The knowledge, attitude and practice of health and skincare therapists at accredited clinics around South Africa with regard to nutrition

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in partial fulfillment of the requirements for the degree of
Master of Nutrition
by

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DECLARATION

By submitting this thesis electronically, I declare that the entirety of the work contained therein is my own, original work, that I am the owner of the copyright thereof (unless to the extent explicitly otherwise stated) and that I have not previously, in its entirety or in part submitted it for obtaining any qualification.

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ABSTRACT

The inclusion of nutrition in the national syllabus for health and skincare therapists indicates the realisation of its importance within this industry. Health and skincare therapists should be able to observe any adverse skin condition as a result of a dysfunctional homeostatic relationship between the skin and internal body systems.

The aim of this study was to assess the nutritional knowledge, attitude and practices of health and skincare therapists working in accredited clinics in South Africa.

This was a cross-sectional, descriptive study using both quantitative and qualitative data collection methods. Two hundred and forty-five questionnaires were sent to 54 SAAHSP accredited clinics around South Africa. Data analysis was performed using the 73 completed questionnaires, representing a response rate of 29.8%. A further 22 therapists participated in focus group discussions and 7 experts in the field of nutrition and skincare acted as the expert panel and participated in in-depth interviews.

A self-administered questionnaire on knowledge, attitude and practices was developed, based on the national syllabus. The 56-item questionnaire consisted of 10 demographic questions, 30 nutrition knowledge questions (selected by the expert panel from a pool of 96 questions), 10 attitude statements and 6 practice questions.

The questionnaires were analyzed using both descriptive and inferential statistics. The mean total knowledge score of the respondents was 64.4% (SD 0.11) indicating a level of knowledge above the required pass percentage of 60% for a SAAHSP qualification. Therapists with a CIDESCO qualification had a statistically significant higher total knowledge score. The mean score for the therapists' nutritional knowledge related to skincare was 47.5%, but their attitudes and their ability to advise clients about nutrition were mostly positive, with at least 61% and 69% of the therapists respectively agreeing with the statements. Fifty-six therapists (77%) felt that more intense theoretical nutrition training was needed and 83.3% agreed that more intense practical application of nutritional knowledge is needed at health and skincare institutes. Consistent with the majority's opinion (82%) that

nutritional counseling should form part of treatment, 59% and 63% offer nutritional counseling during body and facial treatment respectively. Therapists gain their nutritional knowledge predominantly from newspapers and magazines.

The themes highlighted during the focus group discussions included the influence of training institutions on nutritional knowledge, the importance of client consultation, but the lack of time to perform these and the need for educational opportunities in the professional industry. During the in-depth interviews, the experts highlighted the purpose of nutrition in the industry, nutritional responsibility, training and counseling of therapists as well as the SAAHSP syllabus.

Therapists' understanding of the scientific functioning of nutrients and their nutritional knowledge regarding skincare is a cause for concern. Their lack of confidence in providing clients with nutritional advice, especially regarding skincare; despite their perception that they have sufficient knowledge in this regard, reveals their inability to apply nutritional knowledge in practice. Recommendations to governing bodies and educators responsible for the development and implementation of the national syllabus are made.

OPSOMMING

Die opname van voeding in die nasionale sillabus vir gesondheids- en velsorgterapeute dui op die bewuswording van waarde daarvan in die industrie. Gesondheids- en velsorgterapeute behoort enige ongunstige veltoestand as ‘n nagevolg van gebrekkige homeostatiese verhoudings tussen die vel en interne liggaamssisteme, te identifiseer.

Die doel van hierdie studie was om die kennis van voeding, houdings en praktyke van gesondheids- en velsorgterapeute werksaam in geakkrediteerde klinieke in Suid Afrika, te assesseer.

Hierdie was ‘n dwarsprofiel, beskrywende studie wat beide kwantitatiewe en kwalitatiewe data insamelingsmetodes gebruik het. Twee honderd vyf-en-veertig vraelyste is na 54 SAAHSP geakkrediteerde klinieke in Suid Afrika gestuur. Die 73 voltooide vraelyste, wat ‘n reaksiekoers van 29.8% verteenwoordig, is vir data- analise gebruik. ‘n Verdere 22 terapeute het aan fokusgroep besprekings deelgeneem en 7 kenners op die gebied van voeding en velsorg het as die spesialis paneel opgetree en aan ‘n in-diepte onderhoude deelgeneem.

‘n Self geadministreerde kennis, houding en praktyk vraelys is op grond van die nasionale sillabus ontwikkel. Die 56-item vraelys het uit 10 demografiese vrae, 30 voedingkennis vrae (wat deur die spesialis paneel vanuit ‘n poel van 96 vrae uitgekies is), 10 houdingstellings en 6 praktyk vrae bestaan.

Beskrywende sowel as afleibare statistiek is vir die analise van vraelyste gebruik. Die gemiddelde totale kennistelling van die respondente was 64.4% (SD 0.11), wat ‘n kennisvlak bo die verwagte slaagpersentasie van 60% vir ‘n SAAHSP kwalifikasie aandui. Terapeute wat ‘n CIDESCO kwalifikasie verwerf het, het statisties ‘n beduidende hoër totale kennistelling verwerf. Die terapeute se gemiddelde kennistelling aangaande velsorg was 47.5%, maar hul houdings en vermoë om kliënte rakende voeding te adviseer was meestal positief met onderskeidelik 61% en 69% van terapeute wat met die stellings saamgestem het. Ses-en-vyftig terapeute (77%) was van mening dat meer intense teoretiese opleiding nodig is en 83.3% het saamgestem dat meer intense praktiese toepassing van voedingskennis by

gesondheid- en velsorginstansies nodig is. Konsekwent met die meerderheid (82%) se opinie dat voedingsraadgewing deel van behandelings moet uitmaak, bied 59% en 63% voedingsraadgewing tydens liggaam- en gesigbehandelings aan. Terapeute bekom hul voedingkennis hoofsaaklik van koerante en tydskrifte.

Temas wat tydens fokusgroepbesprekings beklemtoon is, het die invloed van opleidingsinstansies op die voedingkennis, die belangrikheid van kliënte konsultasies, maar die gebrek aan tyd om dit uit te voer én die behoefte aan opvoedkundige geleenthede in die professionele industrie, ingesluit. Tydens die in-diepte onderhoude het die spesialiste die doel van voeding in die industrie, terapeute se verantwoordelikheid, opleiding en raadgewing ten opsigte van voeding, sowel as die SAAHSP sillabus beklemtoon.

Terapeute se begrip van die wetenskaplike funksionering van nutriënte en hul voedingkennis ten opsigte van velsorg is ‘n bron van kommer. Hul gebrek aan vertroue tydens die verskaffing van voedingsadvies, spesifiek aangaande velsorg; ondanks hul persepsie dat hul voldoende kennis in die verband het, openbaar hul onvermoë om voedingkennis in die praktyk aan te wend. Aanbevelings vir die beheerliggame en opvoeders veranwoordelik vir die ontwikkeling en implementering van die nasionale sillabus, word gemaak.

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LIST OF ABBREVIATIONS

ANOVA:	Analysis of variance
CIDESCO:	Comité International D'Esthethique et de Cosmetologie
DNA:	Deoxyribonucleic acid
DVD:	Digital Versatile Disc
ETQAs:	Education and Training Quality Assurance bodies
G5:	Gyratory Vibrator
ITEC:	International Therapy Examination Council
KAP:	Knowledge, Attitude and Practice
MDT:	Multi-Disciplinary Team
NC:	Nutritional Counselling
NHSS:	Nutrition for Health and Skincare Therapy National Syllabus
NQF:	National Qualifications Framework
PAB:	Professional Accreditation Body
RDA:	Recommended Dietary Allowance
SAAHSP:	South African Association of Health and Skincare Professionals
SAQA:	South African Qualifications Authority
SGB:	Standard Generating Bodies
SO:	Specific Outcomes
US:	United States
WHO:	World Health Organization

LIST OF DEFINITIONS

Accreditation	The certification, of a person, a body or an institution that has the capacity to fulfil a particular function in the quality assurance system set up by the SAQA in terms of the Act.[1]
Act	The South African Qualifications Authority Act, 1995 (Act No. 58 of 1995).[1]
Body faradic treatment	Body faradic treatment makes use of electrical impulses, produced by modifying direct or alternating currents to stimulate motor nerves and produce contraction of muscle, to firm body contours and maintain figure shape while losing weight through dieting.[2,3]
Critical outcome	The generic outcomes which inform all teachers and learners of the critical 'cross-field education and training outcomes'.[1]
Education and training quality assurance bodies (ETQA's)	A body accredited in terms of section 5(1) (a) (ii) of the Act, responsible for monitoring and auditing achievements in terms of national standards or qualifications, and to which specific functions relating to the monitoring and auditing of national standards or qualifications have been assigned in terms of section 5(1) (b) (i) of the Act.[1]
Gyratory Vibrator (G5)	A mechanical massage machine working on a vertical and horizontal plane, causing upward, downward and circular movements simulating the actions of effleurage, pettrisage and kneading with the choice of 5 applicator heads. It is used in body therapy to improve blood circulation, lymph circulation and stimulates the removal of waste products and delivery of oxygen and nutrients to the cells.[2,3]
Outcome	The contextually demonstrated end-products of the learning process.[1]
SAAHSP Accredited Clinic:	A health and skincare clinic honoring the code for ethical conduct and regulations stipulated by the association.[4]

SAAHSP Affiliated Therapist:	An individual health and skincare therapist who has voluntarily joined SAAHSP as a member and agreed to uphold the ethical code of conduct as set out by SAAHSP.
SAAHSP Qualification:	Qualification granted to a therapist after the completion of 2 years of study, obtaining a pass percentage of 60% for the SAAHSP examination and completing 400 hours of practical work.[4]
SAAHSP Training Institution:	A training institution accredited by SAAHSP after meeting all the association's standards regarding requirements, facilities, equipment, syllabus, time-table and lecturers. These institutions provide SAAHSP examinations and training based on the SAAHSP syllabus.[4]
Specific Outcome (SO):	The contextually demonstrated knowledge, skills and values which support one or more critical outcome.[1]
Standard Generating Bodies (SGB):	Bodies registered in terms of section 5(1) (a) (ii) of the Act, responsible for establishing education and training standards or qualifications, and to which specific functions relating to the establishing of national standards and/or qualifications have been assigned in terms of section 5(1) (a) (ii) of the Act.[1]
Vacuum Suction Treatment:	An electrical body treatment performed with a suction pump, driven by an electrical motor within the machine, creating a negative pressure in the cup attached to the machine which draws the tissue up into the cup to increase the body's circulation and lymphatic flow and to aid in the removal of waste products and excess fluid.[2,3]

CHAPTER 1
INTRODUCTION

1.1 INTRODUCTION

As health and skincare therapists work with clients who want to experience health and physical well-being within a relaxed atmosphere, they are often confronted with nutritional issues on a daily basis.[5] Clients assume that therapists are knowledgeable in the field of nutrition, but it is speculative whether the information these therapists receive during their training is adequate to respond to nutritional issues related to skincare.

The South African Qualifications Authority (SAQA) states that a qualification in Health and Skincare will enable a candidate to *"function as a member of a multi-disciplinary team (MDT) as a multi-skilled health and skincare practitioner"*. Therapists should be able to assist in the promotion of holistic health care through preparing, applying and assessing health and skincare treatments based on the holistic assessment of clients.[6,7]

Dietary habits have a profound influence on every organ in the human body. The skin, as the largest and most complex organ in the body, relies heavily on the diet and digestive system of an individual for vitamins, minerals, glucose, amino acids and fatty acids to ensure a healthy structure and optimal functioning thereof.[8-10] A positive change in nutritional habits alone will not overcome skin problems, but healthy skin would be affected if poor nutritional habits are not attended to.

Skin creams may provide important substances, but these will not be enough to ensure proper skin nutrition. Skin rejuvenating treatments will not be effective if the integumentary structure is deficient in essential nutrients.[9] The inclusion of nutrition in the national syllabus for health and skincare therapists indicates the realisation of the importance of nutrition within this industry by its governing bodies, but little research is available in this regard.

The South African Association of Health and Skincare Professionals (SAAHSP) is a Johannesburg-based organization that represents 27 health and skincare training institutes and 54 health and skincare clinics in South Africa.[7] It is the governing body which sets standards for the education sector of the health and skincare industry.[7] SAAHSP also offers accreditation to skincare clinics and membership for individual therapists who want to be affiliated with SAAHSP.

The predicament in which the industry finds itself is that many qualified health and skincare therapists present themselves as knowledgeable, when in fact their training concerning the interaction between skincare and nutrition is inadequate.

1.1.1 Factors Influencing the Health and Skincare Industry in South Africa

1.1.1.1 The concept of nutrition within health and skincare therapy

SAAHSP defines health and skincare therapy as *"the application or prescription of treatments designed to vary the external physical appearance or produce a greater feeling of well-being in human beings by the use of cosmetics, massage, exercise and such variations or extensions of those methods by hand, mechanical or electrical means or otherwise, as may be appropriate to this profession"*.[7]

Although this definition does not specify nutrition as a factor in the process of altering the appearance of prospective clients, nutrition is included in the national syllabus for higher education, which SAAHSP accredited Health and Skincare Training Institutes follow. Outcomes for the Nutrition for Health and Skincare Therapy syllabus (NHSS) (Addendum 1) are however geared towards weight loss and little attention is given to skincare. Students are expected to have an understanding of nutrients, their functions and a few nutrition-related diseases and disorders.[7] This implies that a therapist, trained as a professional in health and skincare, should be able to identify clinical signs evident of systemic disorders through changes in the skin's colour, flexibility, or sensitivity.[11,12]

Furthermore, when the comfort and welfare of clients are the main concern for registered health and skincare therapists, as stated in the code of ethics for SAAHSP members, health promotion (which usually includes nutrition education) as a means of primary prevention should be of utmost importance.[7,13] Measures taken to promote optimum health should be implemented at the personal level on which health and skincare therapists interact with clients on a daily basis.[13] Even though nutrition is not specifically part of the defining factors of health and skincare therapy, nutrition education is recognised as a component in training for a health and skincare practitioner. Unfortunately the NHSS (Addendum 1) for higher education is mainly geared towards body therapy and little attention is given to the effect of nutrition on skincare.

1.1.1.2 Impact of awareness of healthy lifestyles on the health and skincare industry

Consumers' concern with health and appearance and their awareness of nutrition as a means of minimizing lifestyle diseases has fuelled a growing wellness trend in South Africa over the past few years.[14] The flourishing $40 billion global spa industry is evidence of the change in the consumers' attitude towards wellness. Clients' focus is shifting from seeking a cure to seeking preventative measures, which include knowledge delivered by qualified and experienced health and skincare therapists.[5,15] Many medical aid institutions nowadays require members to manage healthy lifestyles. As a result, medical practitioners are incorporating health and skincare therapists into their practices.[6,16] This is beneficial to the practitioner as the idea of preventative measures are established with the client. South Africa's biggest health care organization, Discovery Health, is focused on reducing the long-term medical care expenses of their 1.8 million members by integrating health and lifestyle benefits into their medical plans, as a means to encourage members to take preventative measures regarding their health.[17]

The health and skincare industry embraces this change by offering holistic health practices that encourage lifestyle habits which improve good health. This more holistic approach towards wellness considers lifestyle factors in health and skincare therapy, making it increasingly important for health and skincare therapists to be knowledgeable about nutrition.[12]

1.2 PROBLEM STATEMENT

It is speculated that appropriate training in nutrition as part of the national syllabus for health and skincare therapists is inadequate. It is also believed that therapists are unable to apply the nutritional knowledge they acquired during their training in their practices due to a lack of practical training provided by the NHSS.

Efficient training is necessary to ensure that therapists can provide nutritional advice with confidence to their clients regarding skincare. Being competent to identify the nutrient deficiency resulting in the skin problem, they will be able to determine the course of action that should be taken to restore homeostasis. Being properly trained, therapists will know when specialized medical care is needed and refer clients accordingly.[8]

CHAPTER 2
REVIEW OF RELATED LITERATURE

2.1 INTRODUCTION

Investigating the nutritional knowledge of health and skincare therapists and their attitude towards the importance of nutrition, requires an overview of the existing organizational structures that govern their interest in the subject as well as the content of the syllabuses followed at training institutions. The knowledge of nutrition directly influences the nutritional assessment practices of therapists and therefore the impact of nutrition on the physiological structures of the skin is discussed. To effectively form part of a multi-disciplinary team (MDT), a health and skincare therapist bears the responsibility of offering positive lifestyle guidance to clients. This includes scientifically grounded information about healthy dietary habits in general and nutritional habits that could affect healthy skin.

2.2 ORGANIZATIONAL STRUCTURES WITHIN THE HEALTH AND SKINCARE EDUCATION SYSTEM OF SOUTH AFRICA

2.2.1 Education and Training Legislature of South Africa

The legislation which governs the South African education and training sector includes the following acts:

- Skills Development Act (Act No. 97 of 1998)
- The South African Qualifications Authority Act (Act No. 58 of 1995)
- Higher Education Act (Act No.101 of 1997)
- Further Education and Training Act (Act No. 98 of 1998)

The Skills Development Levies Act enforces the human resources development issues within the Labour Relations Act.[18]

The discussion of these acts is beyond the scope of this literature review, however it is important to mention them as it forms an understanding of various structures within the educational sector of health and skincare in South Africa.

