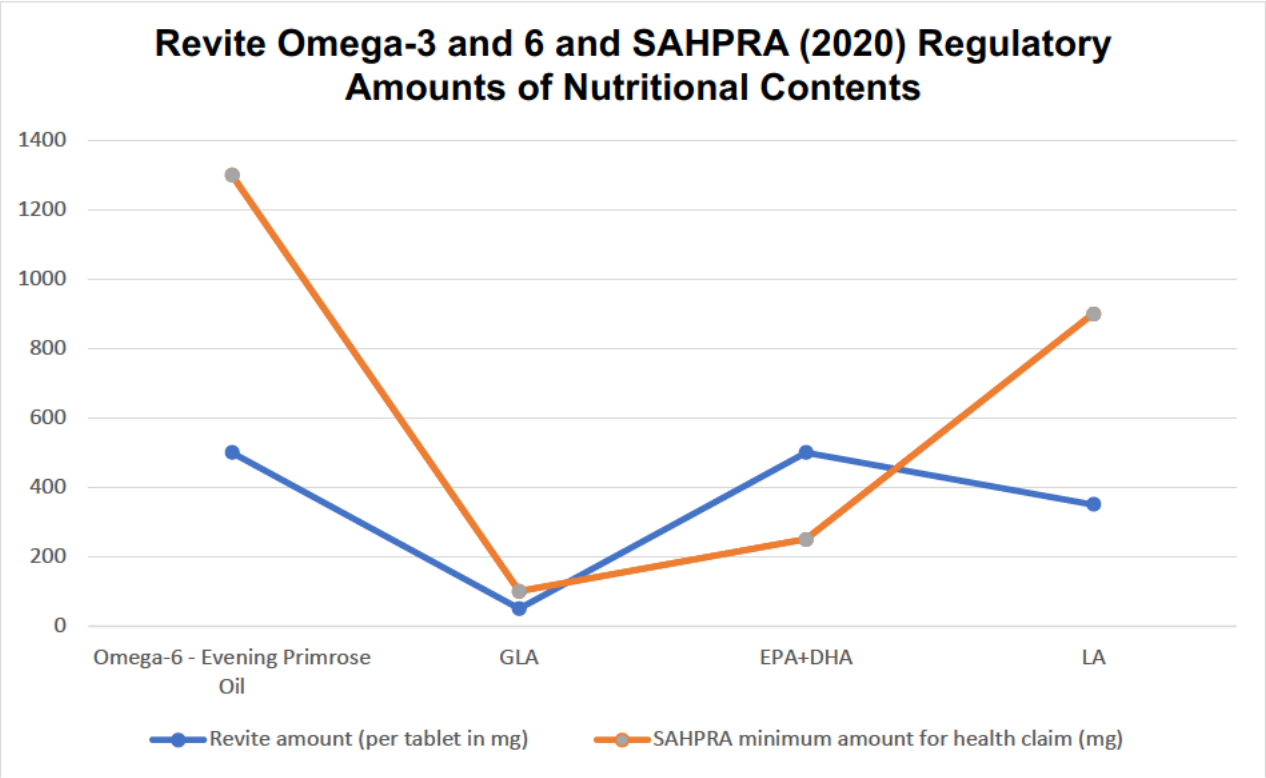


Table 3.1: Avogel Echinaforce Shaleen Advertisement Key Takeaways

Avogel Echinaforce Shaleen Advertisement Key Takeaways

Time	Occurance/Fact
00:04	Echinaforce prevents colds and flu
00:07	Echinafroce prevents bronchitis
00:22	Echinaforce cuts the use of antibiotics by 76%

Table 3.2: Berocca Roccy Advertisement Key Takeaways

Berocca Roccy Advertisement Key Takeaways

Time	Occurence	Interpretation
00:16	Roccy begins to glow up	Berocca has a quick and strong onset
00:17	Roccy gets noticed by other chameleons and looks noticeably different	Berocca gives you an edge over others and others can see this
00:24	Roccy catches a fly rapidly	Berocca enhances your capabilities (physicl in this instance)

Interpreting the Findings

In context of the research problem identified, which was that dietary supplements are being advertised in misleading ways (Ravagnani et al., 2021) by drawing largely on consumer vulnerability (Repko, 2020) and that such advertising of dietary supplements is poorly regulated in South Africa (Schoones et al., 2013), widening the gap for health claims, the findings are to be interpreted.

Whilst the Echinacea advertisement is very enticing and the reinforcement of the communication message by the South African actress Shaleen Surtie-Richards, Echinafroces health claims are strongly received by audiences. The brand and supplement line claim that their product can prevent bronchitis and has been proven to cut the use of antibiotics by 76% (Echinaforce, 2021), these being strong claims. The brand came into hot water in Spetember of 2020 over their claims that the product is a proven antiviral against COVID-19 (DispatchLive, 2020). It is important to remember that Echinacea is a herbal supplement and although it may work for some individuals, it may not prove to be beneficial for other individuals. The health claim of supporting immunity is an acceptable one but the brand should not mislead consumers who may be reaching out for an actual cure for bronchitis but could rather educate surrounding the benefits and how Echinacea can assists in recovering from bronchitis.

Bio-Strath make strong health claims that their Strath Syrup improves memory and concentration (Bio-Strath, 2021). The brand have an impressive and vast array of building substances, vitamins, amino acids, minerals and other trace elements – which may pose as a health risk when taking in excess amounts and when mixed with other medicines (Sekhri and Kaur, 2014). Bio-Strath is an example of the poor regulations which are monitored in South Africa as the brand give no evidence of any amounts of ingredients for the health claims they market their product Infront of.

With claims such as promoting mental and physical energy, Berocca market their product Berocca Performance in exact accordance with the regulations set out by SAHPRA (2021). Performance contains enough Vitamin C to claim that it contributes to maintaining the normal function of the immune system and enough vitamin B1 to claim it contributes to normal energy yielding metabolism, and promoting the function of. When referring to figure

2.1 it can be seen that the main nutritional content ingredients of Berocca Performance are all well above SAHPRA's regulations for the health claims been made.

Revite Omega-3 and 6 claims to support immune system function, promote brain development and helps to maintain a healthy mood. SAHRPA's guidelines clearly state that DHA contributes to the maintenance of normal brain function whereas the product claims to promote brain development, implying that it contributes towards some sort of brain growth. Another very noticeable contrast is that Evening Primrose must contain a GLA blend between 7-14% to make the health claim of maintain good health (SAHPRA, 2021) but Revite don't stipulate this information anywhere, if their product does indeed produce such a ratio. As it can be seen on page 92 in SAHPRA's Complementary Medicines – Health Supplements Safety and Efficacy guideline (Figure 6.9 – Appendix F), the fatty acid Linoleic acid (LA) contributes to the maintenance of good health only when the source provides at least 1,5mg LA per 100g and per 100 calories. Well the exact amount of LA per grams is not stipulated anywhere on the products packaging nor any of the brands channels. SAHPRA (2021) clearly state in Figure 6.9 that information needs to be given to consumers that the beneficial effect is only obtained when an individual has a daily uptake of a total of 10grams of LA. Further, it should be noted that Vitamin E can produce adverse side effects such as blurred vision diarrhoea, headaches, nausea and stomach cramps and it should be avoided for health complications by those at risk of diabetes, heart attack, certain eye conditions, head, neck and prostate cancer, stroke and by those who have had recent surgery (Korah, Rahman, Rajeswari and Paul, 2017). This is significant as it is the only nutritional ingredient inside of Revite's Omega-3 and 6 which has no value assigned to it as it can be seen in figure 3.4 where no amount of natural vitamin E has been stated.

It can therefore be deduced that there are DS brands who are sticking strongly to the regulations and there are other DS brands such as Revite, Echinaforce and Bio-Strath who are clearly challenging the regulations around health claims.

Findings in Context

According to the truth-default theory (TDT), consumers accept communication as truthful unless they are personally triggered in which case they will become sceptical, suspicious and will have resistance of belief towards advertisements (Levine, Narissra, Carter and

Moore, 2020). Consumers are subsequently in a state of vulnerability when receiving dietary supplement communication whereby their vulnerability has been greatly exacerbated due to poor supplement regulations in South Africa (Schoone et al.2020) coupled with increasing consumer investment into their own health and well-being (Repko, 2020). The pendulum of consumer health knowledge and supplement awareness will eventually reach the side of consumers being more educated and informed on dietary supplements and the vitamins, minerals and acids which are truly beneficial to their health. Consumers too often fall prey to misleading advertising such as that of Echinaforce. Some consumers are also blinded by how good a supplement is made to sound by the extensive nutritional makeup of the supplement but with little to no evidence of nutritional quantities to back up health claims. This has been occurring more frequently and will continue to perpetuate in accordance with consumers' gullibility towards health claims, as certain vitamins have been promoted globally to assist consumers in maintain their personal health (Ravagnani et al., 2021).

As Svederberg and Wendin (2011) clarify on the importance of supplying consumers with credible information behind supplements packaging and claims, DS brands have the opportunity to create proper awareness around DS's and the correct implementation and usage of DS's, in conjunction with a whole food balanced diet, whilst also informing consumers on what to avoid (Sekhri and Kaur, 2014).

My research leads to the possibility that DS brands are potentially holding back on educating and informing consumers on healthy lifestyle choices, specifically pertaining to nutrition, because it is the harmful and wrong decisions which consumers are making that ultimately leads to some consumers buying DS's in the first place – in order to curb negative effects which have been occurring as a result of poor lifestyle and health decisions. This would provide a probable explanation as to why DS brands would draw on consumers vulnerabilities and fears as consumers are not fully aware and educated on proper and informed nutritional and supplement choices.

Consumers will appreciate brands educating them and having their best interests at heart (Sekhri and Kaur, 2014) and will then be able to make informed decisions when purchasing dietary supplements in the future. This shouldn't be seen by dietary supplement and/or advertising organizations as a means that is only beneficial to the consumer but rather as being one up on competitors and the market, by supplying

consumers with what they truly want and that is to know more behind nutritional claims (Svederberg and Wendin, 2011). Not only this but if dietary supplement brands can get consumers on board with truly understanding and wanting to understand nutritional claims and packaging better then they will ultimately benefit and become leaders in the market as consumer centricity is key to brand longevity (Zwanka and Buff, 2020).

As certain vitamins, minerals, building substances and other trace elements may be harmful to humans in excess amounts and when mixed with other medicines (Sekhri and Kaur, 2014), consumers are at a much greater risk as they look to self-medicate at increasing rates with the use of DS's (Adam, Baker and Sobieraj, 2020). DS brands, such as Bio-Strath, Echinaforce and Revite should therefore not prey upon vulnerable consumers and especially not when consumers are left uninformed on the actual amounts of substances inside of the supplement, such as Strath Syrup. DS brands should be educating and informing consumers so that consumers can make the right choice beneficial to their well-being and not to potentially put themselves in jeopardizing their own health, keeping in mind consumers are combining DS's and medicines to support their immunity and to prevent infections (Adam, Baker and Sobieraj, 2020).

Addressing the Research Question and Objectives

The primary research question formulated was: 'how can dietary supplement brands better market their products' contents without confusing consumers and offending health-conscious South Africans to ensure a positive brand image?"

Through the research undertaken a way forward has become clear and apparent and that is for DS brands to market their products better through educating and informing consumers on the truths which lay behind health claims. Most consumer confusion, when it comes to DS's, is created when consumers do not fully understand or are not fully aware of what it is which they are ingesting which has been bought by them due to being under the impression that DS's will help maintain and/or enhance consumers' health in one or more ways. Consumers have been taking DS's in conjunction with others and other medicine at an increasing rate and have been self-medicating with DS's (Adam, Baker and Sobieraj, 2020). It is clear that consumers see the benefits in taking DS's and incorporating them into their lifestyles but it is also clear that consumers begin to question and doubt DS brands and their intentions when their health claims haven't been fully

supported (Svederberg and Wendin, 2011), such is the case with Bio-Strath, Echinaforce and Revite's supplements respectively. Health-conscious South Africans would be offended by health claims such as Revite's Omega-3 and 6 improving brain development as SAHPRA's regulations clearly state the claim may promote the maintenance of good/normal brain health. This is an example of a brand who are trying to word their claims in close accordance with but not in stringent line with the countries regulations. As the brands Echinaforce and Bio-Strath have come into hot waters previously due to misleading health claims (Bio-Strath claiming to improve your child's exam marks by 30% and Echinaforce being a proven antiviral against COVID-19) it is imperative for the field of DS's and DS advertising to become more alert to DS brands looking to curb the rules and regulations and prey on vulnerable consumers.

The problem that dietary supplements are being advertised in misleading ways (Ravagnani et al., 2021) through drawing largely on consumer vulnerability (Repko, 2020) and that advertising of dietary supplements is poorly regulated in South Africa (Schoones et al., 2013) won't truly be solved until regulations are tightened and DS brands stop preying on vulnerable consumers. The research clearly shows that some DS brands within South Africa are able to get by the rules and regulations set by SAHPRA and are advertising their supplements without properly stating the amount of ingredients. My research provides a back bone for the reasoning as to why DS brands need to find a new way of marketing their products to South Africans, to properly inform and educate as they generate sales and improves the health and lives of consumers.

The main objective of the research is to establish a health-orientated framework for dietary supplement companies to better market their products contents to health-conscious South Africans. This main objective is to be achieved largely through the development of a new marketing model that involves DS brands accurately informing South African consumers on the correct amounts of ingredient contents, what these nutritional contents actually mean, what their true benefits are, the possible side-effects, effects when used in excess and adverse effects for more vulnerable populations such as those with certain cancers and heart problems (Ravagnani et al., 2021). The literature and research support the development of a new marketing model for DS brands, as consumers truly want to know more information about DS's, especially as to what is beneath DS health claims (Svederberg and Wendin, 2011). DS brands may not initially choose to do so but a good way of testing consumers' responses to supplying them with more credible information

would be for DS brands to place mor information on their products packaging or to ensure their supplements come with a leaflet thoroughly explaining and breaking down nutritional composition and contents, so that consumers are able to make informed decisions.

Anticipated Contribution

The main contribution this research study seeks to make is to develop a new health-orientated framework that can be utilised by DS brands in order to improve their brand image amongst South African health-conscious consumers. The framework will be specific to a South African context but encouragement for its use by all DS brands seeking to improve their brand image will be elaborated on. Through a critical realist perspective, the proposed research aims to make an improvement in society by creating a case as to why DS brands should stop playing on consumers vulnerabilities and promote transparent health values and accurate nutritional claims of their products contents. The main anticipated contribution thus seeks to inform DS brands that they can generate sales from informing consumers. Prompting the accurate representation of nutritional content and nutritional health claims in DS advertisements is a secondary anticipated contribution of this research. The last anticipated contribution of this research is to ignite further research into DS's, their nutritional claims, nutritional contents and the ways in which their brand images can be improved towards consumers.

Ethical Considerations

The most important ethical consideration is that which concerns the researcher and this qualitative study as the misuse of information will not be permitted. It is vital to keep the data collected strictly for the purpose of the proposed study. It is imperative to maintain Vega's and the IIE's reputation through this ethical consideration (du Plooy-Cilliers et al., 2014).

Limitations

The first limitation of the study is that there is limited credible information on DS's in a South African context. As this study looks specifically to the South African advertising laws pertaining to DS's, cases of DS use and misrepresentation in a South African context and

advertisements that have aired in South Africa, the study is thus limited to a South African context. However, this does not take away from the international relevance of the proposed research as the DS industry peaks at all-time highs (Karbownik *et al*., 2020), health-consciousness rapidly rises (Limsuwan, 2020) and consumers reach to supplement to support their immune systems (Ravagnani *et al.,* 2020).

Another limitation to the proposed research is that of the bias of the researcher, as already mentioned, critical realists have a predisposition to have a bias to their own study (du Plooy-Cilliers *et al*., 2014). This has been noted and steps to prevent this from occurring will be taken as understanding the information from a non-bias point of view is to be the biggest goal in this regard.

The third and final limitation to this study is that of data saturation (Rehman and Alharthi, 2016). This can occur if too much of the same sets of data (specifically textual data) are looked at and analysed. This could produce saturated findings that do not materialise into core elements that can be used to further this study.

Conclusion

DS brands will benefit greatly from incorporating more mindful consumer-centric marketing which seeks to educate and inform consumers on what is actually inside of the DS's which they are interested in purchasing, what taking the DS means for them and letting consumers know of any possible adverse effects and health hazards which are associated with the DS. The research clearly indicate towards a more beneficial way forward for DS brands and consumers alike, where DS brands can create revenue from pleasing and informing consumers.

Bibliography and Referencing

Adams, K. Baker, W. and Sobieraj, D. 2020. Myth Busters: Dietary Supplements and COVID-19. Annals of Pharmacotherapy. 54(8): 820-826. [Online]. DOI: 10.1177/1060028020928052 [Accessed 17 May 2021].

Allen, H. Carriquiry, L. Murphy, S. 2020. Perspective: Proposed Harmonized Nutrient Reference Values for Populations, Advances in Nutrition. 11(3): 469–483. [Online]. Available at: academic.oup.com/advances/article/11/3/469/5614681 [Accessed 17 May 2021].

Amato, B. 2018. Misleading labels and insidious ingredients. [Online]. Available at: www.wits.ac.za/news/latest-news/research-news/2018/2018-12/misleading-labels-and-insidious-ingredients.html [Accessed 19 May 2021].

Andrade, E., 2021. What Does ug Mean In Vitamin D? [Online]. Available at: https://nutrivy.co.uk/what-does-ug-mean-in-vitamin-d/ [Accessed 17 September 2021].

Armitage, C. and Christian, J. 2003. From attitudes to behaviour: Basic and applied research on the theory of planned behaviour. Current Psychology, 22(3): 187-195. [Online]. DOI: 10.1007/s12144-003-1015-5 [Accessed 17 May 2021].

Avogel. 2021. Echinaforce. 17 June 2021. [Online]. Available at: https://www.avogel.co.za/products/supplements/multiforce/ [Accessed 18 August 2021]

Avogel. 2021. *Echinaforce Echinacea Purpurea proven extract for cold*. [Online] Avogel.ca. Available at: https://www.avogel.ca/en/herbal-remedies/echinaforce-liquid.php [Accessed 18 August 2021]

Avogel. 2021. Multiforce® Alkaline Powder: A multimineral supplement that helps support the body's pH regulating mechanisms, 17 June 2021. [Online]. Available at: https://www.avogel.co.za/products/supplements/multiforce/ [Accessed 17 June 2021]

Baudischova, L. Straznicka, J. Pokladnikova, J. and Jahodar, L. 2017. The Quality Of Information On The Internet Relating To Top-Selling Dietary Supplements In The Czech

Republic. [Online] Available at: link.springer.com/10.1007/s11096-017-0564-x [Accessed 17 May 2021].

Berocca Chameleon dancing to Panjabi MC - Be More Berocca Ad : Berocca – Berocca UK. 2017. YouTube video, added by Berocca UK. [Online]. Available at: https://www.youtube.com/watch?v=pMS0zBPYRBU [Accessed 17 June 2021]

Bio Strath. 2021, The Strath® product family – contributing to a better quality of life, 17 June 2021. [Online]. Available at: https://bio-strath.com/en/the-strath-product-family-contributing-to-a-better-quality-of-life/ [Accessed 17 June 2021]

Carattini, S. Grosnell, G. and Tavoni, A., 2019. How developed countries can learn from developing countries to tackle climate change. World Development.127: 220-228. [Online]. Available at: www.sciencedirect.com/science/article/abs/pii/S0305750X19304784> [Accessed 19 May 2021].

Cheftel, J. 2005. Food and nutrition labelling in the European Union, Food Chemistry. 93(3): 531-550. [Online]. Available at: www.sciencedirect.com/science/article/abs/pii/S0308814604008581 [Accessed 17 May 2021].

Cousin, G. 2005. Journal of Geography in Higher Education. *Case Study Research*, 29(3): 421-427. [Online]. DOI: 10.1080/03098260500290967 [Accessed 17 June 2021]

Dispatch Live. 2020. Herbal remedy firm catches a cold over claims it can cure Covid-19. 23 September 2020. [Online] Available at: https://www.dispatchlive.co.za/news/2020-09-23-herbal-remedy-firm-catches-a-cold-over-claims-it-can-cure-covid-19/ [Accessed 18 September 2021].

Du Plooy-Cilliers, F. Davis, C. and Bezuidenhout, R. 2014. Research Matters. Cape Town: Juta and Company.

Glynis Cousin (2005) Resources Case Study Research, Journal of Geography in Higher Education, 29:3,421-427. [Online] DOI: 10.1080/03098260500290967 [Accessed 17 June 2021]

Grosso, M. 2016. The importance of multicultural literature. Connections. [Online] 96: 4-5. Available at: www.scisdata.com/connections/issue-96 [Accessed 18 May 2021].

Hamulka, J. Bielak, M. Górnicka, M. Drywień, M. and Pukos, M. 2021. Dietary supplements during COVID-19 outbreak. Results of Google trends analysis supported by PLifeCOVID-19 online studies. Nutrients. 13(1): 1-17. DOI: 10.3390/nu13010054 [Accessed 18 May 2021].

Harrison, H., Birks, M., Franklin, R. and Mills, J., 2017. Case Study Research: Foundations and Methodological Orientations. Qualitative Social Research, 18(1): .3-9.

Hazell, A., 2017. How to convert International units (IU) to mcg or mg. [Online] Thecalculatorsite.com. Available at: https://www.thecalculatorsite.com/articles/units/convert-ui-to-mcg.php [Accessed 17 September 2021].

Hein, I. 2021. Vitamin Sales Skyrocket in the Pandemic, but Buyer Beware. [Online] Medscape. Available at: www.medscape.com/viewarticle/946726 [Accessed 19 May 2021].

Kjellberg, H. 2008. Market practices and over-consumption, Consumption Markets & Culture, 11(2): 151-167. DOI: 10.1080/10253860802033688 [Accessed 19 May 2021].

Korah, M. Rahman, P. Rajeswari, R. Behanan, A and Paul, E. 2017. Adverse effects and side effects of vitamin therapy: A review. Asian Journal of Pharmaceutical and Clinical Research. 10(5): 19-26. DOI: 10.22159/ajpcr.2017.v10i5.17014 [Accessed 20 September 2021]

Limsuwan, P. 2021. The Importance Of Packaging Communication Interfaces On Intention To Purchase Superfoods Healthy Products: Tapping To Rising Healthy Food Trends In Times Of Covit-19 Epidemic. *Psychology and Education,* 58(2): 3947-3953.