2.2.2 The South African Qualifications Authority

The Minister of Education and Labour appointed 29 members who were identified by national stakeholders in training and education to form the SAQA. SAQA advises the Minister of Education and Labour, after consulting with the bodies and institutions responsible for education, training and certification, of standards determined by the national qualifications framework (NQF). In accordance with the outcome of the consultations, SAQA formulates and publishes policies and criteria for the registration of bodies that will be responsible for setting standards in education and training. They further oversee the development of the NQF by accrediting bodies responsible for the monitoring and auditing of achievements in terms of these standards and qualifications.[19]

2.2.2.1 Structures within SAQA

The SAQA office manages the NQF (Table 2.1). The NQF is a set of principles and guidelines that facilitate access to learner achievement records (National Learners' Record Database), enabling national recognition of the knowledge and skills of an individual. This ensures an integrated education and training system that encourages life-long learning. The NQF also aims to contribute to the personal development of learners, and social and economic progression of the nation at large, through setting standards and assurance of quality.[19]

Table 2.1: The eight-level National Qualifications Framework adopted by the South African Qualifications Authority[19]

<table>
<tr><th>NQF LEVEL</th><th>BAND</th><th colspan="2">QUALIFICATION TYPE</th></tr>
<tr><td>8</td><td rowspan="4">HIGHER EDUCATION AND TRAINING</td><td colspan="2">• Post-doctoral research degrees
• Doctorates
• Masters degrees</td></tr>
<tr><td>7</td><td colspan="2">• Professional Qualifications
• Honours degrees</td></tr>
<tr><td>6</td><td colspan="2">• National first degrees
• Higher diplomas</td></tr>
<tr><td>5</td><td colspan="2">• National diplomas
• National certificates</td></tr>
<tr><td colspan="4">FURTHER EDUCATION AND TRAINING CERTIFICATE</td></tr>
<tr><td>4
3
2</td><td>FURTHER EDUCATION AND TRAINING</td><td colspan="2">• National certificates</td></tr>
<tr><td colspan="4">GENERAL EDUCATION AND TRAINING CERTIFICATED</td></tr>
<tr><td rowspan="2">1</td><td rowspan="2">GENERAL EDUCATION AND TRAINING</td><td>Grade 9</td><td>ABET Level 4</td></tr>
<tr><td colspan="2">• National certificates</td></tr>
</table>

Following public consultation processes, the standards and qualifications developed by Consultative Panels and Standards Generating Bodies (SGB) are recommended to SAQA for registration with the NQF. Accredited by SAQA, education and training quality assurance bodies (ETQAs) ensure the quality of specific qualifications registered with the NQF. Their performance is monitored and audited by the SAQA office. ETQAs accredit education and training providers offering these qualifications (Figure 2.1).

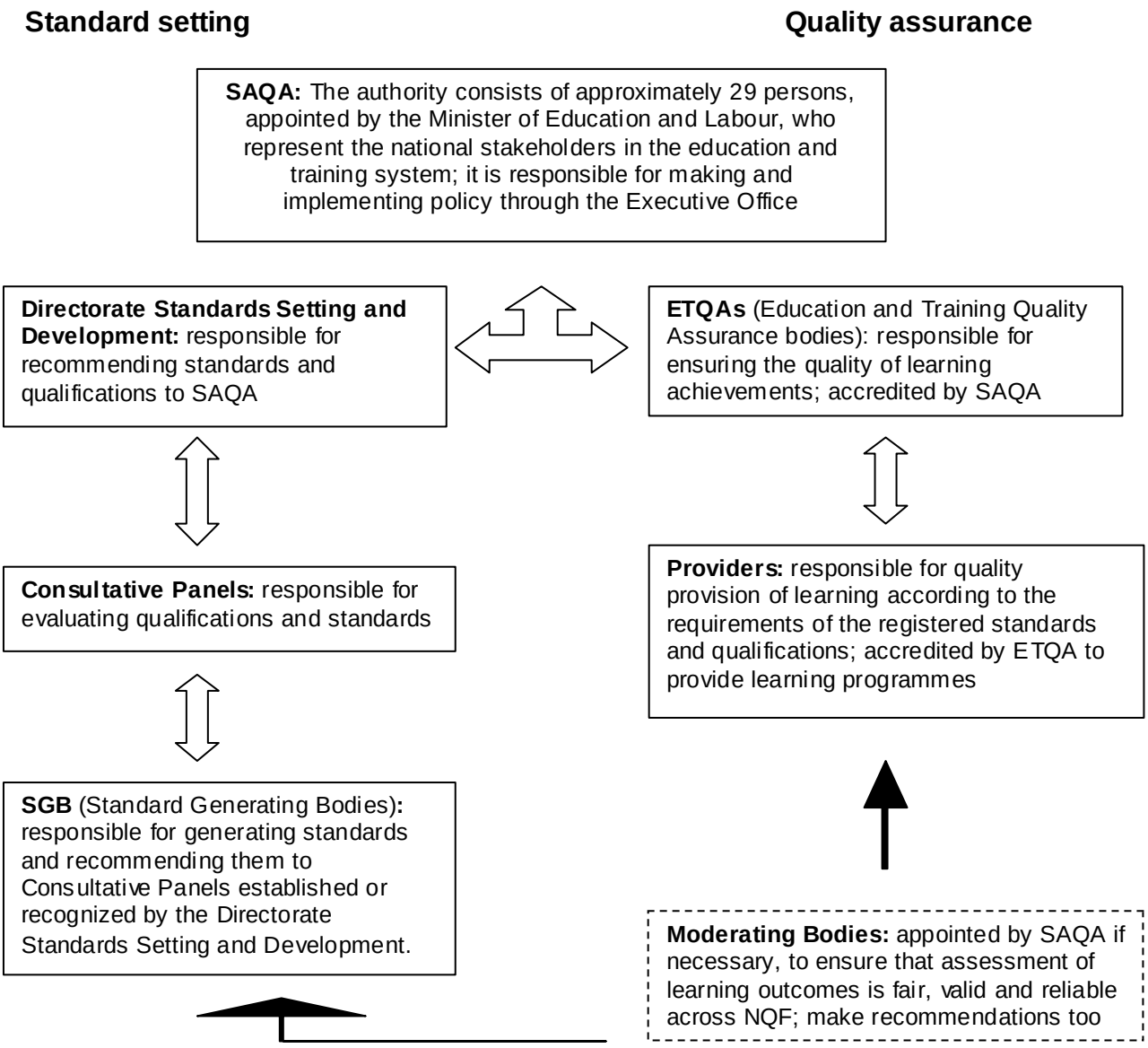


Figure 2.1: Schematic diagram of South African Qualifications Authority sub-Structures[19]

2.2.3 Professional Accreditation Body for the Health and Skincare Industry

The Professional Accreditation Body (PAB) is the ETQA for all Health and Skincare Therapy and Therapeutic modality training including Therapeutic Aromatherapy, Therapeutic Reflexology and Therapeutic Massage. PAB is primarily responsible for the assessment and accreditation of training providers offering health and skincare therapies and therapeutic training, and qualifications registered with SAQA on the NQF. As an ETQA, PAB ensures that these providers maintain and improve the quality of learning provision and learning achievements.[18]

According to the SAQA regulations, a provider is defined by the SAQA-ETQA criteria and guidelines for providers as, *"a body which delivers learning programmes which culminate in specified National Qualification Framework standards or qualifications and manages the assessment thereof".* Providers are accredited by one ETQA with whom they share a main focus. In the ETQA Bodies' Regulation it is stated as follows: "*A body may be accredited as a provider by an ETQA whose primary focus coincides with the primary focus of the provider".*[1,18]

2.2.4 South African Health and Skincare Controlling Body

SAAHSP acts as the controlling body in South Africa to set standards for education, therapists and the treatments they perform. Their primary function is to offer higher education examinations ensuring that standards are maintained.[7] SAAHSP is responsible for the accreditation of South African moderators and assessors. Representing South Africa in the international arena, SAAHSP is the South African section of Comité International D'Esthethique et de Cosmetologie (CIDESCO). CIDESCO is the international non-profit organization focused on the co-ordination of professional activities and training standards in the health and skincare industry. They ensure that the highest principles of conduct and ethics in the industry are maintained in 35 countries across 5 continents.[6,7] SAAHSP also offers accreditation to skincare clinics and conducts annual inspections at these sites to ensure that the professional image of the organization is maintained.[7]

2.3 NUTRITION EDUCATION WITHIN THE HEALTH AND SKINCARE INDUSTRY

2.3.1 Nutrition Education

Anderson defines nutrition education as *"the process by which we assist people in making decisions regarding their eating practices by applying knowledge from nutrition science about the relationship between diet and health."*[20] The science of nutrition can be defined as the study of the dietary requirements of the body to ensure normal physiological functioning.[12,21]

Health and skincare therapists, as partners in the health promotion team, have a responsibility to educate their clients about the factors influencing their dietary choices and cultural habits to ensure they make better food choices.[20]

The health and skincare therapists can contribute at most levels within the cycle of nutrition education as illustrated by Wayler and Klein (Figure 2.2). Health and skincare therapists can identify signs of deficiencies and illness during the consultation process where the individual is considered within their current situation. If needed, therapists can refer the client to a medical professional. Therapists can assist the medical professionals in the problem solving and application stages of the cycle and during the rehabilitation process. Therapists should be able to use their scientific knowledge to advise clients on nutritional aspects that can contribute to changing the clients' behavior.[22]

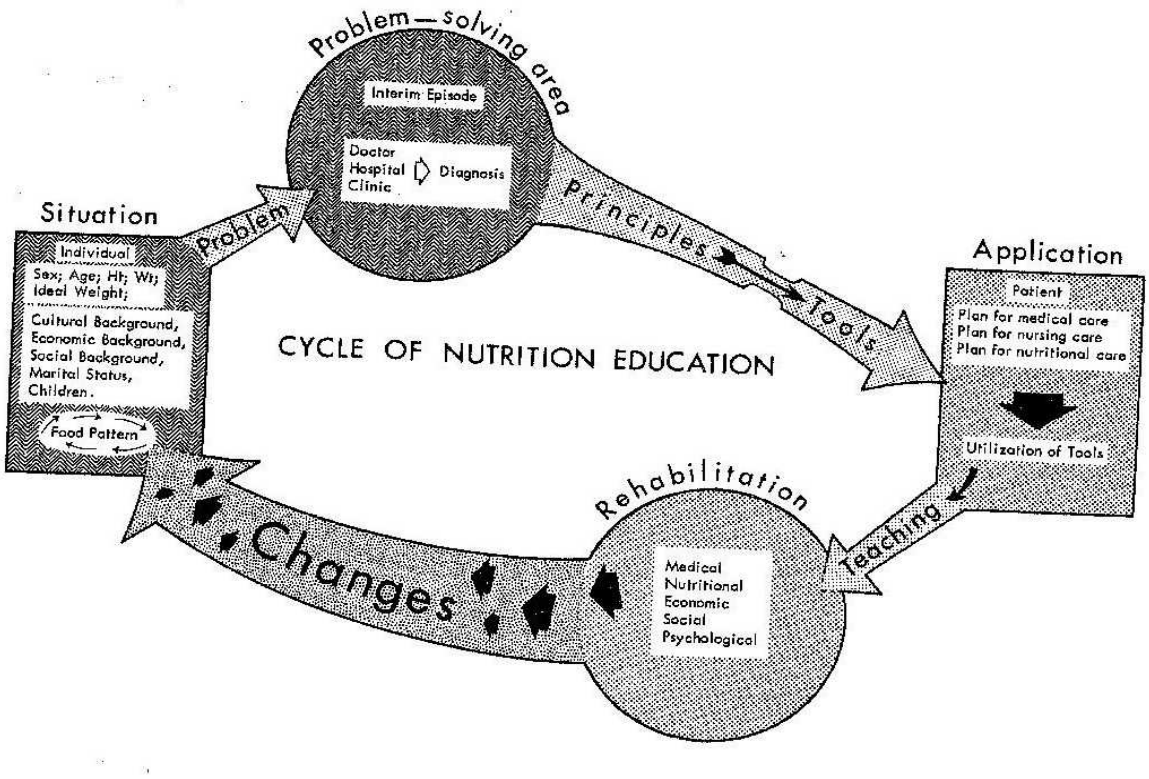


FIGURE 2.2: The nutrition education cycle[22]

This responsibility for contributing to the nutrition education process should be addressed in the training of health and skincare therapists, to ensure that they are equipped with the scientific nutritional knowledge needed to assist clients in their dietary decision making.

2.3.2 The Multi-Disciplinary Health Team

The World Health Organization (WHO) defines health as *"a state of physical, mental, and social well-being and not merely the absence of disease"*.[23] This definition takes into consideration every aspect of an individual and represents a holistic understanding of health, with the realisation that all aspects of health are interconnected and mutually dependent.[24,25]

Consideration of the cycle of nutrition education (Figure 2.2) and the holistic view of the WHO on health, underscores the notion that collaboration between various professionals within the health sector is of great importance to be able to help clients reach their full potential.[20,22,24] A MDT including various health care professionals who manage treatment and care of clients will provide the best possible care and provide stronger promotion of disease prevention and disease management.[26]

The client-professional relationship of the various health care professionals, as individual entities, remains the heart of health practice. Functioning within a MDT benefits both the client, who receives comprehensive care from professionals specializing in different fields, and the health care professionals who gain insight and advantage from the support and educational opportunities created by the team members.[27]

2.3.2.1 The health and skincare therapist as part of a MDT

Although a health and skincare therapist cannot prescribe or treat clinical and therapeutic cases they can, in partnership with other health care professionals, provide wellness care and contribute to recovery in an environment where a patient can relax.[12]

The health and skincare industry offers treatments that include detoxification programmes, healthy diets, relaxation treatments, exercise and emotional and psychological therapy sessions to their clients within a serene environment. These intensive programmes all require insight and knowledge of nutrition and should be structured in accordance with other health professionals like dieticians, psychologists, exercise professionals and medical practitioners to ensure optimum health benefits for the client.[16] The health and skincare therapist needs to have a holistic approach to body and skin therapy, requiring collaboration with medical professionals and more knowledge of medical terminology, procedures and aspects related to the patient's recovery, including nutrition, to provide a complementary service to the medical industry.[12]

Medical wellness and cosmetic spas are fast growing sectors of the health and skincare industry, making South Africa a favorite medical tourism destination, where new generations of anti-aging medicine, laser therapy, injectables and other medical procedures are offered at affordable prices to the world. Medical tourism offers the inclusion of preventative medical or cosmetic procedures as part of a holiday in which medical spa treatments form part of the experience at destination spas around the country.[16,28]

The therapists' practical knowledge and skills in the enhancement of the external appearance of the skin, using various cosmetic products, should be combined with their knowledge of the physiological principles of cell renewal to ensure optimum results during any treatment.

Modern cosmetics develop at a rapid pace and therapists are required to have an extensive knowledge of the physiological structure of the skin, which is dependent on balanced nutrition, in order to recommend, advise and educate knowledgeable clients. The health and skincare therapist is not concerned with the therapeutic nutritional assessment or treatment of clients, but rather the recognition of clinical signs indicating the possibility of disease or illness. Clinical assessment cannot confirm the diagnosis of a specific nutritional deficiency without the consideration of other assessment methods.[29]

Health and skincare professionals are not allowed to diagnose any condition as they do not have the necessary medical knowledge, but by performing proper skin analysis, the therapist can offer nutritional guidelines which may contribute to the improvement of various adverse skin conditions or refer clients to the appropriate specialist in their MDT.[8,12,30]

2.3.3 The Importance of Nutritional Knowledge

Nutrition and lifestyle are determining factors influencing health, but more importantly are significant components of the physiological needs of any individual and fundamental to human survival. Abraham Maslow identified the need for food as the primary need, which forms the basis for his model of hierarchical needs (Figure 2.3). He states that the need for food will surpass any other human need.[31,32]

Figure 2.3: Maslow's hierarchy of needs[31]

Human nutrition, as defined by Margetts and Nelson, "*describes the processes whereby cells, tissue, organs, and the body as a whole obtain and use the necessary substances to maintain their structural and functional* integrity".[33]

Nutrition encompasses every part of human existence and although the basic nutritional needs of all people are the same, the requirements for individuals vary according to gender, age, body composition and health status. These factors and the dietary choices of individuals have a direct impact on their nutritional status. They reflect whether the physiological need for nutrients is being met which, in turn, affects optimal functioning of the body.[34] The understanding of nutrients and their functions, together with the implementation of this knowledge with regard to deficiencies, will result in maximizing the physiological functioning of the body, with the aim of preventing chronic lifestyle diseases and maintaining optimum health.[29]

Consumption of adequate nutrients to supply the body with energy as well as increased metabolic demands, result in an optimal nutritional status which ensures maintenance of general health and promotion of growth and development and protection against illness and disease.[34]

It is necessary for health and skincare therapists to have a thorough scientific understanding of the importance of nutrition for optimal functioning of the body's physiological processes as guidance during consultation with clients.

2.3.4 Recognition of Possible Skin Adversities Related to Nutrition

The interaction between the skin and all internal systems determines the normal condition and functioning of the skin.[8] Unhealthy lifestyles, including excessive sun exposure, unhealthy dietary habits, high stress levels, smoking and alcohol consumption, generate excessive free radicals which influence this interaction, resulting in premature aging and adverse skin conditions.[12]

Lifestyle factors are considered in the skin analysis completed during a therapy consultation, but the correlation between the skin condition and the clients' lifestyle and his/her nutritional

habits, in particular, is not always made. This may be because the nutrition syllabus is limited and the training is more focused on the manipulation of skin tissues during cleansing routines and massages in order to improve the appearance of the skin.

As the largest organ of the body, the skin reveals the health of the entire body and several nutritional deficiencies can be related to the appearance of the complexion. The health and skincare therapist should therefore be equipped with the necessary knowledge and skills to recognise underlying nutritional deficiencies related to impaired absorption of nutrients due to medication, drugs or improper food choices, preparation of foods and incorrect storage thereof.

2.3.4.1 Physiological structure of the skin

Skin is the largest organ of the body and with its average size of 1.75m² and weight of more than 9 kilograms, it is the primary site of contact during any health and skincare treatment.[8,30] Although the principle function of the skin is the formation of the skin barrier defense systems, it also acts as a protective covering, provides mechanical support and helps with neuro-sensory reception, thermal regulation, immunological protection, glandular secretion and metabolism of keratin, collagen, melanin, lipids and carbohydrates.[8,30,35,36]

Two distinct layers can be identified when the structure of the skin is studied (Figure 2.4). The epidermis is the uppermost layer which is further divided into six layers and the dermis is the deeper thicker layer.

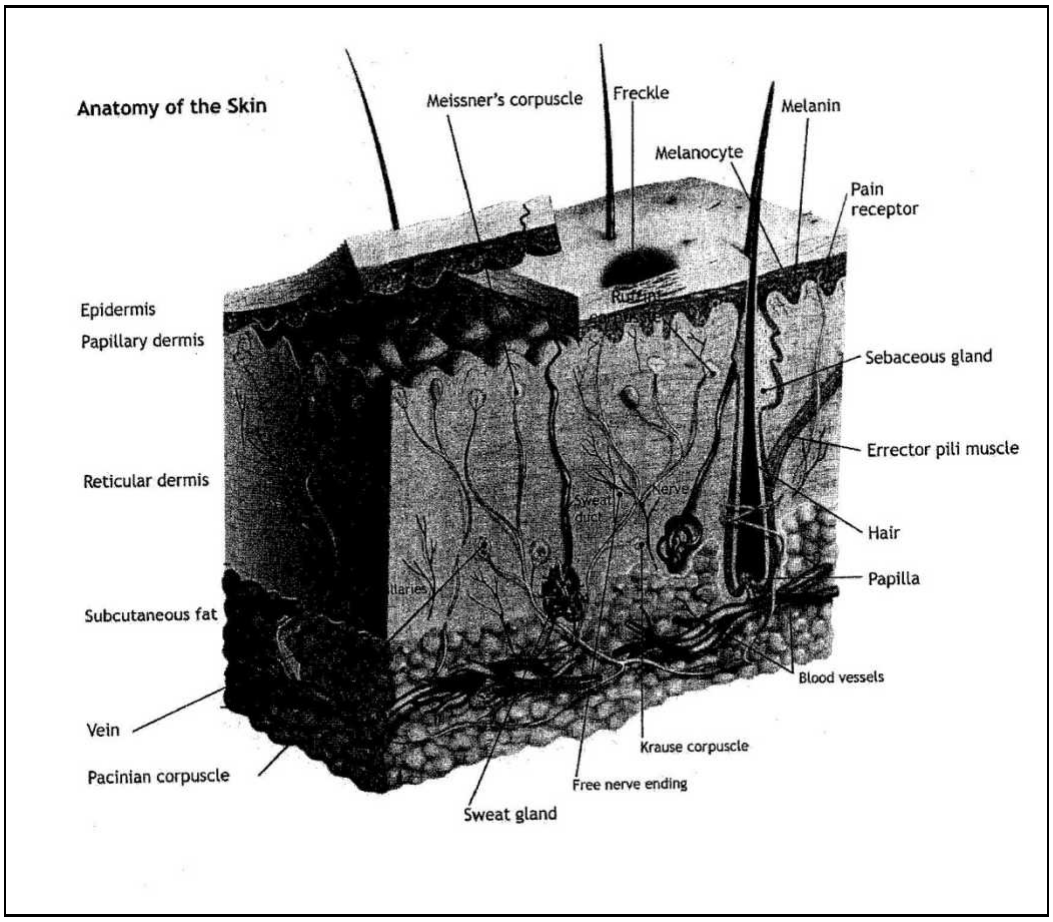


Figure 2.4: The physiological structure of the skin[8]

The multilayered epidermis consists of the stratified epithelium which constantly renews itself within 52-75 days through a process known as keratinization. During this process, the principle cell type, the keratinocyte – so named because of fibrous proteins, keratin, constituting the end product of epidermal differentiation - ascends from the basal layer to the surface layer, known as the stratum corneum, where it is finally desquamated.[8,30,36-38] The basal layer is the deepest layer of the epidermis, composed of cuboidal cells anchored to the basement membrane, located between the epidermis and dermis. The cells in the basal layer produce the melanin pigment forming melanocyte and the predominant cell species – the hydrophobic keratin producing keratinocyte - responsible for generating and maintaining the skin's barrier function.[8,30,36-38]

By means of diffusion from blood vessels in the underlying dermal papillae, the cells in the non-vascular epidermal tissue in the basal layer receive oxygen and nourishment.[35]

Keratinocytes are committed to undergo differentiation as they move into the stratum spinosum or prickly layer situated above the basal layer. Intercellular bridges or desmosomes connect adjacent keratinocyte cells resulting in a spiky appearance from which the prickly layer obtains its name. Langerhans cells are found in this layer and as part of the skin's immune defense system they participate in immune responses against foreign particles and microbes. Originating in the bone marrow, the dendritic Langerhans cells are responsible for the allergic reaction of the skin. The flexible and permeable dendrites of the Langerhans cells ensure effortless and efficient endocytosis of antigens.[36]

Moving into the stratum granulosum or granular layer, the keratinocyte loses its metabolic function as the nucleus and organelles degenerate. The granular layer on top of the prickle layer marks the changeover from the metabolically active layers to the more keratinized layers on the surface of the skin. As the nuclei disintegrate, cholesterol and glycolipids form, and an increase in ceramides, triglycerides and fatty acids form a lamellar structure surrounding the outer part of the cell. The lamellar granules discharge their lipid and enzyme content into the intercellular spaces between cells of the granular layer and the stratum corneum, which functions as a water repellant sealer known as the natural moisturising factor and contributes to the barrier function of the epidermis.

In the clear translucent stratum lucidum layer, the cells are flat and without a nucleus and packed densely together. The process of keratinization is complete when in this layer keratohyalin and eleidin – a lipid substance that turns keratohyalin into keratin – replace the cytoplasma. In the final stages of the keratinization process, a lipid barrier zone which is sandwiched between the highly acidic stratum corneum (outer surface) and the less acidic stratum granulosum (inner surface), known as the Barrier of Rein, controls the transmission of water out of the skin with its electro-physical properties that exist because of the difference in pH of the two layers surrounding it.

Keratinocytes are referred to as corneocytes as they are flattened keratinized cells without any nucleus and cytoplasmic organelle and are filled with keratin as they ascend to the outer most visible layer of the epidermis; the stratum corneum. Adjacent cells of the stratum corneum overlap and lock together by means of cell junctions. The intercellular spaces

between the corneocytes are sealed off by means of the lipids in which the keratin-filled corneocytes are implanted. This seal provides a barrier against water to prevent high trans-dermal water movement and guards against dryness and scaliness of the skin. Being the first cells that comes into contact with the environment, the corneocytes defend the body against injury and micro-organism invasion. The corneocytes flake off (desquamate) into the environment from the stratum disjunctivum, which lies on the outermost layers of the stratum corneum, and are continuously replaced from below.[8,30,37]

The entire skin surface is covered with the acid mantle. This hydrolipoic film is the end result of the skin's own metabolism and is a complex fluid formed by excretions from the sebaceous and sudoriferous glands, epidermal lipids and the natural moisturising factor. As a barrier defence mechanism, the acid mantle is responsible for protection against microbial invasion, buffering acid and alkaline chemicals and preventing absorption of toxic substances. As the primary lubricant of the skin, it maintains the emolliency of the epidermis and controls the hydration levels of the stratum corneum.

The dermis is the second, deeper and highly vascular layer of skin that comprises three less distinctive layers. The superficial layer called the papillary layer is made up of areolar tissue forming a passage for support systems such as capillaries or lymphatic capillaries, nerve endings and cells. The fibroblast papillary cells are responsible for the regeneration of the connective tissue and predominantly consist of the structural protein collagen, interspersed with elastin, and are surrounded and supported with glycosaminoglycans.[36,39]

The papillary layer is situated directly beneath the epidermis and contains projections called papillae which extend into the epidermis and thereby increase the contact area between the layers. The papillae contain blood capillary loops which diffuse nutrients and oxygen via the matrix and intercellular fluid into the living cells of the basal layer of the epidermis.

The reticular layer underneath the papillary layer consists of dense irregular connective tissue containing collagen and elastin that provide the skin with strength and elasticity, protecting it against tearing forces.

The hypodermis or subcutaneous layer consists of loose areolar connective tissue and fat storing adipose tissue to accommodate the blood vessels, lymphatic blood vessels and nerve fibres. The adipose tissue reduces heat loss through the skin and protects the underlying tissues from temperature changes occurring outside the body.

A thorough understanding of the physiological structures will enable the health and skincare therapist to relate deficiency signs to possible nutritional causes.

2.3.4.2 Factors influencing the nutrition of the skin

The cutaneous circulatatory system of the skin comprises two vessel types according to their function namely (1) the arteries, capillaries and veins that are responsible for the nutrient supply of the skin and (2) the vascular structures responsible for the regulation of heat.[36,40,41]

The vascular papillae are located in the papillary layer of the dermis of the skin. The dense network of capillaries is referred to as the micro-circulatory system of the skin. The network of capillaries is responsible for the transportation of nutrient and oxygen rich blood to the skin, as well as the exchange of cellular wastes and carbon dioxide.[36,40]

Red blood cells inside the capillaries release oxygen which passes through the capillary wall and into the surrounding tissue, whilst the tissue releases waste products into the red blood cells to be taken away. Substances pass through the walls of the capillaries by means of filtration, diffusion and osmosis. The only source of raw material is via the blood, from the digestive system and therefore indirectly from the food injested.[41]

Skin cells can synthesize structural and functional proteins on condition that the essential amino-acids required for protein synthesis are coded in the keratinocytes' and fibroblasts' deoxyribonucleic acid (DNA). A deficiency in these essential amino-acids will negatively impact on the process of keratinization, melanogenisis and skin rejuvenation and the structural integrity of the skin will be compromised.[8] Malnutrition causes a shortage of plasma proteins in the blood and has a negative influence on the osmotic pressure in the tissues. This will result in a reduced amount of fluid returning to the circulation at the venous end of the capillaries, leaving the hydration function of the skin impaired.[8]

The skin's metabolism is largely dependent on the vitamin, minerals and chemicals that activate and maintain the enzymes which drive and control the skin's metabolism. Vitamin A catalyzes the formation of the lipid bi-layer of the Barrier of Rein. Since it is responsible for the maintenance of hydration levels of the skin, the immune response of the skin, toxin and waste removal, as well as the availability of nutrients and oxygen to living cells in the epidermal and dermal layers, it would be compromised as a result of a deficiency. [8] Vitamin D and E are essential antioxidants that maintain cell integrity and Vitamin C combats free radical activities that destroy cells.[8,42]

Essential fatty acids Omega 3 & 6 establish the lipid bi-layer, which acts as a natural moisturising factor and acid mantle. A deficiency in the essential fatty acids will result in dehydration of the skin and invasion of micro-organisms causing microbial infections.[8,30]

The status of health is mainly reflected in the colour and texture of the skin and can be easily recognised. Many nutrient deficiencies lead to unhealthy skin conditions and poor health. Basic nutritional needs can be identified by these visual signs. During treatments the health and skincare therapist should apply knowledge and skills to recognise signs of nutrient deficiencies.[12]

2.3.4.3 Skin specific nutritional deficiency signs

Free radicals may cause oxidation of vitamin C which may influence the structural integrity and skin density of collagen fibres, leading to loss of resiliency. Collagen is the structural protein that represents more than 90% of the protein in the dermis.[43] The fibroblast cannot synthesize collagen without the proper nutrients brought to the dermis via the micro-circulatory system of the papillary layer. Proline and glycine are highly concentrated in collagen and supplying these in abundance will stimulate collagen synthesis.[12,30,43]

Poor fluid intake will result in increased toxins in the skin because of an impaired lymphatic system and skin could appear congested.[12,30] The lack of any or all of the Vitamin B group could contribute to the inefficient removal of waste from the cells.

Poor nutrition and a fat-free diet may cause an essential fatty acid deficiency which will cause the skin to appear yellow and sallow because of oxygenation loss and excess keratinization, as well as visible fine thread-like red capillaries and redness over cheeks, chins and nose wings (known as couprose).[30] The natural anti-oxidant cellular defence mechanism of the skin, which neutralises free radical damage, will not be performing at its utmost and a reduction in vitamin A and E will prevent cellular repair and replication. Malnutrition will reduce the fibroblasts' ability to manufacture glycosaminoglycans, collagen and elastin. The inflammatory response of the skin will also be compromised.[39]

Another skin condition that may result because of a fat-free and unbalanced diet, is impaired acid mantle functioning that can be identified by aggravated Rosacea type skin appearing abnormally red with possible pustular lesions. Malnutrition could further result in small blisters and pigmentation, loss of resilience and adhesion of elastin fibrils, loss of skin integrity and skin density of the collagen fibrils. Hyperpigmentation and vascular skin conditions may also be caused. Excess keratinization will result in poor desquamation of keratinocytes. The appearance of closed and open comedones, pustules and scaly skin may also be apparent.[30]

2.4 MOTIVATION FOR THE STUDY

The symbiotic relationship between the skin and all internal body systems is fundamental for maintaining the skin's healthy structure and function. Health and skincare therapists should be able to observe any adverse skin condition as a possible result of a dysfunctional homeostatic relationship between the skin and internal body systems. The remarkable influence of healthy dietary habits on the structure and texture of the skin is often disregarded as part of health and skincare treatments.[14] Treating symptoms and clinical deficiency signs with expensive cosmetic products, without relating the cause to the physiological structure of the skin and also ignoring the possible nutritional factors that might have had an impact on the deficiency, will not restore the balance and integrity of the body and consequently the skin.[30] Ample literature regarding nutritional elements beneficial to the skin is available, whilst literature about the insight of therapists regarding their nutritional input during treatments is lacking.

The aim of the research project was therefore to investigate the nutritional knowledge of health and skincare therapists and their ability to apply this knowledge in the care and treatment of their clients. Furthermore the information obtained is expected to yield evidence that a more extensive, effective, appropriate and practical nutritional syllabus should be developed to equip health and skincare therapists for the challenges they may need to overcome in their working environment.

CHAPTER 3
METHODOLOGY

3.1 AIMS AND OBJECTIVES

3.1.1 Research Aim

To assess the knowledge, attitude and practices of health and skincare therapists working in SAAHSP accredited clinics in South Africa with regard to nutrition.

3.1.2 Specific Objectives

- To determine the basic nutritional knowledge of skincare therapists
- To determine how confident skincare therapists are in providing clients with nutritional advice related to skincare
- To determine how skincare therapists assess clients' nutritional needs regarding skincare and the advice they provide

3.2 STUDY PLAN

3.2.1 Study Type

This was a cross-sectional, descriptive study. Quantitative as well as qualitative methods were used to obtain data.

3.2.2 Study Population

The study population included skincare therapists at the 62 SAAHSP accredited clinics that were listed on the SAAHSP website when accessed in April 2007. Telephonic interviews with the manager/owner of each clinic listed were conducted during April 2007. The number of therapists employed at each clinic was determined, and the researcher investigated the willingness of owners/managers to allow the therapists working at their particular clinics to participate in the planned research project. During these telephonic interviews, it was established that a total of 268 health and skincare therapists were then employed at SAAHSP accredited clinics around South Africa.

3.3 SAMPLE SELECTION

3.3.1 Therapists Participating in Survey

To ensure a representative sample of this population, a sample size of 75 was required, using a confidence level of 95% and an error of 9.5%,. Since the non-response error is a particular risk for any postal survey, in which a response rate of 30% or less can be expected, a census

was conducted of all the therapists working in the SAAHSP accredited clinics, as determined during the exploratory interviews.[14-16,44-46]

3.3.2 Therapists Participating in Focus Group Discussions

A sample of therapists, selected purposefully from 6 conveniently placed clinics in the Cape Town Metropole, were invited to participate in focus group discussions. The focus groups would discuss issues raised from the questionnaire during the survey more informally.[47-51] Five of the six clinics initially agreed to participate, but two later withdrew. The unwillingness of therapists to give up their lunch break and the clinic owners' assessment that discussion time would entail economic losses, were stated as reasons for withdrawal.

Focus group discussions were scheduled with each of the remaining three clinics (Table 3.1) to include all therapists available on the day of the discussion. Data collection continued to the point of data saturation, from three focus group discussions.[50]

Table 3.1: Sample of therapists for focus group discussions

Clinic / Spa	No of focus group participants
Skincare clinic and spa at training institution	14
Spa and Wellness centre	5
Skincare Clinic	2
Total	**22**

3.3.3. Expert Group

A purposefully chosen sample of 10 experts in the field of health and skincare as well as nutrition was invited to partake in the implementation of the Delphi-technique and in-depth interviews.[50] The experts included registered dieticians and educators from various health and skincare institutions (Addendum 2), as it was believed that these participants would provide important information in both the selection of questions for the questionnaires and in-depth interviews.[50]

3.4 METHODS OF DATA COLLECTION

3.4.1 Preparation of Data Collection Tool

In preparation for data collection for the research study, a self-administered knowledge, attitude and practices (KAP) questionnaire was developed. As English is the only language

medium in which SAAHSP corresponds with its members, the questionnaire was not translated into any other languages. The questionnaire consisted of four sections, namely demographic information, nutritional knowledge, attitude and practice. Using various KAP questionnaires in the literature for assistance, the design and layout of the questionnaire was tailored to reflect the specific aim of this study.[51-54] The content of the NHSS (Addendum 1) followed by SAAHSP accredited academic institutions, was used as the basis from which the questionnaire was developed.

To ensure ease of administration via mail and to prevent a further decline in the anticipated response rate, provision was made for the final survey questionnaire (Addendum 3) to comprise only 56 questions, divided into 4 sections and spread over no more than 12 pages, as recommended in the literature.[55] The questionnaire was constructed as follows:

3.4.1.1 Section 1: Demographic information

This section comprised 10 questions aimed at gathering basic demographic information such as age and gender. Detailed information regarding the therapists' tertiary education was gathered. This information included the college at which the therapists completed their education, whether nutrition was offered as an academic module during training and the therapists had attended any nutrition-related workshops during the past year to further their nutritional education. As therapists can enroll for various accredited examinations to obtain internationally recognized qualifications from professional health and skincare associations during their tertiary education, questions established whether therapists had a SAAHSP, CIDESCO or International Therapy Examination Council (ITEC) qualification. The section further determined the number of years each participant had been employed as a health and skincare therapist and the environment in which they were then working.

3.4.1.2 Section 2: Knowledge

The NHSS consists of 7 specific outcomes (Table 3.2) divided into 4-10 assessment criteria.