Maree, K. 2019. First Steps in Research. Van Schaik Publishers

Mohajerani, P. and Miremadi, A. 2012. Customer satisfaction modelling in hotel industry: A case study of Kish Island in Iran. International Journal of Marketing Studies, 55(3): 134-152 [Accessed 8 April 2021].

Moore, A. 2020. How the Coronavirus Created a Toilet Paper Shortage. [Online] College of Natural Resources News. Available at: cnr.ncsu.edu/news/2020/05/coronavirus-toilet-paper-shortage [Accessed 19 May 2021].

Park, S. Konge, L. and Artino, Anthony R. 2020. The Positivism Paradigm of Research. Academic Medicine. 95(5): 690-694. DOI: 10.1097/ACM.0000000000003093 [Accessed 13 May 2021].

Peters, A. 2020. This is where the next pandemic is likely to emerge. [Online] Fast Company. Available at: www.fastcompany.com/90580784/this-is-where-the-next-pandemic-is-likely-to-emerge [Accessed 19 May 2021].

Ravagnani, C. Corgosinho, F. Sanches, F. Prado, C. Laviano, A. and Mota, J. 2021. Dietary recommendations during the COVID-19 pandemic. Nutrition Reviews. 79(4): 382-393. DOI: 10.1093/nutrit/nuaa067 [Accessed 18 May 2021].

Rehman, A. Alharthi, K. 2016. An Introduction to Research Paradigms. International Journal of Educational Investigations, 3(8): 51-59. [Online]. Available at www.researchgate.net/publication/325022648 An introduction to research paradigms [Accessed 13 May 2021].

Repko, M. 2020. The pandemic's new chefs and foodies: How the health crisis shaped what we cook and crave. [Online] Available at: www.cnbc.com/2020/12/29/even-after-pandemic-companies-may-have-to-cater-to-a-nation-of-aspiring-chefs-foodies.html [Accessed 18 May 2021].

Revite. 2021. *OMEGA 3 & 6 – COMBO*. [Online] Available at: https://revite.co.za/omega-3-6-combo [Accessed 18 August 2021]

Riffe, D. Lacy, S. and Fico, F. 2008. Analyzing media messages. 3rd ed. New York, NY: Routledge, pp.138-184.

Rootman, C., Galloway, K. 2013. Young adults' perceptions and buying intentions of healthy foods in South Africa. *Journal of Contemporary Management*, 10(1): 176-200. [Online]. Available at: https://journals.co.za/doi/abs/10.10520/EJC143213 [Accessed 17 June 2021]

SA History Online, 2021. South Africa's Diverse Culture Artistic and Linguistic Heritage. South African History Online. [Online]. Available at: www.sahistory.org.za/article/south-africas-diverse-culture-artistic-and-linguistic-heritage [Accessed 19 May 2021].

Sacco, E. 2019. Supplement scores a fail for claiming it can raise pupils' exam marks. *Times Live* [Online]. Available at: https://www.timeslive.co.za/news/south-africa/2019-11-29-supplement-scores-a-fail-for-claiming-it-can-raise-pupils-exam-marks/ [Accessed 17 June 2021]

Sekhri, K. and Kaur, K. 2014. Public knowledge, use and attitude toward multivitamin supplementation: A cross-sectional study among general public. International Journal of Applied and Basic Medical Research. 4(2): 77. [Online]. DOI: 10.4103/2229-516x.136780 [Accessed 18 May 2021].

Shabir, M. Khan, A. and Khan, S. 2017. Brand loyalty brand image and brand equity: The mediating role of brand awareness. International Journal of Innovation and Applied Studies. 19(2): 416. [Online]. Available at: www.researchgate.net/profile/Muhammad-Qasim-Shabbir/publication/311914186 [Accessed 17 May 2021).

Sniehotta, F. Presseau, J. and Soares, A. 2014. Time to retire the theory of planned behaviour. Health Psychology Review. 8(1): 1-7. DOI: 10.1080/17437199.2013.869710 [Accessed 16 May 2021].

Sommer, L. 2011. The Theory Of Planned Behaviour And The Impact Of Past Behaviour. International Business & Economics Research Journal (IBER), 10(1): 91-93. DOI: 10.19030/iber.v10i1.930 [Accessed 17 May 2021].

South African Health Products Regulatory Authority. 2020. Complementary Medicines - Health Supplements Safety and Efficacy. *Registrations of Medicines: CMs Health Supplements - Safety and Efficacy*, [Online]. 4(1): 5-120. Available at:

https://www.sahpra.org.za/wp-content/uploads/2020/07/7.04 CM SE Health Supplements Jun20 v4.pdf [Accessed 18 August 2021]

Svederberg, E. and Wendin, K. 2011. Swedish consumers' cognitive approaches to nutrition claims and health claims. [Online]. Taylor & Francis. 55(1). DOI: 10.3402/fnr.v55i0.5929 [Accessed 16 May 2021].

Vanesse, T. 2016. How health claims on product packaging influence consumer perceptions and purchase decisions. 1-4. [Online]. Available at: www.digitalcommons.kennesaw.edu/cgi/viewcontent.cgi?article=1080&context=ama proceedings [Accessed 18 May 2021].

Working Together for a Peaceful World – Dalai Lama. 2020. Video. [Online]. Available at: www.dalailama.com/videos/working-together-for-a-peaceful-world [Accessed 18 May 2021].

Zwanka, R. and Buff, C. 2020. COVID-19 Generation: A Conceptual Framework of the Consumer Behavioral Shifts to Be Caused by the COVID-19 Pandemic. Journal of International Consumer Marketing. 33(1): 58-67. [Online]. DOI: 10.1080/08961530.2020.1771646 [Accessed 17 May 2021].

Annexure A: Concept Document Template

PROVISIONAL TITLE: Investigating the Brand Image of Dietary Supplement Brands: a case for Health-conscious South Africans

Research Purpose/ Objective	Primary Research Question	Research Rationale	Seminal Authors/ Sources	Literature Review – Conceptual Framework	Paradigm	Approach	Data Collection Method(s)	Ethics	Anticipated Findings
To estab sh a hea th-or entated framework for d etary supp ement compan es to better market the r products contents to hea th-consc ous South Afr cans.	How can d etary supp ement brands better market the r products' contents w thout confus ng consumers and offend ng hea th-consc ous South Afr cans to ensure a pos t ve brand mage?	The proposed study s mportant as t w ass st the current body of know edge to further encourage accurate representat on of nutr t ona va ues n d etary supp ements and to deve op a new way of eas y commun cat ng nutr t ona va ues n a hea th-consc ous manner wh ch w ead to pos t ve brand assoc at ons.	Sverderberg, 2021 Zwanka and Buff, 2021 Cr şan, 2012 Notaranton o, E. Qu g ey, C. and Vanesse, T.2016 Ravagnan et a . (2020) Karbown k et a . (2020) Sekhr and Kaur (2014) Adams, Baker and Sob eraj (2020)	**Theme 1:** A Conceptua Framework of the Consumer Behav oura Sh fts to Be Caused by the COVID-19 Pandem c **Theme 2:** DS s am dst COVID-19 **Theme 3:** Behav oura and purchas ng sh fts n re at on to DS s **Theme 4:** How Hea th C a ms on Product Packag ng Inf uence Consumer Percept ons and Purchase Dec s ons	**Paradigm** Cr t ca rea sm. **Epistemology** Add to the ex st ng body of know edge. Estab sh a new framework for mprov ng DS brand mage.	Qua tat ve **Population** **Population Parameters** DS of mmune-boost ng nature. DS advert sements n South Afr ca	Textua and numer ca data V sua data	M suse of nformat on. Data to be kept str ct y to conf nes of the study. Eth ca c earance	DS brands are m s ead ng through the r nutr t ona c a ms. Hea th-consc ous South Afr cans want to know what ay beh nd c a ms. DS brands can mprove the r brand mage through a hea th-consc ous framework.
Research Problem	**Secondary Questions/ Hypotheses/ Objectives**	**Key Concepts**	**Key Theories**			**Sampling**	**Data Analysis Method(s)**	**Limitations**	**Anticipated Contribution**

	To exp ore how consumers m s nterpret the nutr t ona va ue n DS. Improve advert s ng w thout draw ng on consumer vu nerab ty	- D etary Supp ements (DS) - Brand Image - Nutr t ona Va ue - Hea th-consc ous	- Truth-defau t theory (TDT)	**Theme 5:** Hea th C a ms n Food Supp ement Advert s ng		Purpos ve conven ence **Sampling method** Purpos ve conven ence A se ect on of mmune-boost ng d etary supp ements **Size** 4 D etary Supp ement Brands	**Unit of Analysis** South Afr can advert s ng aws perta n ng to DS s. **Data Analysis Method(s)** Content Ana ys s V sua Ana ys s	Access to cred b e and ver f ed nformat on on d etary supp ements. A sma samp e. Vary ng nutr t ona contents amongst supp ements. Researcher b as. Data saturat on.	To contr bute to the ex st ng body of know edge on the ways hea th-consc ous South Afr cans nterpret supp ement brands. To construct a post-pandem c mode for enhanc ng d etary supp ement brand mage through more hea th-consc ous advert s ng.

Appendix A

Avogel Echinaforce Echinacea

Prevention

A.Vogel Echinaforce® Echinacea Tablets helps your immune system stop germs before an infection takes hold. The active ingredients in this remedy decrease the ability of infectious agents to penetrate within the body's cells. They also improve the speed at which the immune cells respond to invading germs.

A.Vogel Echinaforce® Echinacea Tablets can be taken daily for prevention of infections. Prevention is especially important for those who are more vulnerable to developing infections, it helps to:

- maintain an immune system that remains on alert and deals promptly with the first signs of infection
- reduce the need for antibiotics or other prescription medication
- helps maintain a better quality of life with fewer sick days away from school or the office.

Figure 1.1: Supporting information for Echinaforce – Prevention (Avogel, 2021)

Precautions, contraindications and interactions

Consult a healthcare practitioner prior to use if you are taking immunosuppressants,
or if you have an autoimmune disorder or a progressive systemic disease such as: tuberculosis, collagenosis, AIDS and/or HIV infection or multiple sclerosis.

Rare cases of severe allergic reactions have been known to occur; use caution if you are allergic to plants of the Daisy family.

Do not use in case of known allergy to any of the ingredients in the product. Consult a healthcare practitioner if symptoms persist or worsen.

Do not use if safety seal is broken. Keep out of reach of children.

Figure 1.2: Supporting information for Echinaforce – Precautions, contradictions and interactions (Avogel, 2021)

Dosage

Adults (12 years and up) including pregnantand breastfeeding women:

Preferably 15 mi- nutes before meals. Salivate before swallowing.

Prevention: Take 30 drops with water, 3 times daily.

Acute Treatment: Take 30 drops with water, 5 times daily.

Duration of use: May be used for up to 4 months.

Figure 1.3: Supporting information for Echinaforce – Dosage (Avogel, 2021)

Composition

Medicinal ingredient:

Fresh organically grown* Purple Coneflower (Echinacea purpurea)
Herb (1:12) ...0.95 mL, equivalent to 79 mg dried herb;
Root (1:11) ...0.05 mL, equivalent to 4.5 mg dried root.

Non-medicinal ingredient:

1 mL of tincture contains 0.67 mL alcohol (ethanol).

* Certified by Bio Suisse

1 mL = 33 drops. Dropper included.

Figure 1.4: Supporting information for Echinaforce – Composition (Avogel, 2021)

EACH TABLET CONTAINS DRY EXTRACT OF:
Medicinal ingredient: Fresh Echinacea (Echinacea purpurea)*
Herb (5:1).....6.35 mg, equivalent to 31.7 mg of dried herb
Root (5.5:1).....0.33 mg, equivalent to 1.8 mg of dried root
Made with 400 mg of Fresh Echinacea tincture per tablet.

Non-medicinal ingredients: Lactose, potato starch, vegetable magnesium stearate.
Sugar Free.
* Certified organically grown by: CH-BIO-006, DE-ÖKO-005

Figure 1.5: Supporting information for Echinaforce – Composition (Avogel, 2021)

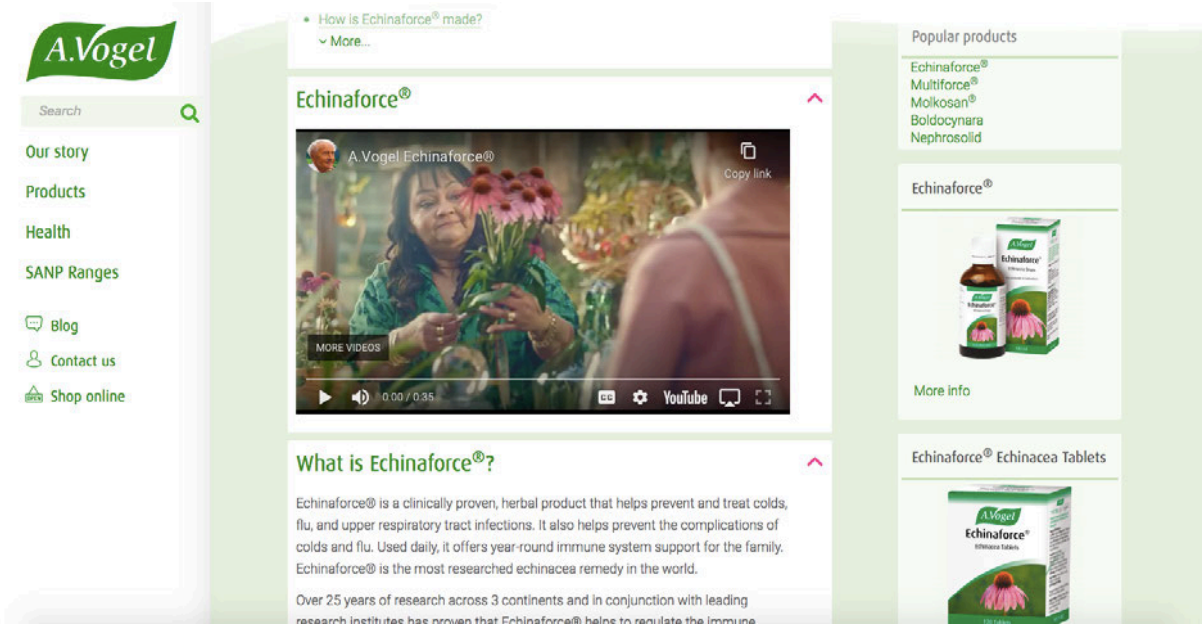


Figure 1.6: Screenshot of Echinforce video advertisement which has also aired on television (Avogel, 2021)

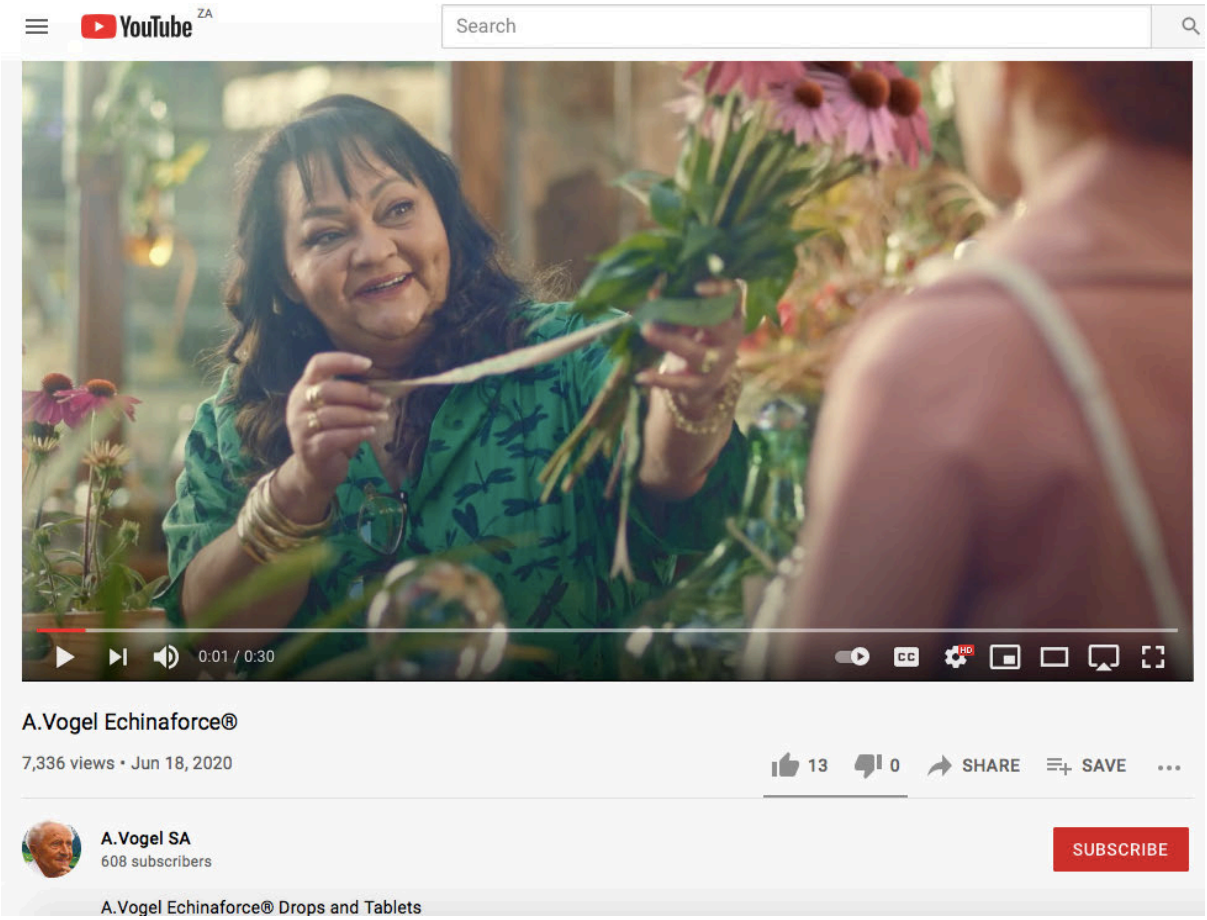


Figure 1.7: Susan on the Avogel commercial advertisement handing out Echinacea flowers (Avogel, 2021)

Appendix B

Bio-Strath Syrup

Syrup

lactose-free

vegetarian

Kosher Parve

100% natural

Buy now

Composition	Dosage instructions

83 % plasmolysed herbal yeast
9 % malt extract from barley
5 % orange syrup
3 % honey
Alcohol content of 4.5% v/v resulting from fermentation

Figure 2.1: Bio-Strath Syrup composition (Bio-Strath, 2021)

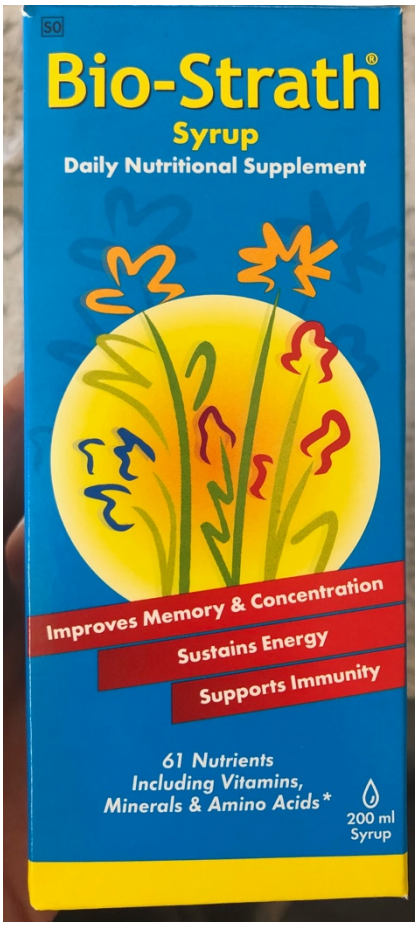


Figure 2.2: Bio-Strath health claims on packaging (Lofthouse, 2021)

Bio-Strath Syrup is a nutritional supplement that:

- Supports memory and concentration.
- Is beneficial as supportive therapy for signs/symptoms of ADD/ADHD.
- Reduces fatigue and stress.
- Strengthens and supports the immune system.
- Helps to restore and maintain natural energy.
- Increases vitality.
- Supports recovery from illness and exercise.
- Supports vitality during and after pregnancy.
- Assists with absorption of nutrients.

Bio-Strath *Stroop is 'n voedingsaanvulling wat:*

- *Geheue en konsentrasie ondersteun.*
- *Voordelig is as ondersteunende behandeling vir tekens/simptome van ADD/ADHD.*
- *Moegheid en stres verminder.*
- *Die immuunstelsel versterk en ondersteun.*
- *Help om natuurlike energie te herstel en te onderhou.*
- *Lewenslus verhoog.*
- *Die herstel van siekte en oefening ondersteun.*
- *Lewenslus tydens en na swangerskap ondersteun.*
- *Help om voedingstowwe beter te absorbeer.*

***Nutritional Breakdown / Voedingswaarde uiteensetting :**
The individual nutrients are in a biological balance and natural form so as to ensure optimum absorption. For a full breakdown of nutrients visit www.bio-strath.co.za. / *Die individuele voedingstowwe is in 'n biologiese balans en natuurlike vorm om maksimum absorpsie te verseker. Vir 'n volledige uiteensetting van voedingstowwe besoek www.bio-strath.co.za.*

Bio-Strath Syrup is made exclusively with raw materials of natural origin and is free from artificial colourants, flavourants, preservatives and synthetic substances. / **Bio-Strath** *Stroop word eksklusief van grondstowwe gemaak wat van 'n natuurlike oorsprong is en is vry van kunsmatige kleurstowwe, geurmiddels, preserveermiddels en sintetiese stowwe.*

Made in Switzerland

Figure 2.3: More Bio-Strath health claims on packaging (Lofthouse, 2021)

Bio-Strath® Home | Matrics in Antarctica | Products | Research | FAQ | Contact Us

Lecithin	B1 – Thiamine	Alanine	Calcium (Ca)
Lecithin phosphate	B2 – Riboflavin	Arginine	Chromium (Cr)
Mannan	B6 – Pyridoxine	Aspartic acid + asparagine	Cobalt (Co)
Glucan	Niacin	Cystine	Copper (Cu)
Glutathione	Biotin	Glutamic acid + glutamine	Germanium (Ge)
Choline	Pantothenic acid	Glycine	Iron (Fe)
DNA (desoxyribonucleic acid)	Folic acid	Histidine	Magnesium (Mg)
RNA (ribonucleic acid)	B12 – Cobalamin	*Isoleucine	Manganese (Mn)
ATP (adenosine triphosphate)	C – Ascorbic acid	*Leucine	Molybdenum (Mo)
L-Carnitine	Inosit	*Lysine	Nickel (Ni)
Ubiquinone (coenzym) Q6	Ergosterol (Provitamin D2)	*Methionine	Phosphorus (P2O5)
Ubiquinone (coenzym) Q7		*Phenylalanine	Potassium (K)
Ubiquinone (coenzym) Q9		Proline	Selenium (Se)
		Serine	Silicic acid (Si)
		*Threonine	Sodium (Na)
		*Tryptophan	Total sulphur (S)
		Tyrosine	Tin (Sn)
		*Valine	Vanadium (V)
			Zinc (Zn)