Table 3.2: Summary of the specific outcomes of the Nutrition for Health and Skincare syllabus (Addendum 1)

Number of outcome	Specific Outcome (SO)
SO 1	The learner will be able to recognize and recommend good nutritional principles to the client
SO 2	The learner will be able to draw up meal plans and offer advice based on the information of nutrients, dietary sources, Recommended Dietary Allowance (RDA) and their implications on the health of the client
SO 3	The learner will be able to advise the client on healthy eating principles with the scientific basis of metabolism as the point of departure
SO 4	The learner will be able to recommend food intake guidelines by relating them to body energy balance
SO 5	The learner will be able to offer guidance to clients by instituting energy modifications to a lifestyle approach for optimum health
SO 6	The learner will be able to offer advice on the modification of the fibre content of a client's eating programme
SO 7	The learner will be able to offer guidance to support the client selecting a vegetarian lifestyle

According to the NHSS (Addendum 1), the purpose of education in nutrition for health and skincare therapy, is to identify clients' nutritional requirements as the basis of long-term positive health, to offer responsible lifestyle guidance to clients in areas that will positively affect their health and enhance the treatments provided by the therapist. Considering the purpose and specific outcomes of the NHSS, various nutrition textbooks were consulted in order to include two sub-sections in this section of knowledge questions, comprising multiple choice questions (Addendum 3, Sections A and B).[2,56,57] To ensure ease of administration, closed questions were used. It was estimated that section 2 of the final questionnaire would consist of 30 knowledge questions in total.

3.4.1.2.1 Section 2A: General nutrition knowledge

Section 2A comprised 96 questions, divided into 3 sub-sections, aimed at assessing the therapists' general nutritional knowledge. The pool of 96 questions was e-mailed to a panel of experts to select the questions they believed would best assess the general nutritional knowledge of the therapists (Addendum 4, Section A). It was estimated that about 30

knowledge questions, for which the expert panel had reached 80% consensus, would be included in the final questionnaire.

In sub-section 2A1, 64 multiple choice questions (participant had to choose the most suitable answer from the 4 options given) were included for the expert panel. Sub-section 2A2 consisted of 6 questions in table format where the therapist had to tick either yes or no next to the list of food items that followed each question. Sub-section 2A3 included a list of 26 statements which could be either true or false.

After the questionnaire had been assessed by the expert panel, section 2A of the final questionnaire consisted of 24 questions that 80% of the expert panel agreed were relevant and important to test the general nutritional knowledge of health and skincare therapists. The 3 sub-sections, divided according to the format of questions and not according to specific knowledge tested, comprised 13 multiple choice questions, 8 questions in the table format and 3 true/false questions.

3.4.1.2.2 Section 2B: Nutrition knowledge related to skincare

Section 2B aimed at assessing the therapists' knowledge of common deficiency signs visible on the skin as a result of poor nutrition or malnutrition. The expert group was asked to select 5 questions from the pool of 10 questions that they thought should be included in the final questionnaire (Addendum 4, Section B).

Section 2B of the final questionnaire consisted of 6 multiple choice questions that 80% of the expert panel agreed were relevant and important to test the nutritional knowledge related to skincare of health and skincare therapists. Section 2B intended to determine the therapists' ability to relate nutritional factors to symptoms that could present themselves on the skin.

3.4.1.3 Section 3: Attitude

The attitude section of the questionnaire comprised 10 statements designed to provoke a response from the participants. The statements were aimed at determining the therapists' perception of their role as nutrition counsellors, and at quantifying the respondents' opinions and feelings with regard to their confidence in their own nutritional knowledge, the training

they received and the application of this knowledge for advising clients on various nutritional lifestyle issues. Respondents were asked to rate each statement on a 4-point Likert scale ranging between 1 (strongly disagree), 2 (disagree), 3 (agree) and 4 (strongly agree). An even number of options was given to prevent the excessive selection of the middle value representing neutral responses.[13]

3.4.1.4 Section 4: Practice

The 6 questions in the practice section of the questionnaire focused on the actions taken by therapists during therapy sessions to assess clients' nutritional needs and how therapists consult with clients with regard to their nutrition. The list of possible treatments presented to therapists in the first question, within this section, required a certain level of nutritional knowledge and understanding of nutrition. The remainder of this section dealt with practices that support these treatments from a nutritional point of view and was aimed at establishing whether the therapists lack the knowledge on how to apply theoretical information with regard to nutrition in practice. Sources from which therapists gained their nutritional knowledge were also established by looking at the sources they consulted in the 6 months prior to the study.

3.4.2. The Delphi Technique (Content Validity)

Content validity of the questionnaire was assured by submitting the initial questionnaire, that consisted of a pool of 96 general nutritional knowledge and 10 skincare-related nutritional questions, to a group of experts including registered dieticians and educators from various health and skincare institutions (Addendum 4).

The Delphi technique was originally developed as a forecasting tool by the United States (US) military in the 1950s to estimate the effects of a massive atomic bomb attack on the US. In the mid 1960s the technique gained the interest of technologists for forecasts in their field. This specialized expert group problem-solving method has since been used in various other disciplines.[58] The Delphi technique is defined as a *"group facilitation technique designed to transform opinion into group consensus"*.[59]

The Delphi-technique was used to obtain input from a group of experts in the health and skincare industry in an effort to reach 80% consensus between the members on which

knowledge questions should form part of the final questionnaire.[60] A group of experts (n=10) was invited via individual e-mails to partake in the study.[60] The invitation letter briefly explained the objectives of the research project and what would be expected of them should they accept the invitation (Addendum 5). The experts were given 4 days in which to reply to the invitation.

Seven of the experts agreed to participate and received the questionnaire as an attachment to an e-mail message. They were asked to select a total of 30 general nutritional knowledge questions from the pool of 96 possible questions (Addendum 4, Section 2A) and 5 nutritional knowledge questions related to skincare from a pool of 10 questions (Addendum 4, Section 2B). The correct answer to each question was indicated by using a different colour. Questions for which 80% consensus (5 out of 7) was reached were included in the final questionnaire.

The group was encouraged to comment on the structure of the questionnaire as well as specific questions and answers before they returned the questionnaire. Each member was given 7 days to make their selection and return the questionnaire via e-mail. .Two days after the initial e-mails were sent, a reminder of the due date was e-mailed to those members who had not yet submitted their selection of questions.

During the first round, consensus was reached for 24 questions on general nutritional knowledge and 2 relating to skincare. Consideration was given to the Delphi members' comment that more questions could be included in Section 2B. Twenty-four (24) questions were considered sufficient for Section 2A, to allow for one extra question in section 2B.

Questions (n=3) that received 2 or fewer votes were excluded and the remainder of the questions (n=8) in the pool for Section 2B were used for a second round. During the second round, the experts had to choose an additional 4 questions to be included in this section. The sections on demographics, attitudes and practices in the questionnaire were sent to the experts during this round to determine content validity of the questions in these sections and the relevance of the options available in the demographic and practices sections.

A third Delphi round was unnecessary as 80% consensus was reached on the remainder of the questions during the second round. Six questions were included in Section 2B.

3.4.3 Pilot Study (Face Validity)

A pilot study was conducted at Corpo Sano, a private training provider in health and skincare, after gaining permission from the lecturer co-ordinating the 3rd year students' programme. The participants were qualified therapists attending an optional third year of study to specialize in spa therapy. The aim of the pilot study was to validate the final questionnaire with regard to the clarity of the phrasing and structure (face validity),by administering it to a sample similar to the target population, before continuing with the final study.[56,61]

There were 6 participants in the pilot study who completed the draft questionnaires. An introductory cover letter explaining the objectives of the research project and the importance of the pilot study were attached to the questionnaire (Addendum 6).[55] The participants' anonymity was ensured and a phrase stating that the completion of the questionnaire would be regarded as informed consent was included in the letter. The participants were encouraged to provide written comments and suggestions with regard to any aspect of the questionnaire on a feedback form handed to each of them or on the questionnaire itself (Addendum 7).

The researcher attended the session to answer any questions, take note of any comments made and identify potential problems that could arise during the final survey. The starting time and the time of the first and last completed questionnaires were recorded in order to provide the target population with an estimated time for completion of the final questionnaire.

3.5. DATA COLLECTION PROCEDURES

3.5.1 Knowledge Attitude and Practice Questionnaire

The postal (including e-mail) survey data collection method was used to overcome time and budget constraints.[44,55] The final 56-item questionnaire was either e-mailed (n=2) or posted (n=266) to the geographically dispersed study population, according to the preference of managers as indicated during the telephonic interview in April 2007.

The questionnaire was not sent to each therapist individually. Each clinic (n=62) received a survey package containing a questionnaire for each therapist employed at the clinic. Included in the package were the following:

- An introductory letter addressed to the owners/managers of the clinics explaining the purpose of the study and requesting them to distribute the questionnaires to their staff (Addendum 8)
- A covering letter attached to each questionnaire, inviting therapists to participate in the study and stating the purpose thereof. Included were assurances of the participants' anonymity and that the data would be used for research purposes only, as well as a phrase stating that the completion of the questionnaire by the participant would be regarded as informed consent (Addendum 9)
- A self-addressed-stamped envelope in which the completed questionnaires should be returned

The two questionnaires that were sent via e-mail, to the e-mail address of the manager/owner, were addressed to the manager/owner of the participating clinic and not to the therapist's personal e-mail address to ensure that the therapists remained anonymous. The survey package was sent as an attachment to the e-mail, which the manager/owner was instructed to save as a document on his/her computer. The managers/owners were asked to request the therapists to complete the questionnaire. After completion the questionnaire should be returned via e-mail from the manager/owners' e-mail address.

A two stage data collection follow-up was conducted to improve the response rate. The first follow-up was done one week after the initial survey packages were sent (27 November 2007). A specially printed thank you/reminder postcard (Addendum 10) was sent to all participating clinics. The reminder was sent so soon to ascertain whether the clinics had received the questionnaires and to impress the importance of the survey upon the respondents.

Two weeks after the reminder, postcards were sent (11 December 2007), a telephone follow-up was conducted for all clinics from which no questionnaires or feedback had been received. During the call it was emphasized that the therapists' responses were of utmost importance to

the outcome of the survey results and that completing the questionnaire would not be time consuming. An offer to send replacement questionnaires was made to the participating clinics who indicated that they did not receive the initial questionnaire.

3.5.2 Focus Group Discussions with Therapists

Kreuger defines a focus group as *"carefully planned discussion designed to obtain perceptions in a defined area of interest in a permissive, non-threatening environment"*.[53] The qualitative focus group approach was therefore used to provide deeper understanding of the quantitative data gathered in the survey with regard to therapists' attitudes and practices relating to nutrition within their industry.[13,24,47,48] Furthermore, it would confirm or disprove the hypothesis that health and skincare therapists receive inadequate training in the application of standardized scientific nutritional information in practice.

3.5.2.1 Focus group characteristics

Six clinics in the Cape Town Metropolitan area, offering some or all of facial and body therapy treatments identified in the survey, were approached to participate in focus group discussions. Members of the focus groups were selected on the basis of being qualified therapists, working full- or part-time as health and skincare therapists, to ensure that the information gathered from the focus group discussions was relevant and credible.[24,63]

3.5.2.2 Course of proceedings

The focus group discussions were conducted at the premises of the participating clinics at a time convenient for the therapists, after permission was granted by the manager/owner of the clinic.[13]

The researcher acted as facilitator during the focus group discussions. Prior to starting the group interview, the participants were welcomed and thanked for their willingness to participate in the research project. An overview of the topic and purpose of the study, the reason for the therapists' participation and the ground rules were explained to the participants. The ground rules included:

1. One person speaks at a time
2. Respect everyone's opinion
3. Voice your opinion without criticizing fellow participants

4. Minimize side conversations
5. Be honest about your true feelings and perceptions of the points under discussion

The group was approached for permission to record the session for use during data analysis. Participants were assured of anonymous management of data and that those who gathered the information would respect their confidentiality.[64] After permission was granted for recording the session, the discussion began in an informal, but structured manner; following an interview schedule of categories that were compiled to explore the issues highlighted in the questionnaire data (Addendum 11).[48,49,64]

The focus group discussion session was concluded by giving participants the opportunity to ask questions and thanking them for their time and input during the discussion.[48,49,64]

3.5.3 In-Depth Interviews

In-depth semi-structured interviews were held with the Delphi-group of experts who participated in the selection of questions to be used in the survey questionnaire (Addendum 2). The expert group, including registered dieticians and educators from various health and skincare institutions, were interviewed as a means of gaining greater insight into why the therapists held certain opinions.[13] The interviews focused on the national nutrition syllabus used at SAAHSP accredited training institutions. The researcher used the data obtained from the survey and focus group discussions to compile an interview schedule, to be discussed during the interviews. (Addendum 12) The interviews were held, either telephonically or personally according to the interviewees' preferences at a time convenient to them.

3.6 DATA ANALYSIS

3.6.1 Quantitative Data Analysis

All quantitative data gathered by means of the questionnaire was entered into Microsoft Excel software, and analysis was performed using the Statistica 8 software package.[65]

3.6.1.1 Descriptive statistics

Descriptive statistics were used to describe the demographic characteristics (Section 1) of the respondents. Nominal/categorical data was collected in section 2 of the questionnaire and the total knowledge score was calculated using the final scores (correct responses) from section 2A (general nutritional knowledge) and section 2B (nutritional knowledge related to skincare).

For the purpose of assessing therapists' knowledge in relation to the specific outcomes (SO) stipulated in the SAAHSP syllabus and the application thereof in practice, four knowledge areas of importance and relevance to the industry were identified. Questions were grouped according to these knowledge areas (Table 3.3) and descriptive statistics used to determine the therapists' knowledge within each knowledge area.

Table 3.3: Summary of the questions included in the four knowledge areas identified according to the specific outcomes in the Nutrition for Health and Skincare syllabus

Knowledge area identified	Questions from Section 2A included in the knowledge area
1. Food composition and function	2 - 5, 21
2. Healthy eating habits	1, 5, 7, 13, 20, 23, 24
3. Nutritional factors affecting lifestyle	8 – 10, 22
4. Healthy food choices	11, 12, 14 -19

Knowledge area 1 incorporated SO 2 and included questions 2 - 5 and 21 which all dealt with the understanding of food composition and function. Assessing the therapists' knowledge on food composition and function gave an indication of the therapists' ability to offer advice according to the needs of their clients and based on scientific nutrient evidence.

Knowledge area 2 indicated the therapists' knowledge on specific food choices and the implication of these choices as a basis for recommending healthy eating habits. SO 1, 2, 4 and 6 were all considered as outcomes which were of interest in questions 1, 5, 7, 13, 20, 23 and 24 that dealt with healthy eating habits.

The third area of knowledge focused on nutritional factors that might affect lifestyle. According to SO 5, a therapist should be able to offer guidance to clients by instituting energy

modifications to a lifestyle approach for optimum health. Questions 8 - 10 and 22 all focused on various aspects of lifestyle-related issues.

Included in the final knowledge area, healthy food choices were covered by questions 11, 12, 14-19. All SOs, with the exception of SO 6, dealt with the therapists' ability to apply their nutritional knowledge to advise clients on making healthy food choices.

The attitudes and practices of the therapists were quantified using descriptive statistics.

3.6.1.2 Inferential statistics

Inferential statistics were used to assess the association between dependent and independent variables.[66]

Analysis of variance (ANOVA) was used to examine the influence of possible international qualifications on the total knowledge of therapists, as well as to investigate whether there is a parallel between therapists' actual knowledge with regard to skincare and their attitude towards their own knowledge in this regard. ANOVA was also used to determine whether there was a statistically significant difference in the measurement of total knowledge of therapists between the 9 South African provinces.

The non-parametric Mann-Whitney test was used to confirm the significant difference between the general nutritional knowledge of therapists who gained a CIDESCO qualification compared to other international qualifications.

Correlation analysis was performed to investigate the influence of age and of the years employed in the industry on the total knowledge of therapists. . The Spearman rank test was used to establish whether these variables had an impact on the knowledge of therapists.

Relations between nominal variables were investigated with contingency tables and likelihood ratio chi-square tests.

A p-value of less than 0.05 produced by the inferential tests was considered to be statistically significant, indicating that there is a significant difference between the variables being analyzed.

3.6.1.3 Grading of the percentages of therapists' knowledge

The various international associations, offering additional qualifications which therapists can acquire during their studies, each require their own pass percentage that a candidate must reach before a diploma is awarded. This pass percentage indicates that the therapist has the satisfactory level of knowledge and skill needed in practice. SAAHSP requires a pass percentage of 60% as does ITEC, but CIDESCO requires a pass percentage of 70% before the qualification is awarded.[4,67] The most common pass percentage (60%) was used to grade the therapists' knowledge within the various sections of the data.[68]

3.6.2 Qualitative Data Analysis

Data analysis for the focus group discussions and the Delphi-group in-depth interviews was done according to the principles of qualitative data analysis procedure that could be identified in the literature (Figure 3.1).