Figure 2.4: Bio-Strath nutritional contents (Bio-Strath, 2021)

Appendix C

Revite Omega-3 and 6 Combo

Figure 3.1: Revite Omega-3 and 6 Combo a part of the immune-boosting range (Revite, 2021)

Figure 3.2: Revite Omega-3 and 6 Combo a part of the immune-boosting range (Revite, 2021)

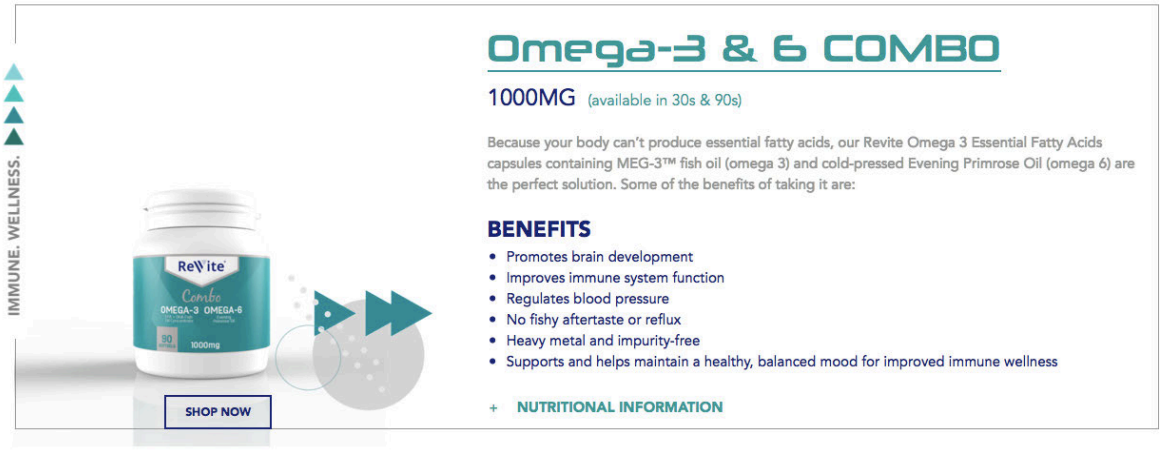


Figure 3.3: Revite Omega-3 and 6 Combo benefits advertised including improving immune function (Revite, 2021)

Figure 3.4: Revite Omega-3 and 6 Combo (Lofthouse, 2021)

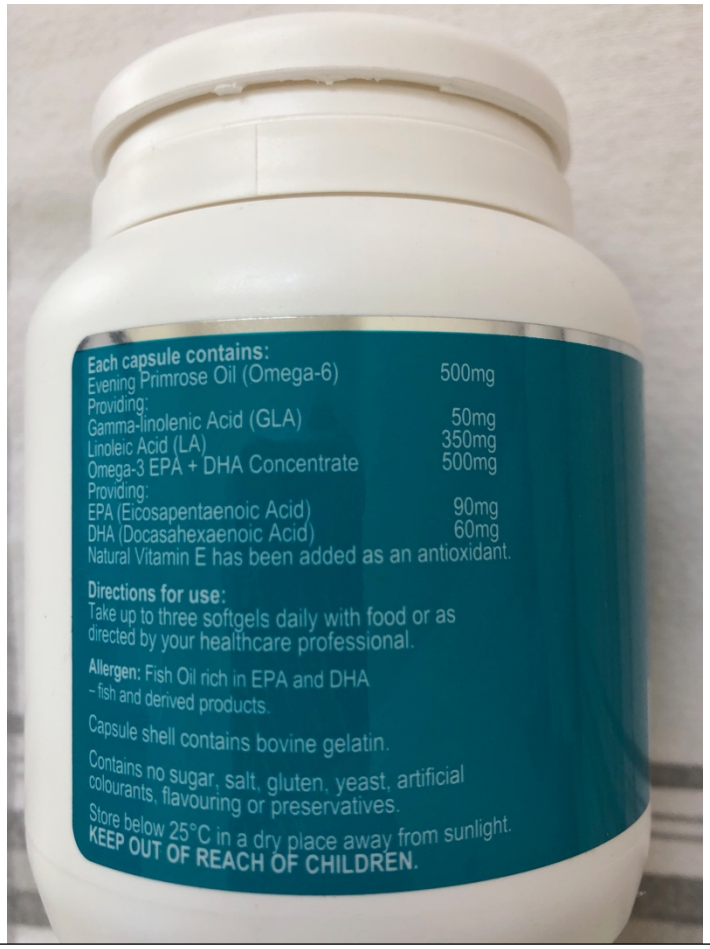


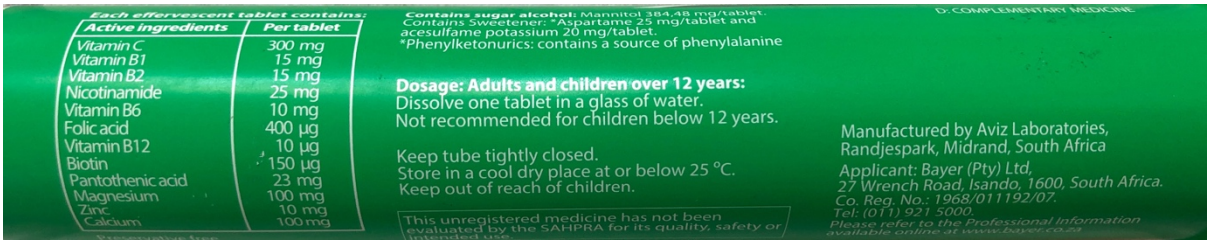
Figure 3.4: Revite Omega-3 and 6 Combo nutritional content (Lofthouse, 2021)

Appendix D

Berocca Performance

Figure 4.1: Berocca Performance box (Lofthouse, 2021)

Figure 4.2: Berocca Performance tube of effervescent tablets (Lofthouse, 2021)



Each effervescent tablet contains: Active ingredients	Per tablet
Vitamin C	300 mg
Vitamin B1	15 mg
Vitamin B2	15 mg
Nicotinamide	25 mg
Vitamin B6	10 mg
Folic acid	400 µg
Vitamin B12	10 µg
Biotin	150 µg
Pantothenic acid	23 mg
Magnesium	100 mg
Zinc	10 mg
Calcium	100 mg

Contains sugar alcohol: Mannitol 384,48 mg/tablet.
Contains Sweetener: *Aspartame 25 mg/tablet and acesulfame potassium 20 mg/tablet.
*Phenylketonurics: contains a source of phenylalanine

Dosage: Adults and children over 12 years:
Dissolve one tablet in a glass of water.
Not recommended for children below 12 years.

Keep tube tightly closed.
Store in a cool dry place at or below 25 °C.
Keep out of reach of children.

This unregistered medicine has not been evaluated by the SAHPRA for its quality, safety or intended use.

D: COMPLEMENTARY MEDICINE

Manufactured by Aviz Laboratories, Randjespark, Midrand, South Africa
Applicant: Bayer (Pty) Ltd, 27 Wrench Road, Isando, 1600, South Africa.
Co. Reg. No.: 1968/011192/07.
Tel: (011) 921 5000.
Please refer to the Professional Information available online at www.bayer.co.za

Figure 4.3: Berocca Performance nutritional content (Lofthouse, 2021)

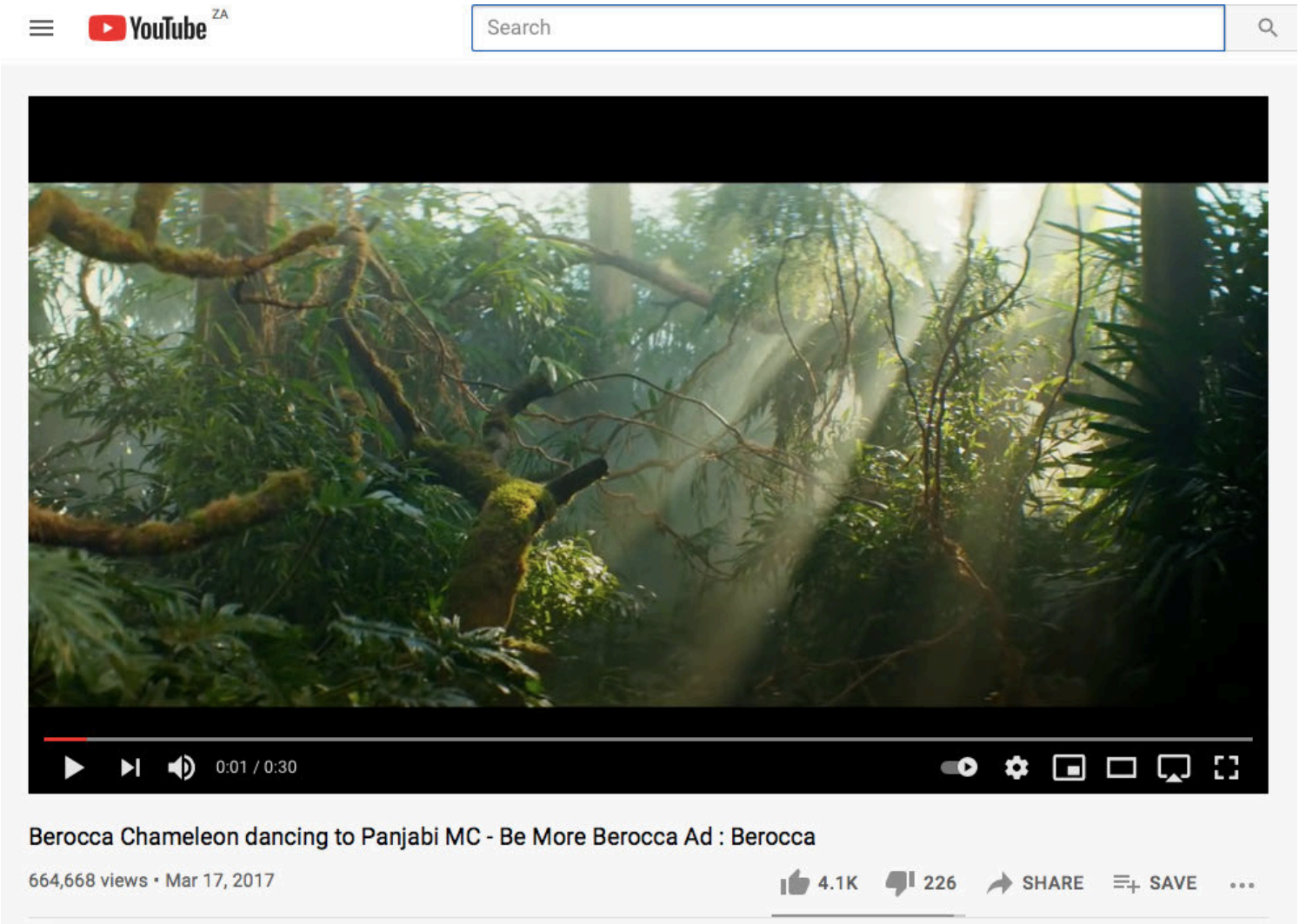


Figure 4.4: Berocca Performance advertisement which aired on South African television screens (YouTube, 2021)