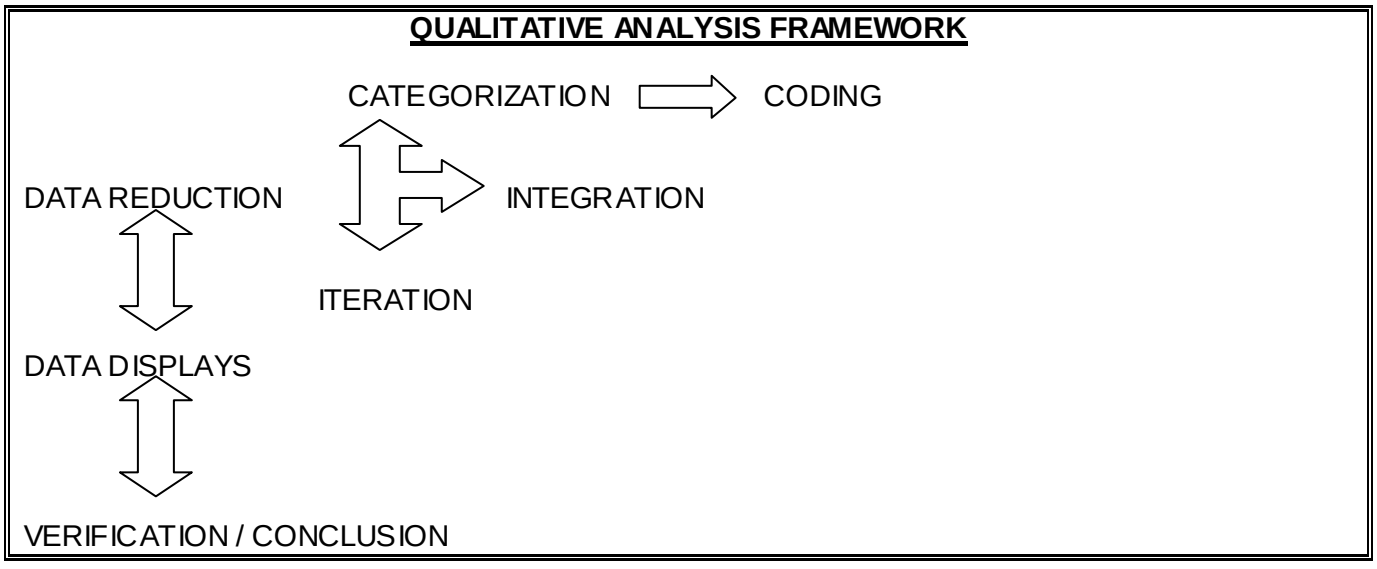


Figure 3.1: Principles of qualitative data analysis

After the data was gathered the information was transcribed from the recordings and notes taken by the researcher. The data was reduced from the transcriptions into the various

categories presented in the interview schedules. Using the categories, the data was coded according to recurring themes that became apparent in the transcribed data. Tables were used to display the direct quotes underscoring the interpretation of participants for the various categories and codes.

3.6.2.1 Analysis of focus group discussions

Each focus group discussion was recorded with a Sony digital versatile disc (DVD) camera. The information gathered from each focus group was transcribed verbatim into tables using the interview schedule (questions asked during the focus group sessions) to identify prominent topics as categories. New topics that were not included in the interview schedule, but emerged from the discussion, were entered as a new category into the table as part of data preparation for the coding process. The transcribed data was coded from the 3 focus groups' tabulated transcripts by labeling themes identified according to recurring comments and similarities between the 3 focus groups. During the coding process each new theme was manually labeled with a particular number within the various categories. A code sheet with the various themes was developed and the labels identified were organized accordingly.[13]

Through the process of integration the various themes were explored to identify new categories to be included in the in-depth interview schedule for the Delphi-Group interviews.

3.6.2.2 In-depth interviews

The notes taken during the telephone and recorded interviews with the expert members of the Delphi-group were transcribed into a table, organized according to the categories included in the interview schedule used during the in-depth interviews (Addendum 12). New information that was not included in the in-depth interview schedule, but emerged from the discussion, was entered as a new category into the table as part of data preparation for the coding process. The various categories were modified and some combined on the basis that they were interrelated at some level. The transcribed data was coded from the various Delphi-group interviews by labeling themes identified according to recurring comments, similarities and differences in opinion between the Delphi-group members. During the coding process each new theme was labeled with a particular number within the various categories. A code

sheet with the various themes was developed and the labels identified were organized accordingly.[13] No computer software was used during coding of the qualitative data.

3.7. ETHICS AND LEGAL ASPECTS

3.7.1 Ethical Approval

The study protocol was approved by the Human Research Committee of the Faculty of Health Sciences, Stellenbosch University, Tygerberg, South Africa (Project number: N07/09/213) (Addendum 13). SAAHSP granted permission to use the NHSS for research purposes for the duration of the study (Addendum 14).

3.7.2 Informed Consent

The Child Justice Bill of the Republic of South Africa defines a child as *"any person under the age of 18"*.[69] Therefore any person above the age of 18 is considered an adult and legally competent. The prospective participants were seen as legally competent, as they had all completed tertiary training of at least two years after school and therefore should be older than eighteen years of age. The cover letter that accompanied the questionnaire disclosed important information regarding the research. The aim of the research study, what was expected of the prospective participants and the estimated time that it would take to complete the questionnaire, were stipulated in the cover letter as required by the literature.[13] This information was phrased in a manner that allowed the participant to understand what was expected of him/her. Completion of the questionnaire was regarded as informed consent by the individual participant and they were informed of this as part of the questionnaire.

3.7.3 Participant Confidentiality

All participants were assured of confidentiality in the cover letter that accompanied the questionnaire. As no personal information of the participants was necessary for the purpose of the research, no identifying information was required for the survey and participants were provided a subject number only. The subject number was used to monitor the return of questionnaires for follow-up and accurate data capturing purposes.[13]

The confidentiality of the focus group members and Delphi-group members was assured in the opening and welcoming part of the discussion or interview. The recorded focus group and

Delphi-interview material was only used for the transcription of data and was not revealed to any other person for any reason.

CHAPTER 4
RESULTS

4.1 QUANTITATIVE RESEARCH RESULTS FROM KAP POSTAL SURVEY

4.1.1 Sample Characteristics

The study was conducted between October 2007 and June 2008. A total of 268 questionnaires were distributed to therapists working at 62 SAAHSP accredited clinics around South Africa (Table 4.1). During the follow-up period it was established that three clinics no longer existed and five of the clinics were no longer accredited by SAAHSP. This resulted in a fall off of 11 and 12 therapists respectively. Of the 245 questionnaires sent to the remaining 54 clinics that complied with the inclusion criteria, managers/owners of five clinics declined participation of their therapists (n=23) in the survey during the telephone follow-up, stating the lack of time to complete the questionnaires because of a busy season as the primary reason. Three clinics returned their questionnaires (n=23) unanswered and 23 clinics (n=82) did not return the questionnaires even after thorough follow-up. Seventy-four (74) questionnaires from 23 clinics were completed and returned. Twelve of the 23 clinics, which returned questionnaires, did not return all of the questionnaires received. This resulted in a further fall off of 43 questionnaires. One completed questionnaire was discarded, as the respondent indicated that she was not a qualified therapist and therefore did not comply with the inclusion criteria. Data analysis was performed using the information gathered from the remaining 73 questionnaires, representing a response rate of 29.8%.

Table 4.1: Summary of sample characteristics and response rate (%)

	SAAHSP clinic	Therapists	Reason
Initial study population	62	268	
Non compliant	*3*	*11*	Clinic closed
	5	*12*	No longer accredited
Final study population	54	245	
Fall off	*23*	*82*	No questionnaires were returned
	12	*43*	Not all therapists returned the questionnaires
	5	*23*	Lack of time
Questionnaires returned	26	97	
Discarded	*1*	*1*	Respondent not a qualified therapist
	3	*23*	Returned unanswered
SAMPLE (Response Rate %)	**23 (42.6%)**	**73 (29.8%)**	

4.1.2 Demographic Information

The respondents (n=73) were all female therapists. The mean age of the respondents (n=47) willing to record their age was 25.83 years (SD 7.1).

The mean period of employment, as health and skincare therapists, of those who responded to this question (n=68), , was 4.5 years (SD 5.23) ranging from 1 week to 30 years. Six types of work settings (Table 4.2) within the health and skincare industry were represented by the sample.

Table 4.2: Work settings represented in the study (*N*=68)

Work settings	Number	%
Beauty salon	38	55,8%
Hotel/Spa/Game lodge	18	26,5%
Nail salon	9	13,2%
Home-based salon	1	1,5%
Medical centre	1	1,5%
School salon	1	1,5%

*Number of non-respondents: 5

Questionnaires were distributed to clinics in all 9 South African provinces. Respondents were mostly from Gauteng (32%) and the Western Province (30%) (Figure 4.1). No response was received from therapists in the Northern Cape or the North West Province.

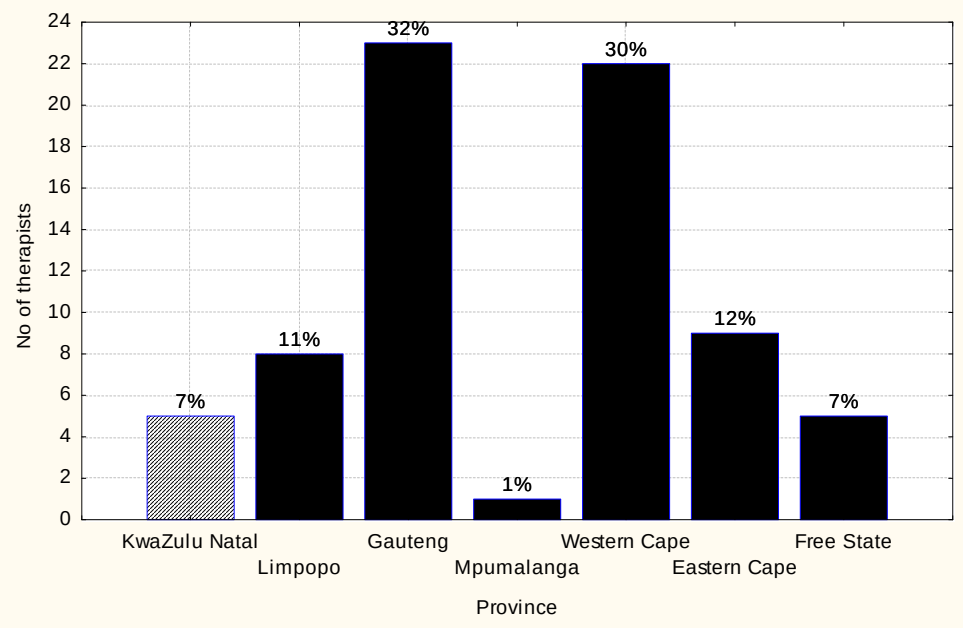


Figure 4.1: Percentage responses received from therapists in the various provinces in South Africa

4.1.3 Qualifications and Training

The respondents had been trained at 34 different training institutions around South Africa, some of which were not SAAHSP accredited. One respondent did not complete this question and of the remaining 72 respondents, more therapists (n=39, 54.2%) acquired a CIDESCO qualification than either an ITEC or SAAHSP international qualification (Table 4.2). Sixteen therapists (22.2%) obtained all three international qualifications.

Table 4.3: Additional international qualifications obtained by therapists during their studies (*N=72)*

International Qualification	Number of therapists who obtained specified qualification n (%)
SAAHSP	38 (52.8)
CIDESCO	39 (54.2)
ITEC	36 (50.0)

*Number of non-respondents = 1

Nutrition was presented as an academic module during training for 62 (84%) of the therapists while 9 (12%) had no formal nutrition education during their studies and three (4%) did not complete the question. Most of the therapists (*n*=48, 64.9%) had not attended any nutrition-related workshops during the past year whilst one therapist had attended 8.

4.1.4 Nutritional Knowledge

The total nutritional knowledge score was calculated using the final scores (number of correct answers) from section 2A (general nutritional knowledge) and section 2B (nutritional knowledge related to skincare). The mean total knowledge score of the respondents was 64.4% (SD 0.11) indicating a level of knowledge above the required pass percentage of 60% as described previously.

A CIDESCO qualification had a statistically significant positive impact (One-way ANOVA; $p<0.01$) on the total knowledge of therapists (Figure 4.2), with scores of 68% as compared to 59% for those without the international qualification.

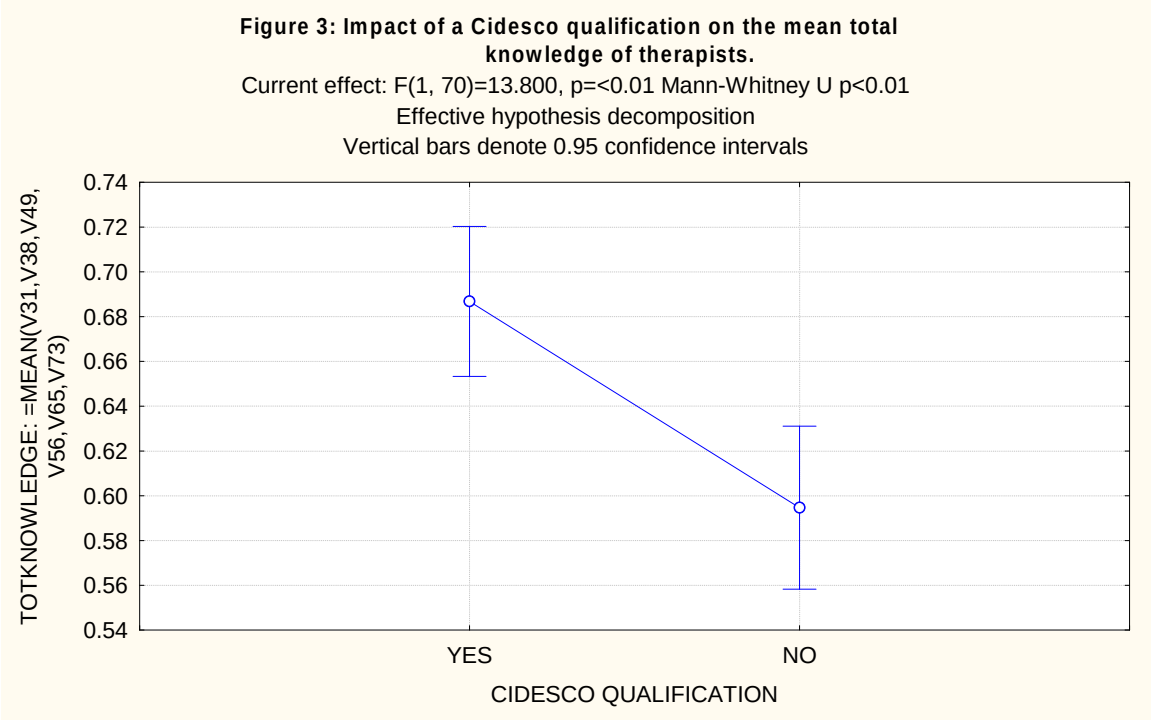


Figure 4.2: The impact of a CIDESCO qualification on the total knowledge of therapists

There was a statistically significant difference between provinces (Figure 4.3) with regard to mean total knowledge of therapists [ANOVA; $p<0.01$]. The Bonferroni multiple comparison procedure was used to compare the 9 provinces' mean total knowledge against each other. The mean total knowledge of therapists from Gauteng (GP) was significantly lower than therapists working in the Western Province (WP) [Bonferroni; $p=0.0072$]. Therapists from WP also had a significantly higher mean total knowledge than therapists from Kwa-Zulu Natal [Bonferroni; $p=0.0036$]. The residuals (i.e. differences between observations and the group means) were normally distributed indicating that a non-parametric test was not necessary.

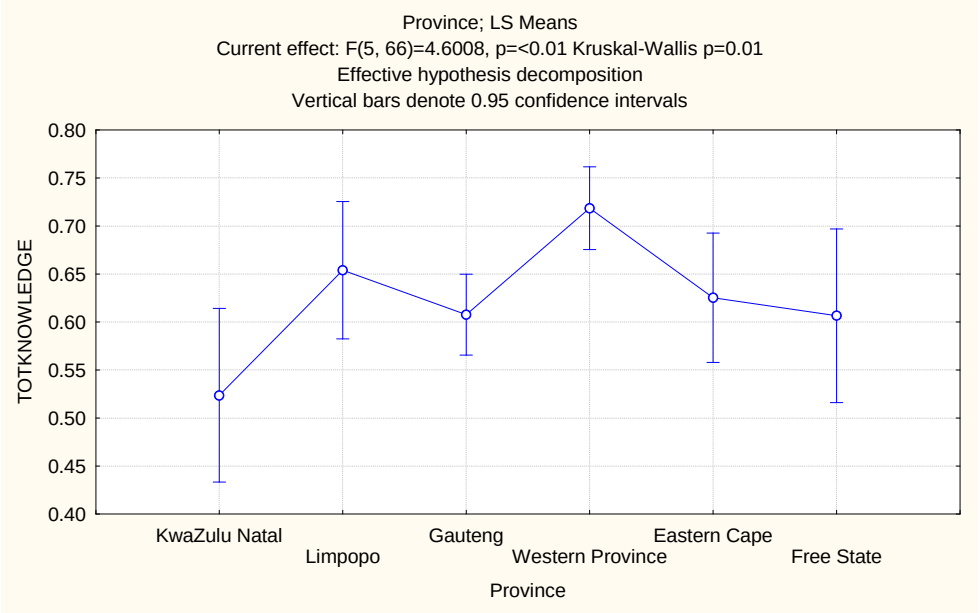


Figure 4.3: Differences between provinces with regard to mean knowledge of therapists

Correlation analysis was performed to compare age and years employed against total knowledge of therapists. Because the total knowledge variable was not normally distributed, the Spearman rank correlation analysis was used. Neither age (Spearman r=0.11; p=0.47) nor years employed (Spearman r=0.12; p=0.31) had any significant impact on the total knowledge of therapists.

4.1.4.1 General nutritional knowledge

The mean general nutritional knowledge score of the health and skincare therapists was 65.2% (SD 0.13) indicating a knowledge level above the pass percentage. The mean total knowledge of each of the four knowledge areas identified within the general nutritional knowledge section: 1) understanding of food composition and function[*], 2) healthy eating habits[†], 3) nutritional factors influencing lifestyle[‡] and 4) healthy food choices[§], was calculated using the number of correct answers from each question included in the specific areas and calculating a percentage score.

[*] Understand %: Understanding of food composition and function
[†] Healthy %: Healthy eating habits
[‡] Lifestyle %: Nutritional factors influencing lifestyle
[§] Choices %: Healthy food choices

Scores for the knowledge areas regarding healthy eating habits, nutritional factors affecting lifestyle and healthy food choices were above the required 60% (Figure 4.4), but the mean total knowledge regarding the understanding of food composition and function was below this required percentage (50.4%). According to repeated measures ANOVA there is a significant difference between the variables. The Bonferroni test indicates the therapists' knowledge regarding the understanding of food composition and function to be significantly lower than their knowledge regarding healthy eating habits (p=0.000096), nutritional factors affecting lifestyle (p=0.000) and healthy food choices (p=0.000004) respectively.