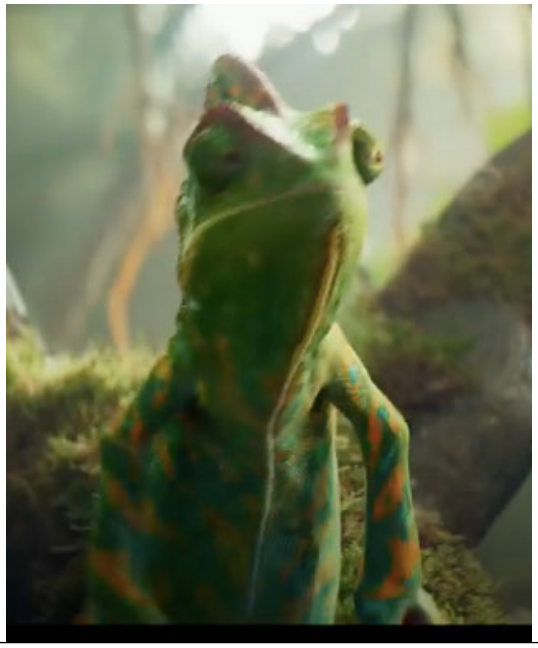


Figure 4.4: Berocca's Roccy the chameleon dancing to Punjabi music (YouTube, 2021)

Appendix E

Screenshots for Textual Analysis

International Journal of Clinical Pharmacology and Therapeutics, Vol. 44 – No. 9/2006 (401-408)

Original

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Bioavailability and pharmacokinetics of Echinacea purpurea preparations and their interaction with the immune system

K. Woelkart[1], E. Marth[2], A. Suter[3], R. Schoop[3], R.B. Raggam[2], C. Koidl[2], B. Kleinhappl[2] and R. Bauer[1]

[1]Institute of Pharmaceutical Sciences, Department of Pharmacognosy, Karl Franzens University, [2]Institute of Hygiene, Medical University Graz, Austria, [3]A. Vogel Bioforce AG, Roggwil, Switzerland

Figure 5.1: Screenshot of academic published work putting a dark cloud of Echinaforce's claims over immunity (Woelkart et.al, 2006)

FULL LENGTH ARTICLE | VOLUME 79, ISSUE 3-5, P97-99, SEPTEMBER 01, 2008

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Omega-3 PUFA: Good or bad for prostate cancer?

Ingeborg A. Brouwer

Published: August 25, 2009 • DOI: https://doi.org/10.1016/j.plefa.2008.09.006

PlumX Metrics

ADVERTISEMEN

Abstract

Introduction

The objective of this meta-analysis was to estimate quantitatively the associations between intake or status of omega-3 polyunsaturated (omega-3 PUFA) fatty acids and occurrence of prostate cancer in observational studies in humans.

Figure 5.2: Screenshot of academic published work revealing negative side effects of Omega-3 and worsening prostate cancer (Plefa, 2006)

Volume 112, Issue 6
December 2020

< Previous Next >

Adverse effects on cognition caused by combined low vitamin B-12 and high folate status—we must do better than a definite maybe!

Anne M Molloy

The American Journal of Clinical Nutrition, Volume 112, Issue 6, December 2020, Pages 1422–1423, https://doi.org/10.1093/ajcn/nqaa286

Published: 23 October 2020

Cite Permissions Share ▾

Issue Section: Editorial

Figure 5.3: Screenshot of academic published work showcasing adverse effects on cognition from too much folic acid from supplements (Molloy, 2020)

Mini-Review | Published: 05 November 2020

A review of metal-induced effects on vitamins A, E and D3 in birds

Silvia Espín & Pablo Sánchez-Virosta

Ecotoxicology **30**, 1–16 (2021) | Cite this article

260 Accesses | **3** Altmetric | Metrics

Abstract

Birds have been historically affected by metals and are considered powerful sentinels of environmental pollution. Some toxic elements (Pb, Cd, Hg, As) have been broadly studied in avian species and are well known for their accumulation capacity and deleterious effects

Figure 5.3: Screenshot of academic published work revealing negative side effects of metals and vitamins in birds (Virosta, 2021)

Appendix F

South African Health Products Regulatory Authority

Allowable Levels and Claims: Vitamins

Note: Any claims provided may be used with any of the stipulated dosage ranges.
Minimum: Minimum Daily Levels Required for use of Health Supplement Claim
Maximum: Maximum Daily Levels Permitted as Health Supplement

Vitamin	Health Supplement Claim (Single Substance Products)	Health Supplement Claim (Multiple Substance Products)	Children		Adults	
			Minimum	Maximum	Minimum	Maximum
Vitamin A To be calculated as retinol or retinol activity equivalents (RAE) i Vitamin A / All-trans retinol ii Vitamin A acetate/ All-trans retinyl acetate iii Vitamin A palmitate / All-trans retinyl palmitate iv Beta-carotene / All-trans beta-carotene* v Alpha-carotene / All-trans alpha-carotene* vi Beta-cryptoxanthin / All-trans beta-cryptoxanthin*	Contributes to the maintenance of normal vision Contributes to the development and maintenance of night vision Has a role in the process of cell differentiation Contributes to normal growth Contributes to normal iron metabolism Contributes to the maintenance of normal mucous membranes Contributes to the maintenance of normal skin	Contributes to the maintenance of eyesight, skin, membranes and immune function Contributes the development and maintenance of night vision Contributes to the development and maintenance of bones and teeth A factor in the maintenance of good health Multi-vitamin supplement/ Multi-vitamin/mineral supplement	**10 months to 3 years** 30 µg	600 µg	65 µg	≤ 5 000 I.U. (1 500 µg)
			4 to 8 years 30 µg	900 µg		
			9 to 13 years 30 µg	≤1 500 µg		
			14 to 18 years 65 µg	≤1 500 µg		

Figure 6.1: Vitamin A regulations (SAHPRA, 2021)

Vitamin	Health Supplement Claim (Single Substance Products)	Health Supplement Claim (Multiple Substance Products)	Children		Adults	
			Minimum	Maximum	Minimum	Maximum
Vitamin B1 (Thiamine) To be calculated as Thiamine i thiamine hydrochloride ii thiamine monochloride iii thiamine mononitrate iv thiamine monophosphate v thiamine diphosphate vi thiamine pyrophosphate	Helps to metabolise carbohydrates Helps to metabolise proteins Helps to metabolise fats Contributes to normal energy-yielding metabolism Contributes to the normal functioning of the nervous system Contributes to normal psychological function Contributes to the normal function of the heart Contributes to normal growth A factor in the maintenance of good health	Helps to metabolise carbohydrates, fats and proteins Contributes to normal growth A factor in the maintenance of good health Multi-vitamin supplement/ Multi-vitamin/mineral supplement	**1 to 13 years** 0,04	≤100 mg	0,07 mg	≤ 100 mg
			14 to 18 years 0,07 mg	≤ 100 mg		
Vitamin B2 (riboflavin) To be calculated as riboflavin i riboflavin 5'-phosphate, sodium	Helps to metabolise carbohydrates Helps to metabolise fats and proteins Contributes to normal energy-yielding metabolism Contributes to the normal functioning of the nervous system	Helps to metabolise carbohydrates, fats and proteins Contributes to tissue formation A factor in the maintenance of good health Multi-vitamin supplement/ Multi-vitamin/mineral supplement	**1 to 13 years** 0,04 mg	≤100 mg	0,08 mg	≤ 100 mg
			14 to 18 years 0,08 g	≤1 00 mg		

Figure 6.2: Vitamin B1 an B2 regulations (SAHPRA, 2021)

Oil	Health Supplement Claim	SPECIFIED WARNING(S)	Other Instructions/ Directives	Minimum	Maximum
1. Plant Oils					
Echium oil *Echium plantagineum oil* *Echium vulgare seed oil* ***Source Material(s):*** *Echium plantagineum* *(Parts: Seed)*	*Annexure B submission required.*		Must be derived only from *Echium vulgare* seed.	*See claim.*	Must not contain more than 1 mg of the equivalent dry material.
Evening Primrose Oil *Oenothera (species) seed oil fixed* *Oenothera biennis* *(Parts: Seed)*	Source of essential fatty acids for the maintenance of good health. Source of omega-6 fatty acids for the maintenance of good health. Source of linoleic acid for the maintenance of good health.		Must contain the following fatty acids in the stipulated ranges: • 7 to 14 % gamma-Linolenic acid • 65 to 85 % Linoleic acid Vitamin E is an optional medicinal ingredient in evening primrose oil products. See also Vitamin E in the Vitamin Annexures.	1 300 mg	6 000 mg
False flax oil *Big-seed false flax* *False flax* *Myragrum sativum* *Camelina sativa* *(Parts: Seed)*	*Dependent on required Fatty Acid Constituents.* *Annexure B submission required.*	**Products not encapsulated:** Refrigerate after opening.		*See claim.*	15 g

Figure 6.3: Evening Primrose Oil regulations (SAHPRA, 2021)

Oil	Health Supplement Claim	SPECIFIED WARNING(S)	Other Instructions/ Directives	Minimum	Maximum
2. Marine Oils					
	For products providing 138 to 1 500 µg retinol activity equivalents (RAE) (µg vitamin A/all-trans retinol (palmitate)), per day: Refer to Annexure E for Vitamin A related claims. **For products providing 1,15 to 25 µg vitamin D3 (cholecalciferol), per day:** Helps in the development and maintenance of bones and teeth. Helps in the absorption and use of calcium and phosphorus. Source of vitamin D, a factor in the maintenance of good health. **For products providing 100 to 1 360 mg eicosapentaenoic acid (EPA) + docosahexaenoic acid (DHA), per day:** Source of omega-3 fatty acids for the maintenance of good health. Source of eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) for the maintenance of good health. **For products providing 100 to1 360 mg EPA + DHA including at least 100 mg DHA, per day:** Helps support cognitive health and/or brain function.				

	maintenance of normal blood cholesterol levels.		provides at least 1,5 g of linoleic acid (LA) per 100 g and per 100 kcal.	beneficial effect is obtained with a daily intake of 10 g of LA.