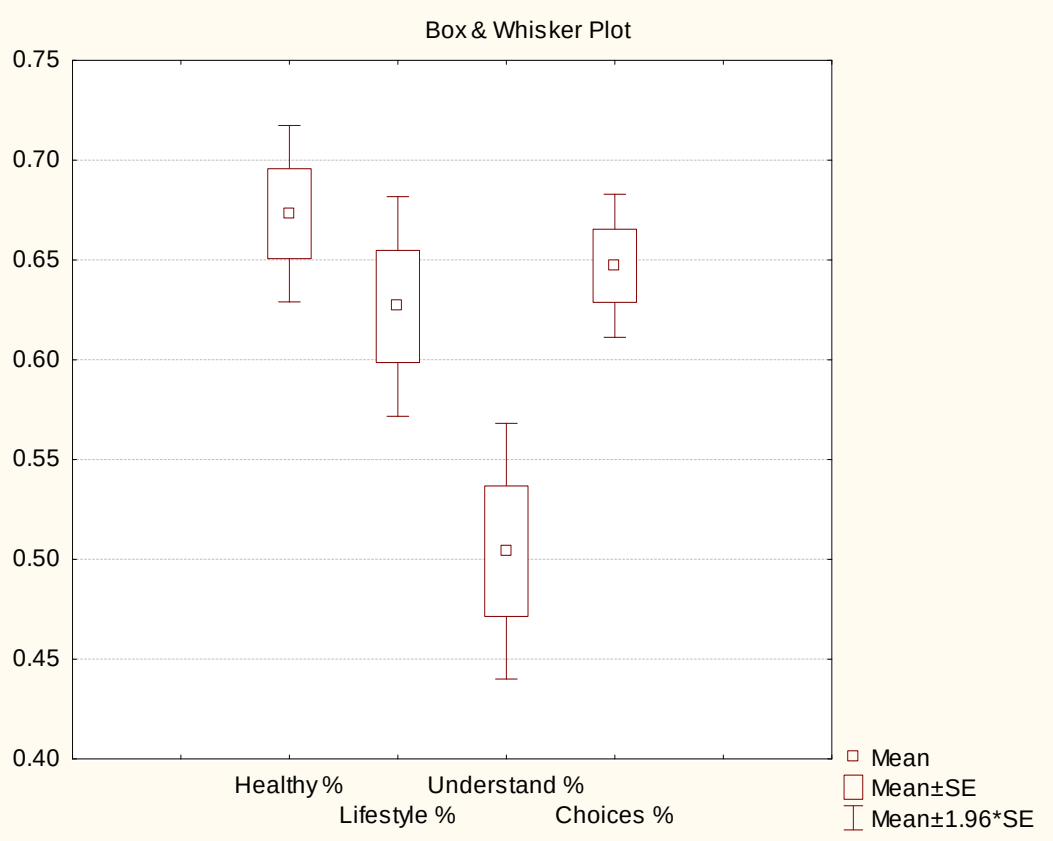


Figure 4.4: Distribution of percentages for the four knowledge areas of general nutritional knowledge (*N=73*)

4.1.4.2 Nutritional knowledge related to skincare

The mean score for the therapists' nutritional knowledge related to skincare was 47.5% indicating a less than satisfactory level of knowledge required (Table 4.4). They had a mean score below the 60% level for 4 out of the 6 questions.

Table 4.4: The proportion of therapists correctly associating nutritional factors with skincare adversities in Section 2B (*N=73)*

Question no	Nutritional factor	Skincare adversities	Number of correct responses	Percentage correct responses
1	Acne skin - need Vitamin A	Reduction in sebum production	31	42.5%
2	A deficiency of Zinc	Slow wound healing	44	60.2%
3	Spicy food	Aggravates Rosacea	60	82.2%
4	Inadequate intake of essential amino acids and unsaturated fatty acids	Impaired acid mantle	35	47.5%
5	Inadequate intake of Omega 3 & 6 and Vitamin E	Impaired Barrier of Rein	24	32.9%
6	A deficiency of Vitamin B	Scaling around nostrils	15	19.2%
MEAN TOTAL OF NUTRITION KNOWLEDGE RELATED TO SKINCARE				47.5%

4.1.5 Attitude

The attitude scores quantified the feelings of the therapists regarding nutrition in their industry and revealed data that needed to be explored. Qualitative focus group and in-depth interviews were arranged for this purpose. One respondent did not complete the attitude section of the questionnaire.

The mean ordinal score for the individual attitude statements range from 2.6 to 3.4 (Table 4.5). The majority of the therapists strongly agreed or agreed with all of the statements. Attitudes regarding knowing enough and having the ability to advise clients about nutrition were mostly positive, with at least 61% and 69% of the therapists agreeing with the statements respectively. About a third however (31% and 39% respectively) did not agree with these statements (statements 1 and 2). Therapists mostly agreed (96%) that they had the right to ask their clients about their dietary habits (statement 3) and that their clients expect them to have the answers to nutrition-related questions (85%) (statement 4). Although 64% of the therapists agreed that they believed they had had sufficient training to determine the nutritional status of clients and 79% agreed that their training had been sufficient to provide nutritional advice to clients (statements 5 and 6), more than three-quarters (77%) of

therapists felt nevertheless that more intense nutrition training was needed (statement 7). Fewer therapists (17%) felt that the training was lacking in practical application (statement 8). The majority of therapists agreed that nutritional counselling should form part of treatment (82%, statement 9) but 3/4 felt that clinics/salons should offer the services of a dietitian (statement 10).

Table 4.5: The therapists' attitudes regarding their role as nutritional counsellors (*N=72)*

Attitude Statement	Mean ordinal score	Strongly Agree n (%)	Agree n (%)	Disagree n (%)	Strongly Disagree n (%)
1. I feel I know enough about nutritional causes that might contribute to skin problems.	2.64	9 (12.5%)	35 (48.6%)	21 (29.2%)	7 (9.7%)
2. I feel I can appropriately advise my clients about nutrition and its effect on the skin.	2.74	8 (11.1%)	42 (58.3%)	17 (23.6%)	5 (6.9%)
3. I feel I have the right to ask my clients about their dietary habits when I have identified possible problems.	3.40	32 (44.4%)	37 (51.4%)	3 (4.2%)	0 (0.0%)
4. I feel that my clients expect me to have answers to their nutrition-related questions.	3.15	22 (30.5%)	39 (54.2%)	11 (15.3%)	0 (0.0%)
5. I believe I have received the training I need to identify clients' nutritional status.	2.61	4 (5.6%)	42 (58.3%)	20 (27.8%)	6 (8.3%)
6. I believe I have received the training I need to advise clients about healthy eating habits.	2.92	12 (16.7%)	45 (62.5%)	12 (16.7%)	3 (4.2%)
7. I feel that more intense theoretical training with regard to nutrition is needed at health and skincare colleges and training facilities.	3.18	30 (41.7%)	26 (36.1%)	15 (20.8%)	1 (1.4%)
8. I feel that more intense practical application of nutritional knowledge is needed at health and skincare institutes.	3.26	32 (44.4%)	28 (38.9%)	11 (15.3%)	1 (1.4%)
9. I feel that nutritional counselling should form part of any health and skincare treatment.	3.26	32 (44.4%)	27 (37.5%)	13 (18.1%)	0 (0.0%)
10. I feel that any clinic/salon should provide the service of a dietician.	3.01	22 (30.5%)	32 (44.4%)	15 (20.8%)	3 (4.2%)

*Number of non-respondents=1

The box and whiskers plot below (Figure 4.5) shows the median or central tendency for the attitude statements to have been established at 3 (agreement). The lower quartile for all statements was established on either 2 or 3 and the upper quartile on either 3 or 4.

Interestingly, the inter-quartile range for statements 1, 2 and 5 was between 2 (disagree) and 3 (agree), showing a balance between negative and positive reactions to their knowledge on the skin problems that might be attributed to nutritional causes, their ability to appropriately advise clients in this regard and the training they received to identify clients' nutritional status. These three statements were the only statements where most therapists did not either agree or strongly agree as they had with statements 3, 4, 7, 8 and 9, where the inter-quartile ranges were between 3 (agree) and 4 (strongly agree). The lower quartile (25th percentile) for statements 3, 4, 7, 8 and 9 was set on 3 (agree) showing only 25% of respondents either disagreeing or strongly disagreeing with these statements.

Statement 6 presents a very convincing inter-quartile range of 3 (agree) with both the upper and lower quartile also set on 3. This shows 25% of therapists reacted negatively and 25% reacted positively towards the training they received regarding advising clients about healthy eating habits.

The data from statement 10 revealed a wider spread of positive and negative responses between 2 (disagree), 3 (agree) and 4 (strongly agree) with the lower quartile set on 2.5 and the upper quartile on 4.

Figure 4.5: Graphical representation of the distribution of the therapists' attitude scores

No significant difference was found (Spearman r=0.11, p=0.32) between therapists' attitude regarding their knowledge about skin problems that might be attributed to nutritional causes and their total skin knowledge scores.

4.1.6 Practice

The 6 questions within the practice section gathered information about the treatments that therapists offer to their clients and how they incorporate nutrition into these treatments daily..

4.1.6.1 Menu of service

The most common treatments (Table 4.6) being offered are waxing (n=70, 97.2%), facials and Swedish massage (n=68, 94%) and aromatherapy massage (n=66, 92%). The treatment being performed the least was the gyratory vibrator (G5) treatment (n=14, 19.4%).

Table 4.6: Summary of treatments offered at the SAAHSP accredited clinics represented in this study

Treatments offered	Number of therapists offering the treatment n=72	% Yes
Waxing	70	97.2
Facials (manual & electrical)	68	94.4
Swedish massage	68	94.4
Aromatherapy message	66	91.7
Vacuum suction of the body	64	88.9
Body exfoliations	63	87.5
Hot stone massage	61	84.7
Body wraps	56	77.8
Lymph drainage	47	65.3
Body faradic	19	26.4
Gyratory vibrator (G5)	14	19.4

*Number of non-respondents: 1

4.1.6.2 Healthy practice

When looking at the everyday practice of therapists (Table 4.7), it was established that during consultation the most common practice among therapists is taking a personal medical history of clients (n=57; 81.4%) and then referring clients to a medical doctor (n=54; 76.1%). The least common practice (n=9; 12.9%) is providing nutritional management services to clients.

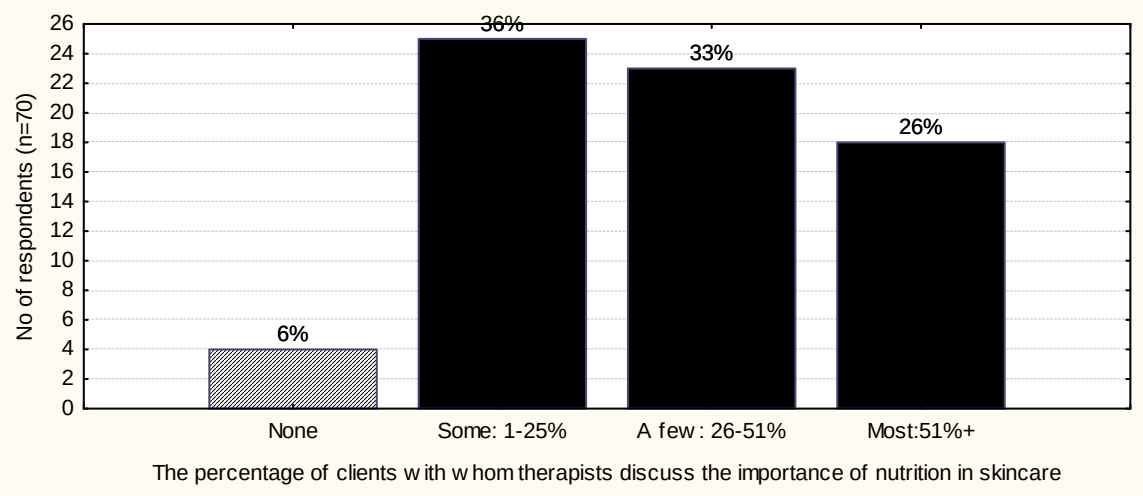
Although 23 therapists (32.4%) reported that they provide nutritional assessments for their clients, 26 therapists (37.1%) indicated that they interpret nutritional assessments of their clients (this indicates that either they obtain nutritional assessments from other sources or they did not answer questions correctly). Only 25 therapists (35.2%) reported keeping records of nutritional reports of their clients.

Table 4.7: Proportion of therapists taking the necessary actions to incorporate nutrition into their daily activities

Nutritional services offered	*N*	Number of positive responses (n)	Percentages (%)	Number of non-respondents
Refer clients to a medical doctor	71	54	76.1	2
Take family medical histories	71	40	56.3	2
Record nutrition-related skin problems	71	38	53.5	2
Refer clients to a registered dietician	71	30	42.3	2
Interpret assessment results to clients	71	26	36.6	2
Keep records of nutritional reports of your clients	71	25	35.2	2
Provide nutritional assessment	71	23	32.4	2
Take personal medical histories	70	57	81.4	3
Advise on nutritional intervention/treatment	70	26	37.1	3
Conduct dietary intake interviews	70	18	25.7	3
Provide nutritional management services	70	9	12.9	3

4.1.6.3 Discussing nutritional importance

The majority of therapists participating in the study do not discuss the importance of nutrition in skincare with even half of their clients. Only 18 therapists out of 71 (26%) reported discussing the importance of nutrition in skincare with more than half of their clients (Figure 4.6).



*Number of non-respondents: 2

Figure 4.6: Percentages of therapists discussing the importance of nutrition in skincare with their clients

4.1.6.4 Nutritional counselling

Most therapists reported offering nutritional counselling as part of body therapy (59%) or facial therapy (63%) (Figure 4.7).

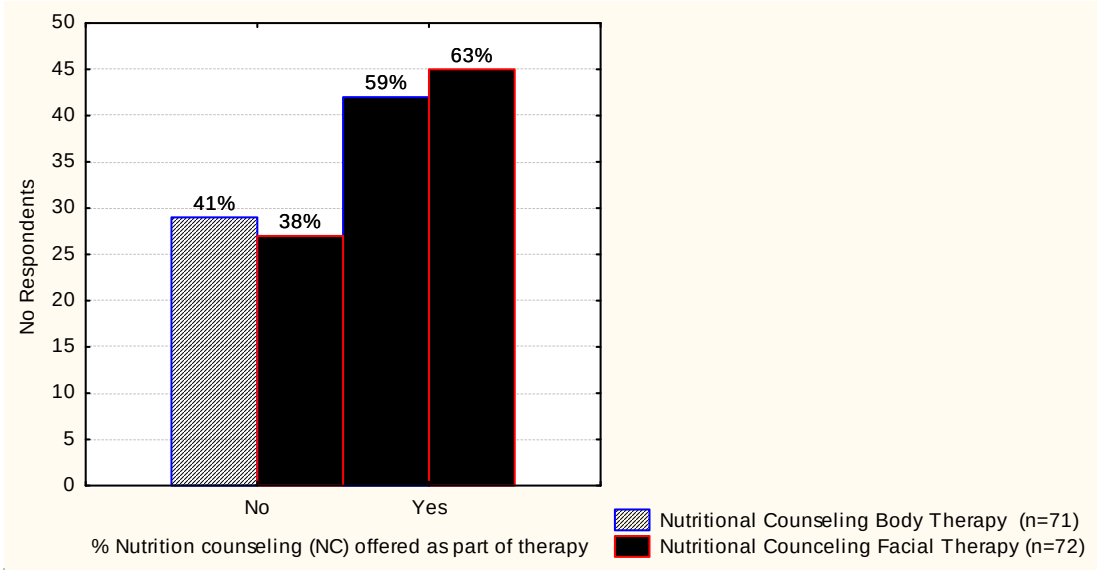


Figure 4.7: Proportion of therapists offering nutritional counseling as part of their therapy sessions

The relation between therapists offering the services of nutritional assessment and therapists interpreting these results was investigated with the McNemer likelihood ratio chi-square test

and it was established that there was no statistically significant difference between these two practices (p=0.69).

A McNemer chi-square test was performed to establish the relation between therapists who provided nutritional assessments (n=23) for their clients within the year prior to the survey and those that provided their clients with nutritional management services (n=9). A statistically significant difference (p=0.003) was found between the frequency of therapists who offer nutritional assessment and those offering nutritional management services to their clients. Seventeen (73.91%) of the therapists that offer nutritional assessments (n=23) to their clients do not offer them nutritional management services (Table 4.9). Three therapists (6.38%) offer their clients nutritional management services without performing nutritional assessments.. Most therapists (n=61) do not offer nutritional management to their clients, whilst 47 therapists do not offer nutritional assessments.

Table 4.8: Observed frequencies of therapists who offered nutritional assessments and nutritional management services to their clients during the year prior to the study.

Services offered	Observed Frequency *(N=70)*
Nutritional assessment and nutritional management	6
Nutritional assessment offered but not nutritional management	17
Nutritional management offered without nutritional assessment	3
Neither nutritional assessment nor nutritional management offered	44

4.1.6.5 Learning sources

Newspapers and magazines were reported as the predominant sources from which therapists (n=67) (58%) gained their nutritional knowledge. The sources least likely to be consulted were reportedly TV and radio, the internet and conferences (Table 4.9).

Table 4.9: Sources from which therapists gain nutritional knowledge

Learning source	Number of respondents (n)	Percentages (%)
Newspapers/Magazines	39	58
Journals/Books/Newsletters	15	22
Workshops	6	9
Television/Radio	3	4
Internet	2	3
Conferences	2	3

*Number of non-respondents: 5

4.2 QUALITATIVE RESEARCH RESULTS

4.2.1 Focus Group Discussions

Three focus group discussions were conducted between 7 and 30 May 2008 (Table 4.10). Results have been themed according to topics discussed and raised by the therapists.

Table 4.10: Sample characteristics of focus groups

Discussion group description	Description of facility	No. of therapists estimated to partake in discussion	No of therapists present during focus group discussion	Total time (minutes)
Group 1: Qualified therapists attending optional 3rd year of study	Skincare clinic and spa at training institution	14	14	35
Group 2: Spa therapists	Spa and Wellness Centre	7	5	40
Group 3: Beauty therapists	Skincare Clinic	5	3	35

4.2.1.1 Holistic therapy

Therapists indicated a thorough realisation of the holistic nature of their profession and they viewed nutrition as a general component thereof. The therapists agreed that health and skincare cannot be attended to separately.

Therapists stated that greater emphasis is placed on skincare treatment than on health aspects during training. Therapists singled out nutrition to be a binding factor which could link skincare treatments and health aspects together to ensure more comprehensive holistic health practices.

4.2.1.2 Nutritional knowledge and education

Therapists viewed the institution from which they graduated as the key source which influenced their knowledge regarding nutrition. Although only one participant stated that certain training institutions offer a better nutrition course than others, there was general agreement amongst all the participants in this regard. Participants compared the institutions from which they graduated unconsciously during the discussions as they commented on the various interview categories. The standard of nutritional courses being offered seemingly differed even among SAAHSP accredited institutions.

Many therapists agreed that unless they consult their nutrition notes from their studies, they would not be able to answer nutrition-related questions during therapy. Some therapists argued that the nutrition information they received during their tertiary training was nothing more than a repetition of the Home Economics syllabus they followed at high school level.

Furthermore, most therapists felt that even when they received theoretical nutritional information, it was mostly very basic and that little or no time during their training was spent on the application of this knowledge as part of their practical modules, especially in respect of skincare.

Some therapists regarded the nutrition information they received during training to be valuable in the identification of deficiency signs caused by a lack in nutrients. Most therapists, however, experience the opposite, believing the nutritional information they received to be insufficient in this regard. The latter could not advise their clients with self assurance and confidence about nutrition.

Therapists suggested that more emphasis should be placed on nutrition during training as they feel the foundation for future practice is set during training. Therapists also expressed a need for nutrition workshops whilst practicing as qualified therapists.

4.2.1.3 Consultation

The therapists acknowledged client consultation as their source of information regarding nutritional aspects of clients' health and pointed out that the importance of consultation was stressed during training. They felt that emphasis was mostly placed on the gathering of information with regard to the medical history of clients.

Therapists shared a variety of methods by which they obtain nutritional information from their clients. Some relied on the information from a self-administered consultation card completed by clients before commencement of treatments, whereas others completed the consultation cards with clients as a part of the therapy session.

All the participants commented on finding information about the clients' nutritional status by asking general questions regarding the clients' lifestyle, including questions on dietary habits. Some therapists also indicated that they ask probing lifestyle questions related to the contra-indications that appear on the consultation card. Moreover participants admitted that they do not normally ask lifestyle questions as part of facial and skincare treatments, but rather as part of body treatments.

Most participants expressed discomfort in their ability to give specific homecare advice about nutritional aspects, especially nutritional advice that could influence skincare. Therapists mostly rely on the food pyramid as the basis for their general nutritional advice in both health and skincare. The participants disclosed that they often repeat the same advice for all clients, as they do not always know how to customize nutritional homecare advice according to the specific problem that a client may experience.

Although therapists believe that their practice should be based on information gathered during consultation with clients, they felt that their training was lacking in that consultation was not incorporated into the practical training modules.

4.2.1.4 Clients' interest in nutrition

Therapists stated that clients might ask nutrition-related questions, but this is not their main reason for visiting spas and salons.

Therapists feel clients would rather ask nutrition-related questions during body therapies and rarely, if ever ask nutritional questions during facial or skincare treatments. The therapists' remarks regarding clients' obsession with cosmetic products to ensure healthy skin revealed the client's lack of knowledge and interest in nutrition as part of skincare. Only one therapist shared that she believes clients trust in therapists for dietary advice.

Therapists could not state categorically what interest their clients have in, as most therapists admitted to not discussing nutrition with clients during treatment.

4.2.1.5 Therapists' image

During the focus group discussions, it became apparent that therapists perceive their personal image as an important element of their profession. Comments were made about clients' faith in the ability of therapists based on their professional image and the way in which therapists present themselves.

Most therapists believe that when they are "*well-groomed and healthy looking*", clients will more often ask for advice on elements of health and beauty and this often offers them the opportunity to mention nutrition as a component of home care.

4.2.1.6 Multi-disciplinary team

There was a high level of agreement amongst therapists that offering eating plans to clients is not within their scope of practice. Therapists felt they could only offer general dietary guidelines to clients, but cannot replace a dietician. Therapists indicated high levels of discomfort in advising clients on therapeutic nutritional application. Most therapists prefer to refer their clients to specialized healthcare professionals when in doubt about the correct advice.

4.2.1.7 Supplementation

Participants commented on the inclusion of supplement prescription in the health and skincare industry. They argued that they would rather prescribe suitable supplements for clients with special needs, than having a client choose a supplement from a wide variety of available "over the counter" supplements. Not all therapists agreed, as some felt they had not specialized in the field of supplementation and did not want to take responsibility for possible incorrect advice leading to faulty choices of supplements.

4.2.1.8 SAAHSP

The focus group discussions revealed that SAAHSP is not an organization which qualified therapists pay attention to and it seemed that only those forced to by their employers had become members.

4.2.2 In-Depth Interviews

Five interviews were conducted telephonically, one personally and one via e-mail. The personal interview was recorded after permission was granted by the interviewee. The e-mail interview was because of unforeseen professional commitments which limited the participant's available time and consequently the list of discussion topics was e-mailed to the interviewee.

4.2.2.1 Purpose of nutrition

Basic scientific nutritional knowledge was deemed necessary to assist therapists in the interpretation of the information presented to them during client consultation. Most experts viewed nutrition as complementary to the therapists' scope of practice and suggested that education in nutrition should be interpreted within the context of the services offered by the health and skincare industry. All the experts were insistent that the therapists should be able to *"relay sound advice to clients for maintenance purposes of treatments offered"* since nutrition affects the body at every level.

4.2.2.2 Therapists' nutritional responsibility

The experts all agreed that therapists have a responsibility towards clients with regard to nutrition on an advisory level only. Therapists are the *"first port of call to identify potential*

problems and should refer clients to the necessary specialists". Experts clearly expressed the importance of therapists liaising with other health professionals towards achieving optimal health for their clients. *"The role of the therapist is an advisory one rather than diagnostic or prescriptive"*.

4.2.2.3 Nutritional training of therapists

Experts cited the institution at which therapists studied and the qualification of the lecturers in the field of nutrition to be the primary reason for most therapists to both believe they received the necessary training to advise their clients on dietary habits and that more theoretical and practical training is needed at health and skincare institutions.

Experts recognized that practical application of nutritional knowledge, especially in skincare, was not an important element during training.

The majority of experts thought the NHSS covered the necessary theoretical knowledge and that students have a responsibility to further their own knowledge, but some considered individual interest and ability to be most influential on the outcome.

4.2.2.4 Nutritional counselling

The majority of experts considered therapists' failure to offer nutritional counseling during treatments to be ascribed to their lack of confidence in their own knowledge and ability to apply this knowledge in practice. One of the respondents insisted that if education institutions invested more money in hiring subject specialists, the learners would qualify with a better understanding of nutrition and be able to apply it in practice. Secondary reasons given to explain these phenomena were the laziness of therapists and time constraints in busy clinics.

4.2.2.5 SAAHSP syllabus

Most experts were of the opinion that the NHSS should be *"less vague"* and rather provide a detailed course outline of the information that needs to be covered during training. Experts were in agreement that no *"leeway"* should be left for educators to interpret the specific outcomes as they wish, as not all lecturers are subject specialists. They remarked that it is to the advantage of students that the lecturer be a specialist in the field of nutrition and provide students with more information than necessary, but a lecturer's first priority should be the

basic knowledge required by a detailed syllabus. This would ensure all qualified therapists would have the same basic nutritional knowledge.

Some experts raised concern about who decides on the content of the syllabus and whether that person is in fact a subject specialist. Only one of the experts was aware that the nutrition syllabus had been revised and that changes had been made for the 2008 syllabus. The experts expressed the desire to contribute to syllabus development and changes. The researcher suggested that the syllabus should be geared more towards the relevant malnutrition issues which therapists are confronted with, and less towards the therapeutic nature of malnutrition. Four of the seven experts disagreed and felt that the current topics e.g. kwashiorkor or marasmus are interesting, even if they are not relevant to the industry. They indicated that topics covering malnutrition should form part of varied subject matter being studied and that the necessary symptoms and signs of malnutrition in general health be dealt with. The other three experts felt that malnutrition is not only about extreme malnourishment and topics covered should focus on deficiency signs visible during skin analysis and consultation.

CHAPTER 5
DISCUSSION

Health and skincare therapists are no longer only facilitators in the improvement of the external appearance of clients. It is expected of therapists to function as multi-skilled health and skincare practitioners within a multi-disciplinary team.[6,7]

This study reveals evidence that nutrition within the health and skincare industry should not only be viewed as a general component of the therapists' profession, but should be integrated into every aspect of the services they provide. Doing so will impose a responsibility on therapists to be knowledgeable about nutrition and to acknowledge their role within a MDT in this regard.

Furthermore the study indicates that a national syllabus (NSHH), which supports life-long learning through the use of evidence-based material, should be developed within the outcomes-based curriculum in order for the application of knowledge in the practice of health and skincare to be successful.

5.1 KNOWLEDGE / ATTITUDE APPLIED TO PRACTICE

The major finding of this cross-sectional, descriptive study was that the nutritional knowledge of health and skincare therapists working at SAAHSP accredited clinics around South Africa is satisfactory according to the required international standard of 60%. The questionnaire was not developed to test specialised nutritional knowledge, but rather the basic nutritional knowledge a health and skincare therapist should possess to be able to advise clients within this field. Although the total nutritional knowledge score was above the required standard (64.4%), some of the knowledge areas included in this total score could still be improved. Nutritional knowledge regarding aspects of food composition and function, in particular, was lacking. According to the specific outcome of the NHSS, this should indicate therapists' ability to offer advice according to the needs of their clients, based on scientific nutrient evidence. Another deficient area in the therapists' knowledge is the ability to identify common deficiency signs visible on the skin resulting from poor nutrition or malnutrition.

These findings are important because therapists, as agents of health promotion, must actively partake in the process of advising their clients on the factors influencing the condition of their health, including the skin.[70] Their first obligation in skincare is to determine causes of skin

conditions.[30] Individualised treatments should entail the application of knowledge, based on the insightful understanding of the function and purpose of nutrients according to the information gathered during consultation.[30] As nutrition is the most significant factor contributing to the compromised structural integrity of the skin, it is the therapists' responsibility to inform clients of the influence of nutrition on their skin.[2,8,30]

Therapists and nurses are both allies in health promotion because of their holistic caring role.[71] They are however not specialists in the field of nutrition, but should be able to apply nutritional knowledge in their daily practice. The findings of this study; that the majority of health and skincare therapists were of the opinion that they have sufficient knowledge to appropriately advise clients about nutrition (and its effects on the skin), were compared with the result from a study performed on nurses in Kenya with the same belief within their surgical setting.[71] In both incidences the participants were, in fact, not knowledgeable in the different areas. Health and skincare therapists' nutritional knowledge regarding skincare was in fact very low (47.5%).

The study revealed that therapists clearly believe that nutrition plays an important role in their practice and that nutrition links skincare treatments and health care to ensure more comprehensive holistic health practices. Holistic health practices would typically include a lifestyle consultation, during which information regarding the client's dietary habits will be gathered through dietary interviews.[2,12,30] One of the main reasons for conducting dietary interviews is to accumulate information regarding the client's nutrient consumption, to be able to verify whether diet is a possible contributing factor to his/her disease, skin adversities or malnutrition.[3,72] Even though this practice is imperative to be able to advise clients about nutrition, the results revealed that a mere 26% of therapists in this study conduct dietary interviews.

Most therapists viewed nutritional counselling as an aspect that should form part of any health and skincare treatment. Practices that would support nutrition counselling such as providing nutritional assessments, interpretation of assessment results and providing nutritional management services were performed by less than 40% of therapists. Providing nutritional management services was in fact the practice least performed by therapists.

A high occurrence of discrepancy between the therapists' attitude towards nutritional practices in the health and skincare industry and their actual performance, was established during the study. A plausible contributing factor could be the ill-defined boundaries between the practices of various specialists within the health sector. The health and skincare industry is by nature more holistically orientated in its approach to treatments and thus in line with the complementary medicine philosophy that everything is interconnected and dependent on each other.[73] Despite this, therapists are taught to detect skin adversities, treat them and attempt to diminish symptoms through suggesting home care treatment. This could include adjusting lifestyle patterns and nutritional habits and the use of a series of expensive creams.[8,12,30] These practices are geared towards the traditional conventional medicine approach.[73] Confusion about which approach to follow, could easily lead to therapists not knowing which practices to perform and which should be left for other healthcare practitioners.

Another aspect influencing the variation between the therapists' attitudes towards nutritional practices and the performance thereof could be constraints on therapists' time in which treatments should be performed in order to maximize profit. The client consultation process allows for therapists to gather information through assessment practices which could at times be time consuming. These practices however are needed to establish the most effective treatment plan according to the clients' needs.[2,30] Therapists emphasized the lack of time to perform a proper consultation within the allocated time frame for treatments.

5.2 EDUCATION AND TRAINING

A successful health and skincare industry is reliant on the education of therapists. According to Perreira Lima education is the "*action of educating".*[74] Furthermore he states that it is a process during which attitudes are formed, knowledge is built and criticism and the capacity to intervene are implemented, whilst focusing on the transformation of reality.[74]

The syllabus for health and skincare training in its entirety, but also subject syllabuses should serve the specific purpose of ensuring effective transformation of knowledge within the educational system.[75] Nutrition education is central to the process which empowers therapists

with the information they need to develop knowledge and skills to address nutritional issues in their daily practices.[70] From the results, it is apparent that training institutions are not providing standardized nutritional training. It seems that despite using the same syllabus as the basis for nutritional training at the various SAAHSP accredited training institutions, the information students receive differs in volume and depth. Comprehensive content for a syllabus is not a guarantee that the acquisition of knowledge will be realised.[76]

According to the WHO, comprehensive health education should i) focus on the connection between health problems and the factors causing them, ii) exploit all possible learning opportunities for health, whether it be standardized or pioneering, iii) synchronize health messages from different sources which may influence students' perception and iv) empower students to encourage healthy lifestyles.[77]

The construction of a syllabus to ensure comprehensive health education involves decisions regarding content and the desired outcome to be reached. The success of a syllabus is influenced by the implementation of teaching methods and strategies by lecturers.[75,76] It could therefore be said, that the methods used by lecturers and their subject knowledge plays an important part in the education of students. The methods used by lecturers should facilitate opportunities for experiential learning to develop the students' potential to be able to fulfil their role as professional health and skincare therapists.[28,75,76]

It seems that the nutrition training received was mostly basic theory and that the training lacked the application of this knowledge, especially for skincare. This leads to therapists not feeling confident enough to advise clients about nutrition, despite their belief that they have sufficient nutritional knowledge and training to do so. This lack of confidence is reflected in the number of therapists not discussing the importance of nutrition in skincare with their clients.

The effective experience of educational material is determined by an individual's history of either success or failure.[78] Experiences of failure often lead to low motivational levels, feelings of uncertainty and incompetence, which influence the individual's confidence in their ability negatively. On the contrary, successful endeavours lead to a positive self-esteem, feelings of competence and confidence. A positive experience encourages participation in educational

activities and practices.[78] Although there was no correlation found between the total knowledge and the years employed (mean 4.5years) or age of therapists, it is interesting to notice that the therapists are, on average, very young and inexperienced. Should a therapist be exposed to more practical experience within the industry, an increase in successful experiences with regard to the application of knowledge in practice will occur and lead to increased confidence in their own competence. With each successful, attempt the therapist would have gained more knowledge and experience on how to successfully apply theoretical knowledge in practice.[78] This will encourage therapists to increase their nutritional knowledge and empower them to advise clients about nutrition with more confidence. The level of professional experience and age of the therapists could therefore also be a possible reason for therapists' lack of confidence in this regard.

Having a CIDESCO qualification had a significant impact on the nutritional knowledge of the therapists. The results indicate that the mean score of the therapists with this qualification was significantly higher than those not obtaining a CIDESCO qualification. A proposed reason for this is the difference between the focus of SAAHSP and CIDESCO. SAAHSP focuses on setting standards for education, therapists and their practices, whereas CIDESCO focuses on the co-ordination of professional activities and training standards. Through the co-ordination of professional activities and training, CIDESCO brings content and outcomes together, which is a true reflection of outcomes-based education. This CIDESCO perspective is also a realisation of comprehensive health education as described by the WHO.[77] SAAHSP's focus on setting standards does not reflect the integration of education with professional practices.

As nutritional information has a short half-life, it is essential that therapists not only rely on their training, but continue with lifelong learning through which they will continuously acquire new knowledge, skills, values and understanding of nutrition.[79,80] The fast-paced evolution of knowledge, however, does not seem to encourage healthcare practitioners, including therapists, to seek new knowledge. Governing bodies and professional associations the world over aim to sustain practitioners' proficiency to ensure quality care through the establishment of lifelong learning systems.[81] However, Driesen *et al*. reports these lifelong learning systems, supported by continuing education, to be ineffective with regard to the improvement of practitioners' knowledge. This realisation led to the implementation of

continuing professional development programmes which involve the process of reflection, planning, action and evaluation in many countries abroad.[81] The implementation of a lifelong learning system within the health and skincare industry, whether it be a structured continuing education or individualised continuing professional development programme, will strengthen therapists' performance as "*multi-skilled health and skincare professionals*".[70,79]

A lifelong learning system will answer the need for educational opportunities that were identified in this study. The governing bodies of this industry have a responsibility to provide therapists with the chance to continue their education after graduating, but therapists do not seem to feel that the SAAHSP accreditation means a great deal to them.