Figure 6.4: EPA and DHA oil regulations (SAHPRA, 2021)

Oil	Health Supplement Claim	SPECIFIED WARNING(S)	Other Instructions/ Directives	Minimum	Maximum
2. Marine Oils					
	For products providing 150 to 1 360 mg EPA + DHA including at least 150 mg DHA, per day + DHA: Helps support the development of the brain, eyes and nerves in children up to 12 years of age.				
Fish oil *Ammodytidae - Whole* *Carangidae - Whole* *Clupeidae - Whole* *Engraulidae - Whole* *Osmeridae - Whole* *Salmonidae - Whole* *Scombridae - Whole* ***Note:*** *The above corresponds to oil from the body of one or more of the stated species in its natural triglyceride/triacylglycerol form and/or its concentrated esterified form.*	**For products providing 100 to 3 000 mg Eicosapentaenoic acid + Docosahexaenoic acid, per day:** Source of omega-3 fatty acids for the maintenance of good health. Source of eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) for the maintenance of good health. **For products providing 200 to 3 000 mg Eicosapentaenoic acid + Docosahexaenoic acid and containing a ratio of Eicosapentaenoic acid: Docosahexaenoic acid between 0,5:1 and 2:1, per day:** Helps maintain/support cardiovascular health **For products providing 1 000 to 3 000 mg Eicosapentaenoic acid + Docosahexaenoic acid and containing a ratio of Eicosapentaenoic acid: Docosahexaenoic acid between**	Active: Concentrated omega-3 triglycerides-fish (only for oral use). **Products not encapsulated:** Refrigerate after opening.	The potencies of vitamin A, vitamin D and/or EPA+DHA, in addition to the level of Fish liver oil, must be indicated on the product registration application and label. Concentrated fish oil (ethyl esters): Icosapent (all-Z)-5,8,11,14,17-Eicosapentaenoic acid Eicosapentaenoic acid EPA Fish oil fatty acid Icosapentaenoic acid Timnodonic acid Consult a relevant health care provider before use if you suffer from a bleeding disorder, take blood-thinning medicines or are asthmatic with sensitivity to aspirin.	*If health claims are made for vitamin A or colecalciferol (vitamin D), refer to the restrictions for vitamin A or colecalciferol. Vitamin A and D levels not to exceed stipulated doses as indicated in the Vitamin Annexures.* **Oil fixed standardised** 100 mg of Eicosapentaenoic acid + Docosahexaenoic acid per day.	3 000 mg

Figure 6.5: Fish oil regulations (SAHPRA, 2021)

Fatty Acid	Health Supplement Claim	SPECIFIED WARNING(S)	Other Instructions/ Directives	Minimum	Maximum
4. Fatty Acid Constituents *Included to guide recommended use for oils and fats based on FA content. Levels, if not stated, must be determined by source material otherwise Annex. B submission required.*					
Docosahexaenoic Acid (DHA) *(4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-Docosahexaenoic acid Doconexent*	Source of docosahexaenoic acid (DHA) for the maintenance of good health.			In order to bear the claim information shall be given to the consumer that the beneficial effect is obtained with a daily intake of 100 mg of DHA.	
	DHA contributes to maintenance of normal brain function.		The claim may be used when the source contains at least 40 mg of DHA per 100 g and per 100 kcal.	In order to bear the claim information shall be given to the consumer that the beneficial effect is obtained with a daily intake of 250 mg of DHA.	
	DHA contributes to the maintenance of normal blood triglyceride levels.		The claim may be used only when a daily intake of 2 g of DHA is provided and contains DHA in combination with eicosapentaenoic acid (EPA).	When the claim is used information shall also be given to consumers not to exceed a supplemental daily intake of 5 g of EPA and DHA combined.	
	DHA contributes to the maintenance of normal vision.		The claim may be used only for sources which contain at least 40 mg of DHA per 100 g and per 100 kcal.	In order to bear the claim information shall be given to the consumer that the beneficial effect is obtained with a daily intake of 250 mg of DHA.	
	DHA maternal intake contributes to the normal development of the eye of the foetus and breastfed infants.			Minimum: EPA + DHA = 250 mg DHA = 200 mg	
Source Material: *Arctocephalus pusillus (Parts: Blubber); Arctogadus glacialis (Parts: Liver); Clupea harengus (Parts: Egg); Clupea harengus (Parts: Fish semen); Cod Liver Oil fish (Parts: Liver); Crypthecodinium cohnii (Parts: Whole); Cystophora cristata (Parts: Blubber); Erignathus barbatus (Parts: Blubber); Euphausia pacifica (Parts: Whole); Euphausia superba (Parts: Whole); fish oil fish (Parts: Whole); Gadus macrocephalus (Parts: Liver); Gadus morhua (Parts: Liver); Gadus ogac (Parts: Liver); Halichoerus grypus (Parts: Blubber); Illex illecebrosus (Parts: Whole); Mytilus edulis (Parts: Whole); Pagophilus groenlandicus (Parts: Blubber); Pandalus borealis (Parts: Internal shell); Pandalus borealis (Parts: Whole); Phoca vitulina (Parts: Blubber); Pusa hispida (Parts: Blubber); Schizochytrium spp. (Parts: Whole); Shark (Parts: Liver); Squid oil Squid (Parts: Whole); Theragra chalcogramma (Parts: Liver); Theragra chalcogramma (Parts: Whole); Thunnus thynnus (Parts: Whole); Ulkenia amoeboidea (Parts: Whole); Ulkenia spp. (Parts: Whole)* ***Source Ingredients:*** *Omega-3 acid ethyl ester; Omega-3 Fatty acids*					

Figure 6.6: DHA regulations (SAHPRA, 2021)

Fatty Acid	Health Supplement Claim	SPECIFIED WARNING(S)	Other Instructions/ Directives	Minimum	Maximum
4. Fatty Acid Constituents *Included to guide recommended use for oils and fats based on FA content. Levels, if not stated, must be determined by source material otherwise Annex. B submission required.*					
Docosapentaenoic acid (DPA) *(all-Z)-7,10,13,16,19-Docosapentaenoic acid cis-7,10,13,16,19-Docosapentaenoic acid*	Source of docosapentaenoic acid (DPA) for the maintenance of good health.			100 mg	*As for source.*
Source material: *Arctocephalus pusillus (Parts: Blubber); Cystophora cristata (Parts: Blubber); Erignathus barbatus (Parts: Blubber); Halichoerus grypus (Parts: Blubber); Pagophilus groenlandicus (Parts: Blubber); Phoca vitulina (Parts: Blubber); Pusa hispida (Parts: Blubber)*					
Eicosapentaenoic Acid (EPA) *Icosapent (ethyl ester) (all-Z)-5,8,11,14,17-Eicosapentaenoic acid EPA Fish oil fatty acid Icosapentaenoic acid Timnodonic acid*	Source of eicosapentaenoic acid (EPA) for the maintenance of good health.	**Products not encapsulated:** Refrigerate after opening. Consult a relevant health care provider before use if you have a sensitivity to aspirin or high blood pressure		100 mg	*As for source.*
DHA + DPA + EPA	Source of omega-3 fatty acids for the maintenance of good health.	As for any constituent contained therein.	As for any constituent contained therein.	100 mg of the combination thereof.	*As for source.*
DHA + EPA	Helps support/maintain (normal) heart/cardiovascular health/function.	As for any constituent contained therein.	As for any constituent contained therein.	250 mg of the combination thereof.	*As for source.*
	Helps to support/maintain normal serum/blood triglyceride/triacylglycerol levels.			2 g of the combination thereof.	*As for source.*

Figure 6.7: EPA, DHA and EPA and DHA regulations (SAHPRA, 2021)

Fatty Acid	Health Supplement Claim	SPECIFIED WARNING(S)	Other Instructions/ Directives	Minimum	Maximum
4. Fatty Acid Constituents *Included to guide recommended use for oils and fats based on FA content. Levels, if not stated, must be determined by source material otherwise Annex. B submission required.*					
gamma-Linolenic acid (GLA) *Gamolenic acid (6Z,9Z,12Z)-6,9,12-Octadecatrienoic acid cis-6,cis-9,cis-12-Octadecatrienoic acid*	Source of gamma-linoleic acid.			100 mg	*As for source.*
Source materials: *Arthrospira platensis (Parts: Whole); Borago officinalis (Parts: Seed); Carthamus tinctorius (Parts: Seed); Echium plantagineum (Parts: Seed); Oenothera biennis (Parts: Seed); Ribes nigrum (Parts: Seed)*					
Oleic acid (OA) *(Z)-octadec-9-enoic acid 9-octadecenoic acid butter acids cis-oleic acid medium chain fatty acids omega-9 Fatty Acids*	Source of oleic acid.			100 mg	*As for source.*
Omega-3 fatty acids without EPA/DHA	For the maintenance of good health. *As per source.*			*See claim. As per source.*	
Arctogadus glacialis (Parts: Liver); Cod Liver Oil fish (Parts: Liver); Gadus macrocephalus (Parts: Liver); Gadus morhua (Parts: Liver); Gadus ogac (Parts: Liver)					
Omega-6 fatty acids	*As per source.*			*See claim. As per source.*	
Borago officinalis (Parts: Seed); Buglossoides arvensis (Parts: Seed); Hippophae rhamnoides (Parts: Fruit); Linum usitatissimum (Parts: Seed); Oenothera biennis (Parts: Seed); Persea Americana (Parts: Fruit); Plukenetia volubilis (Parts: Seed); Vitis vinifera (Parts: Seed)					
Omega-7 fatty acids *Hippophae rhamnoides (Parts: Fruit)*	*As per source.*			*See claim. As per source.*	
Omega-9 fatty acids	*As per source.*			*See claim. As per source.*	
Buglossoides arvensis (Parts: Seed); Hippophae rhamnoides (Parts: Fruit); Persea americana (Parts: Fruit); Vitis vinifera (Parts: Seed)					

Figure 6.8: GLA regulations (SAHPRA, 2021)

Vitamin	Health Supplement Claim (Single Substance Products)	Health Supplement Claim (Multiple Substance Products)	Children		Adults	
			Minimum	Maximum	Minimum	Maximum
Vitamin C (Ascorbic Acid) To be calculated as vitamin C i Ascorbic acid/Vitamin C ii Ascorbyl palmitate iii Calcium ascorbate iv Magnesium ascorbate v Niacinamide ascorbate/Nicotinamide ascorbate vi Potassium ascorbate vii Sodium ascorbate viii Zinc ascorbate	Contributes to iron absorption from food Helps to metabolise fats and proteins Contributes to cell protection from free radical damage Contributes to maintain the normal function of the immune system during and after intense physical stress **(the claim may be used for a daily intake of 200 mg in addition to recommended daily intake).** Contributes to normal collagen formation for the normal function of blood vessels Contributes to normal collagen formation for the normal function of bones Contributes to normal collagen formation for the normal function of cartilage Contributes to normal collagen formation for the normal function of gums	Helps to metabolise fats and proteins Helps in the development and maintenance of bones, cartilage, teeth and gums Helps in connective tissue formation Helps in wound healing An antioxidant for the maintenance of good health A factor in the maintenance of good health Multi-vitamin supplement/ Multi-vitamin/mineral supplement	**1 to 3 years** 2,2 mg	400 mg	6 mg	≤ 1 000 mg
			4 to 8 years 2,2 mg	650 mg		
			9 to 13 years 2,2 mg	≤ 1 000 mg		
			14 to 18 years 6 mg	≤ 1 000 mg		

Figure 6.8: Absorbsic acid regulations (SAHPRA, 2021)

Fatty Acid	Health Supplement Claim	SPECIFIED WARNING(S)	Other Instructions/ Directives	Minimum	Maximum
4. Fatty Acid Constituents *Included to guide recommended use for oils and fats based on FA content. Levels, if not stated, must be determined by source material otherwise Annex. B submission required.*					
Alpha-Linolenic Acid (ALA) *Linolenic acid* *(9Z,12Z,15Z)-9,12,15-octadecatrienoic acid* *cis,cis,cis-9,12,15-octadecatrienoic acid*	Source of alpha-linolenic acid (ALA) for the maintenance of good health. Source of omega-3 fatty acid for the maintenance of good health. Source of an essential fatty acid for the maintenance of good health.			80 mg	*As for source.*
	ALA contributes to the maintenance of healthy blood cholesterol levels		Information shall be given to the consumer that the beneficial effect is obtained with a daily intake of 2 g of ALA.	2 g	*As for source.*
Source ingredients: *Borago officinalis (Parts: Seed); Buglossoides arvensis (Parts: Seed); Cannabis sativa (Parts: Seed); Echium plantagineum (Parts: Seed); Linum usitatissimum (Parts: Seed); Oenothera biennis (Parts: Seed); Perilla frutescens (Parts: Seed); Plukenetia volubilis (Parts: Seed); Ribes nigrum (Parts: Fruit); Rubus idaeus (Parts: Seed); Salvia hispanica (Parts: Seed); Salvia sclarea (Parts: Seed); Vaccinium macrocarpon (Parts: Seed)*					
Linoleic acid (LA) *(Z,Z,)-9,12-Octadecadienoic acid* *9,12-Linoleic acid* *alpha-Linoleic acid* *cis,cis-9,12-Octadecadienoic acid* *Linolic acid*	Source of linoleic acid (LA) for the maintenance of good health. Source of omega-6 fatty acid for the maintenance of good health. Source of an essential fatty acid for the maintenance of good health.			850 mg	*As for source.*
	Linoleic acid contributes to the maintenance of normal blood cholesterol levels.		The claim may be used only when source provides at least 1,5 g of linoleic acid (LA) per 100 g and per 100 kcal.	Information shall be given to the consumer that the beneficial effect is obtained with a daily intake of 10 g of LA.	

Figure 6.9: Linoleic acid (LA) regulations (SAHPRA, 2021)

Vitamin	Health Supplement Claim (Single Substance Products)	Health Supplement Claim (Multiple Substance Products)	Children		Adults	
			Minimum	Maximum	Minimum	Maximum
Vitamin B6 (pyridoxine) To be calculated as pyridoxine i Pyridoxal ii Pyridoxal hydrochloride iii Pyridoxal-5-phosphate (calcium salt) iv Pyridoxamine v Pyridoxamine-5-phosphate vi Pyridoxine vii Pyridoxine hydrochloride viii Pyridoxine-5-phosphate	Helps to metabolise carbohydrates, fats and proteins Contributes to normal cysteine synthesis Contributes to normal energy-yielding metabolism Contributes to normal functioning of the nervous system Contributes to normal homocysteine metabolism Contributes to normal protein and glycogen metabolism Contributes to normal psychological function Contributes to normal red blood cell formation Contributes to the normal function of the immune function Contributes to the reduction of tiredness and fatigue Contributes to the regulation of hormonal activity Contributes to tissue formation A factor in the maintenance of good health	Helps to metabolise carbohydrates, fats and proteins Contributes to tissue formation A factor in the maintenance of good health Multi-vitamin supplement/ Multi-vitamin/mineral supplement	**1 to 3 years** 0,05 mg	30 mg	0,1 mg	≤ 100 mg
			4 to 8 years 0,05 mg	40 mg		
			9 to 13 years 0,05 mg	60 mg		
			14 to 18 years 0,1 mg	80 mg		

Figure 6.10: Vitamin B6 regulations (SAHPRA, 2021)

Minerals	Health Supplement Claim (Single Substance Formulations)	Health Supplement Claim (Multiple Substance Formulations)	Children		Adults	
			Minimum	Maximum	Minimum	Maximum
Magnesium *Magnesium acetate* *Magnesium acetate tetrahydrate* *Magnesium ascorbate* *Magnesium aspartate* *Magnesium bisglycinate* *Magnesium carbonate* *Magnesium chloride* *Magnesium chloride hexahydrate* *Magnesium citrate* *Magnesium fumarate* *Magnesium gluceptate* *Magnesium gluconate* *Magnesium gluconate dihydrate* *Magnesium glutarate* *Magnesium glycerophosphate* *Magnesium HAP chelate* *Magnesium HVP chelate* *Magnesium hydroxide* *Magnesium lactate* *Magnesium malate* *Magnesium oxide* *Magnesium phosphate dibasic trihydrate / Magnesium hydrogen phosphate trihydrate / Dimagnesium phosphate trihydrate* *Magnesium phosphate tribasic tetra-, penta-, or octahydrate / Trimagnesium phosphate tetra-, penta-, or octahydrate*	Contributes to normal energy - yielding metabolism Contributes to normal functioning of the nervous system Contributes to normal electrolyte balance Contributes to a reduction of tiredness and fatigue Contributes to the maintenance of normal muscle function Contributes to normal protein synthesis Contributes to normal psychological function Has a role in the process of cell division Contributes to the maintenance of normal bones Contributes to the maintenance of normal teeth. Helps to metabolise carbohydrates, fats and proteins Contributes to tissue formation	Helps to metabolise carbohydrates, fats and proteins Contributes to the development and maintenance of bones and teeth Contributes to tissue formation Contributes to the maintenance of normal muscle function A factor in the maintenance of good health Mineral supplement/ Vitamin/ Mineral supplement/ Multi-mineral supplement	**1 to 3 years** 12 mg	65 mg	20 mg	≤ 250 mg
			4 to 8 years 12 mg	≤ 100 mg		
			9 to 13 years 12 mg	≤ 250 mg		
			14 to 18 years 20 mg	≤ 250 mg		

Figure 6.11: Magnesium regulations (SAHPRA, 2021)

Minerals	Health Supplement Claim (Single Substance Formulations)	Health Supplement Claim (Multiple Substance Formulations)	Children		Adults	
			Minimum	Maximum	Minimum	Maximum
Calcium *Including the following sources:* *Bone meal** *Calcium acetate* *Calcium ascorbate* *Calcium bisglycinate* *Calcium carbonate* *Calcium chloride* *Calcium chloride, hexahydrate* *Calcium chloride dehydrate* *Calcium citrate* *Calcium citrate malate* *Calcium citrate tetrahydrate* *Calcium fumarate* *Calcium glubionate anhydrous* *Calcium glubionate monohydrate* *Calcium gluceptate* *Calcium gluconate* *Calcium gluconate monohydrate* *Calcium glutarate* *Calcium glycerophosphate* *Calcium hydrolyzed animal protein (HAP) chelate* *Calcium hydrolyzed vegetable protein (HVP) chelate* *Calcium hydroxide* *Calcium lactate*	Contributes to the development and maintenance of bones and teeth Contributes to normal muscle function Contributes to normal blood clotting Contributes to normal energy-yielding metabolism Contributes to normal neurotransmission Contributes to normal function of digestive enzymes Has a role in the process of cell division and specialisation Calcium intake, when combined with sufficient vitamin D, a healthy diet, and regular exercise, may reduce the risk of developing osteoporosis A factor in the maintenance of good health	Contributes to the development and maintenance of bones and teeth A factor in the maintenance of good health Mineral supplement/ Vitamin/Mineral supplement/ Multi-mineral supplement Calcium intake, when combined with sufficient vitamin D, a healthy diet, and regular exercise, may reduce the risk of developing osteoporosis	**1 to 18 years** 65 mg	≤ 1 300 mg	65 mg	≤ 1 300 mg

Figure 6.12: Calcium regulations (SAHPRA, 2021)

Minerals	Health Supplement Claim (Single Substance Formulations)	Health Supplement Claim (Multiple Substance Formulations)	Children		Adults	
			Minimum	Maximum	Minimum	Maximum
Zinc (and derivatives) Including: *Zinc acetate* *Zinc acetate dihydrate* *Zinc bisglycinate* *Zinc chloride* *Zinc citrate* *Zinc fumarate* *Zinc gluconate* *Zinc glutarate* *Zinc glycerate* *Zinc HAP chelate* *Zinc HVP chelate* *Zinc malate* *Zinc monomethionine* *Zinc oxide* *Zinc phosphate* *Zinc succinate* *Zinc sulphate* *Zinc sulphate heptahydrate* If *Zinc picolinate* is used as a source: • *Not suitable for children* • *Label: Consult a relevant health care provider for use beyond 3 months* • *Label: Do not use this product if you are pregnant or breastfeeding*	Contributes to the maintenance of immune function Contributes to the maintenance of normal skin Contributes to normal acid-base metabolism Contributes to normal cognitive function Contributes to normal DNA synthesis Contributes to normal fertility and reproduction Contributes to normal macronutrient metabolism Contributes to normal metabolism of Vitamin A Contributes to the maintenance of normal nails Contributes to the maintenance of normal bones Contributes to the maintenance of normal hair Contributes to the maintenance of normal testosterone levels in the blood Contributes to the maintenance of normal vision	Helps in connective tissue formation Helps to maintain healthy skin Helps the body to metabolise carbohydrates, fats and proteins Helps to maintain immune function A factor in the maintenance of good health Mineral supplement/ Vitamin/ Mineral supplement/ Multi-mineral supplement	**0 to 12 months** 0,2 mg	2 mg	0,7 mg	≤ 25 mg
			1 to 3 years 0,4 mg	7 mg		
			4 to 8 years 0,4 mg	12 mg		
			9 to 13 years 0,4 mg	23 mg		
			14 to 18 years 0,7 mg	≤ 25 mg		

Figure 6.13: Zinc regulations (SAHPRA, 2021)

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Vega Ethics checklist: RESE8419/p/w

Student Details												
Title	Prof	☐	Dr	☐	Ms	☐	Mrs	☐	Mr	☒	Mx	☐
First name(s)	Nicholas											
Last name(s)	James Lofthouse											
Title of study	Investigating the Brand Image of Dietary Supplement Brands: a case for Health-conscious South Africans											
Qualification	Honours BA Strategic Brand Communication											

Supervisor Details												
Title	Prof	☒	Dr	☐	Ms	☐	Mrs	☐	Mr	☐	Mx	☐
First and last names	Cornelis Coetzee											
Co-supervisor Details (if applicable)												
Title	Prof	☐	Dr	☐	Ms	☐	Mrs	☐	Mr	☐	Mx	☐
First and last names	Click or tap here to enter text.											

Explaining your research process						
Philosophical paradigm	Positivism	☐	Interpretivism	☐	Constructivism	☐
	Realism	☐	Objectivism	☐	Pragmatism	☐
	Functionalist	☐	Subjectivism	☐	Humanist	☐
	Other:	Critical Realism				
Research design:	Interview	☐	Questionnaire (self administered)	☐	Focus group	☐
	Ethnography/ Observation	☐	Artefact analysis/website/ social media analysis	☐	Action Research	☐
	Case Study	☒	Design Research (Practice based)	☐		☐
	Other *(if so, state)*	☐	Click or tap here to enter text.			
Brief explanation of the population and number of participants/items	Dietary supplement brands – Berocca, Bio-Strath and Avogel The dietary supplement nutritional contents of the three brands South African Advertising Laws pertaining to dietary supplements					
	Purposive	☒	Random	☐	Snowball	☐
	Convenient	☐	Stratified	☐	Census	...

Target group sampling methods/artefact (No under 18's or vulnerable groups allowed)	*Explain selection process*	Sampling of immune-boosting dietary supplements as they have become the most popular world-wide and whose benefits receive the most praise.

Ethics		
Documentation submitted with proposal	Gatekeeper's letter (institutional consent)	☒
	Completed Annexure E if you conduct research on IIE sites/students/staff	☐
	Instrument(s) (interview schedule or questionnaire)	☐
	Participant or respondent consent form	☐
	Audio-visual consent form (if applicable)	☐

Campus ethics committee recommendation	
Proposal has been reviewed by the supervisor and necessary ethics considerations have been included. ☒ Accepted as is and provide letter ☐ Accepted with provisions: Nature of provision: **e.g. Instrument is not sufficient / included and need to be signed off by the supervisor** ☐ Major issues: Student should not continue with fieldwork. Actions to be taken: Click or tap here to enter text.	
Supervisor signature	
	Click or tap to enter a date.
Co-supervisor/Campus ethics panel member signature	
	Click or tap to enter a date.