Moreover the nutritional knowledge acquired should be from evidence-based sources to ensure that the best available research evidence in the field of nutrition is combined with the therapists' knowledge and practical skills during treatments provided.[82-84] It is therefore troubling that the sources of nutrition information are mostly newspapers and magazines which are not evidence-based. These sources infrequently offer appropriate context for their readers to interpret the information provided. Details regarding the amount and frequency of food that needs to be consumed and the target market for which this advice is intended are often omitted.[86] Therapists should be trained in research skills and the interpretation of scientific evidence-based findings to be able to distinguish between science-based information and nutrition misinformation.[87]

A survey, performed by the American Dietetic Association in 2000, to establish trends in nutrition revealed that consumers also rely on the media for nutrition information, with television, magazines and newspapers being the most popular.[87] Mass media is often seen as a tool in the health promotion advocacy process, used to increase awareness of health issues in an attempt to change knowledge, attitudes and behaviour.[25] The media, despite being a probable prolific partner in health promotion, often try to simplify scientific research information into terms familiar to readers or place more importance on issues than they deserve.[70,87] Through this process of making scientific information more understandable, the essential information is often lost and it becomes increasingly more difficult to distinguish nutrition facts from misinformation.[25,87,88]

Gaining knowledge continuously from evidence-based sources will encourage therapists to provide scientifically based answers to clients' nutrition-related questions, not only during body therapies, but also during facial or skincare treatments. Therapists will be able to clarify and eliminate possible misinformation regarded by consumers as accurate.[87] Applying evidence-based knowledge in practice will contribute to the credibility and value of health and skincare therapists as functioning members of a MDT as defined by SAQA.[6,84]

5.3 INTEGRATED PRACTICES

Therapists' obligation to sell expensive body and skincare products forces them to spend extra time on marketing and selling these products. This could be a contributing factor to the inconsistency between therapists' attitudes and practices, but also provides an opportunity for applying evidence-based information. In this regard there seems to be a lack of understanding that when performing the basic nutritional practices, they would be empowered to underscore marketing techniques with scientific information.[89] Consumers' obsession with the prevention of illness through self-care, creates a need for preventative measures, including the use of protective and regenerating body and skincare products.[87] Adding to this is the consumer's cognitive *"need to know".*[89] Combining these factors (consumers' obsession with prevention and urge to know) establishes a platform for therapists to emphasise the necessity for their products. Presenting clients with scientific evidence for the superiority of particular products, whilst performing basic nutritional practices during therapy sessions, would increase the consumers' confidence in the products and the knowledge and skills of therapists.[32] This could ultimately have a positive influence on profit margins of salons and spa's.

It was found that the majority of therapists, who offer nutritional assessments to their clients, do not offer nutritional management services. Their preference for referring clients to other specialists is compatible with their feeling towards working as part of a MDT.

Being part of the MDT seems important to therapists, but they agree that they cannot replace other members of the team. They feel they have a role to play in providing general healthy eating guidelines to clients, but not to breach the scope of practice of dieticians in the

assessment of nutritional status, prescribing nutritional advice for therapeutic conditions or advising about supplementation.[90]

The nature of health and skincare therapies supports complementary medicine where practice aims at restoring holistic wellness of clients. Being central to the philosophy of complementary medicine that all systems are interconnected, nutrition can explicitly be recognised as the component connecting all systems.[73] Adequate nutrition education should therefore be one of the main concerns for the governing bodies when establishing outcomes for health and skincare therapy.

CHAPTER 6
CONCLUSION AND RECOMMENDATIONS

6.1 CONCLUSION

The study has shown that the nutritional knowledge of health and skincare therapists is above the accepted standard of SAAHSP. However, poor understanding of the function of nutrients and therapists' lack of nutritional knowledge regarding skincare specifically, confirms speculations that health and skincare therapists are unable to apply nutritional knowledge in practice.

Despite therapists' belief that nutrition links health and skincare and promotes comprehensive holistic practices, they feel incompetent to perform nutritional assessment practices to ensure holistic treatments.

Therapists' lack of confidence in providing clients with nutritional advice, especially regarding skincare, reveals inadequate facilitation of experiential learning during training. This reflects a need for an evaluation of the current NHSS to improve health and skincare training and initiate new approaches to the application of knowledge in practice.

This study provides unique information for the education sector to develop a lifelong learning system and empower students with evidence-based information. Furthermore, standardized nutritional training should be guaranteed through the schooling of lecturers in the field of nutrition and skincare. This will allow for a more comprehensive, effective and practical nutrition syllabus within the broader syllabus for health and skincare.

The findings suggest the need for an evaluation of the focus of the governing bodies of the health and skincare industry and the restructuring thereof to reflect the integration of education in the professional industry.

Furthermore, this study provides evidence to the professional health and skincare industry that thorough consultation, although it may take more time, would improve client satisfaction and ultimately lead to economic growth in the industry.

6.2 RECOMMENDATIONS

- Lifelong learning systems should be implemented to present therapists with educational opportunities to support them in expanding their nutritional knowledge, especially with regard to skincare.
- The CIDESCO syllabus should be investigated and used to improve the current NHSS and standardize training.
- The current NHSS should be improved to include time for the application of nutritional knowledge regarding skincare into practice within a classroom and professional setting during experiential learning.
- The value of governing bodies within the industry should be investigated and where necessary be restructured to ensure effective functioning.
- A statutory body, responsible for regulating standards of education, professional practice, and development of therapists through lifelong learning programs should be formed. Registration with this statutory body should be compulsory for all student and practicing therapists to sustain high standards of professional and ethical conduct.
- The scope of practice of therapists, with regard to nutrition, should be well defined to prevent therapists from intruding on the specialization of dieticians.
- Partnerships between the educational and the professional sector should be established to ensure that the expectations of clients are met on all levels.
- Communication between various healthcare professionals should be improved through establishing effective MDTs.

6.3 LIMITATIONS OF THE STUDY

- Limited direct access to therapists and the distribution of the questionnaires during the South African holiday season negatively impacted on the response rate.
- The response rate could not be compared with similar studies, as no other study using health and skincare therapists as subjects, could be traced.
- The lack of accessible scientific information regarding the interaction between nutritional habits and skincare.

CHAPTER 7
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CHAPTER 8
ADDENDA

ADDENDUM 1: NUTRITION FOR HEALTH AND SKINCARE THERAPY SYLLABUS

SPECIFIC OUTCOME 1			
1.	**The learner will be able to recognise and recommend good nutritional principles to the client.**		
ASSESSMENT CRITERIA		**RANGE STATEMENT**	
1.1	Define nutrition and its importance.	1.1	Basic nutritional requirements
1.2	Link the physiology of the digestive tract to nutrition.	1.2	
1.3	Identify the 5 basic food groups	1.3	Give examples of each.
1.4	Calculate proportions and nutritional value of recommended daily intake.	1.4	▪ Formulae ▪ Balanced nutrition – the considerations and criteria ▪ Kilojoules / energy

SPECIFIC OUTCOME 2			
2.	**The learner will be able to draw up meal plans and offer advice based on the information of nutrients, dietary sources, RDA's and their implications on the health of the client.**		
ASSESSMENT CRITERIA		**RANGE STATEMENT**	
2.1	Explain the ▪ Composition (chemical structure) ▪ Sources ▪ Uses / functions in the body ▪ Dietary requirements ▪ Metabolism of Carbohydrates	2.1	▪ Monosaccharides, ▪ Disaccharides, ▪ Polysaccharides ▪ CHO in the animal kingdom ▪ Excessive intake ▪ Blood sugar ▪ Diabetes, hypoglycaemia ▪ Refined sugars
2.2	Explain the ▪ Composition (chemical structure) ▪ Sources ▪ Uses / functions in the body ▪ Dietary requirements ▪ Metabolism of Proteins	2.2	▪ Essential amino acids ▪ Non-essential amino acids ▪ Classification
2.3	Explain the ▪ Composition (chemical structure) ▪ Sources ▪ Uses / functions in the body ▪ Dietary requirements ▪ Metabolism of Lipids	2.3	▪ Classification ▪ Fatty acids ▪ Properties ▪ Unavoidable / hidden fats ▪ Cholesterol
2.4	Explain the ▪ Composition (chemical structure) ▪ Sources ▪ Uses / functions in the body ▪ Dietary requirements ▪ Metabolism of Vitamins, Water soluble, Fat soluble Vit A, B_1, B_2, B_6, Biotin, Vit C, Vit D, Vit E, (Vit F), Folic Acid, (Vit K).	2.4	▪ Explain how they work ▪ Explain when they should be taken ▪ Nutrients – micro and macro ▪ Forms of vitamins ▪ Synthetic vs. organic ▪ Chelation ▪ Time release / sustained release ▪ Binders
2.5	Explain the ▪ Composition (chemical structure) ▪ Sources ▪ Uses / functions in the body ▪ Dietary requirements ▪ Metabolism of Minerals.	2.5	▪ Trace elements ▪ Electrolytic balance

SPECIFIC OUTCOME 2			
2.	**The learner will be able to draw up meal plans and offer advice based on the information of nutrients, dietary sources, RDA's and their implications on the health of the client.**		
ASSESSMENT CRITERIA		**RANGE STATEMENT**	
2.6	Explain the ▪ Composition (chemical structure) ▪ Sources ▪ Uses / functions in the body ▪ Dietary requirements ▪ Metabolism of Water.	2.6	▪ Value ▪ Function ▪ Lack of Water
2.7	Explain the ▪ Composition (chemical structure) ▪ Sources ▪ Uses / functions in the body ▪ Dietary requirements ▪ Metabolism of Fibre.	2.7	▪ Definition ▪ Sources ▪ Functions ▪ Explain how it works ▪ Recommend portions per day
2.8	Explain the ▪ Composition (chemical structure) ▪ Sources ▪ Uses / functions in the body ▪ Dietary requirements ▪ Metabolism of Supplements.	2.8	
2.9	Draw up an Eating Plan pyramid to indicate the importance thereof.	2.9	▪ Ratios ▪ Link to consultation
2.10	Discuss malnutrition (due to the lack of the above) and explain the physical and physiological changes occurring within the body.	2.10	▪ Beri-beri ▪ Kwashiokor ▪ Rickets ▪ Identify contributing factors ▪ Prevention

SPECIFIC OUTCOME 3

3. The learner will be able to advise the client on healthy eating principles with the scientific basis of Metabolism as the point of departure.

ASSESSMENT CRITERIA		RANGE STATEMENT	
3.1	Explain Metabolic processes	3.1	▪ Anabolism ▪ Catabolism ▪ BMR
3.2	Explain CHO Metabolism	3.2	▪ Enzymes ▪ Physical changes
3.3	Explain Lipid Metabolism	3.3	▪ Enzymes ▪ Physical changes
3.4	Explain Protein Metabolism	3.4	▪ Enzymes ▪ Physical changes

SPECIFIC OUTCOME 4

4. The learner will be able to recommend food intake guidelines by relating it to Body Energy Balance

ASSESSMENT CRITERIA		RANGE STATEMENT	
4.1	Explain "Body Energy Balance" in relation to Regulation of food intake	4.1	Intake < Output
4.2	Explain "Body Energy Balance" in relation to Metabolic Rate – body heat production	4.2	
4.3	Explain "Body Energy Balance" in relation to Regulation of body temperature	4.3	

SPECIFIC OUTCOME 5			
5.	**The learner will be able to offer guidance to clients by instituting Energy Modifications to a lifestyle approach for optimum health.**		
ASSESSMENT CRITERIA		**RANGE STATEMENT**	
5.1	Discuss "obesity" using the following headings:	5.1	▪ Causes ▪ Dangers ▪ Treatments / recommendations and applicable referrals
5.2	Explain the dangers, advantages and disadvantages of slimming preparations and fad diets and unusual methods.	5.2	Give examples to illustrate your reasoning
5.3	Explain the strategies to employ that help maintain weight loss.	5.3	Referrals
5.4	Identify the causes and influences on an individual who is underweight and explain the physical, psychological and physiological consequences thereof	5.4	Referrals
5.5	Give a detailed explanation of the causes, effects (physical, psychological and physiological) and the treatment options for the following conditions: ▪ Anorexia Nervosa ▪ Bulimia Nervosa	5.5	Referrals

SPECIFIC OUTCOME 6			
6.	**The learner will be able to offer advise on the Modification of Fibre Content of a client's eating programme.**		
ASSESSMENT CRITERIA		**RANGE STATEMENT**	
6.1	Define Fibre.	6.1	Sources
6.2	Explain the modification of fibre in relation to importance of roughage	6.2	
6.3	Explain the modification of fibre in relation to Constipation and recommended eating plan	6.3	Referral
6.4	Explain the modification of fibre in relation to Diarrhoea and recommended eating plan	6.4	Referral

SPECIFIC OUTCOME 7			
7.	**The learner will be able to offer guidance to support the client selecting a Vegetarianism lifestyle.**		
ASSESSMENT CRITERIA		**RANGE STATEMENT**	
7.1	Give a detailed explanation of the concept behind Vegetarianism, what it all entails, the types and the deficiencies related to the eating plan.	7.1	▪ Vegetarianism ▪ Vegan, etc.

NOTES:

Safe and hygienic work practises means that the required levels of hygiene are maintained at all times and that the equipment, tools, materials, treatment areas and the working environment are cleaned and sanitised in the appropriate manner.

Professional manner is continuously assessed according to aspects such as ethical standards, personal and interpersonal skills, body language, verbal and non – verbal communication, posture and personal appearance.

Formative assessment tools:

Written / oral tests
Observation in the workplace
Projects
Logbooks
Client record cards

Summative assessment tool:

Written/Oral tests
The written / oral test will consist of a question paper supplied by the ETQA.

Practical Demonstration
Integrate into consultation and recommendations.

CRITICAL CROSS – FIELD OUTCOMES SUPPORTING THIS UNIT

1. **Identify and solve problems in which responses display that responsible decisions using critical and creative thinking have been made (consultation card).**
2. **Collect, analyse, organise and critically evaluate information (consultation card).**
3. **Communicate effectively using visual, mathematical and / or language skills in the modes of oral and / or written presentation (consultation card).**
4. **Use science and technology effectively and critically, showing responsibility towards the environment and health of others.**

EMBEDDED KNOWLEDGE:

The purpose of a consultation, the procedure and techniques involved:
Client record card, the purpose and the information to be recorded;
Linking recorded information to prescription;
The digestive system, physiology of digestive tract, enzymes;
Applied physiology;
Chemistry;
Procedure for assessment;
Problem solving.

ADDENDUM 2: Summary of Delphi Group Members

Delphi Member	Qualification	Reason for inclusion in Delphi group	Participated
1.	Diploma in Somatology	Lecturer in wellness studies 1,2,3 (This subject is the equivalent of Somatechniques or skin and body care)	√
2.	Degree in zoology, biology and entomology	Lecturer in anatomy, cosmetic science, nutrition, aromatherapy chemistry and pathology at a SAAHSP accredited health and skincare Institute	√
3.	Diploma in Somatology	Lecturer in slimming and electrical equipment used for facial and slimming treatments at the somatology department of a state university	√
4.	Registered Dietician	Lecturer in nutrition at health and skincare institute	√
5.	Diploma Somatology	Lecturer in skin ageing, epilation and make-up at private health and skincare institute	√
6.	Diploma in health and skincare	Lecturer in electrical equipment used for slimming, Plastic Surgery, Spa Therapy, Lymph Drainage	√
7.	Registered Dietician	Lecturer in Anatomy, Physiology, Dermatology, Nutrition, Chemistry, Hygiene& Sterilization, Natural Science at SAAHSP accredited health and skincare institute	√
8.	BSc Home Economics (Ed)	Lecturer in Health and Skincare & Textbook coordinator	Declined participation due to time constraints
9.	Unknown	Founder of Zendegis Nutritional supplements	No reply
10.	Unknown	Part-time lecturer in nutrition at a SAAHSP accredited health and skincare institute	No reply

ADDENDUM 3: FINAL SURVEY QUESTIONNAIRE

KNOWLEDGE, ATTITUDE AND PRACTICE QUESTIONNAIRE

SECTION 1
DEMOGRAPHIC INFORMATION
Complete the following by filling in the correct information in the open spaces or by making a cross (X) in the box provided. Please answer **ALL** the questions.

SUBJECT NUMBER ***(OFFICE USE ONLY)***			
Date	Day:	Month:	2007
Age (in years)			
Gender		M	F
Town			

1. Are you individually registered with SAAHSP?

YES	NO

2. Which of the following qualifications do you have?

A	SAAHSP	YES	NO
B	CIDESCO	YES	NO
C	ITEC	YES	NO

CIBTEC?

3. At which training institute did you complete your education in health and skincare?

4. How many years have you been employed as a professional Health and Skin Care therapist?

5. Was nutrition offered as a module during your training?

YES	NO

6. How many nutrition related seminars/workshops have you attended during the past year?

7. If educational nutrition workshops were held close to/at your workplace would you be interested in attending?

YES	NO

8. What is the age range of **most** of your clients? (**Cross (X) only one**)

A	Birth – 10 years	1
B	11-20 years	2
C	21-30 years	3
D	31-40 years	4
E	40+ years	5

9. Which of the following **best** describes your work setting? (**Cross (X) only one**)

A	Beauty Salon	1
B	Home based salon	2
C	Hotel/Spa/Game Lodge	3
D	Mobile/Freelance	4
E	Medical Centre	5
F	School/College Clinic	6
G	Nail Salon	7
H	Other	8

SECTION 2
This section is divided into two separate sections.
Please follow the instructions carefully and answer **ALL** the questions.

SECTION 2A:
GENERAL NUTRITIONAL KNOWLEDGE
This section comprises of three (3) sub-sections:

SUB-SECTION 1: MULTIPLE CHOICE
The following questions are all multiple choice.
At each question, make a cross(x) in only **ONE of the numbered** boxes next to the options. Choose the **MOST SUITABLE** answer.

1. According to the Food Guide Pyramid, which foods should form the foundation of a healthy diet?

Vegetables	1
Breads, cereals, rice, pasta	2
Fruits	3
Milk, yogurt, cheese	4

2. The dietary monosaccharides include:

Sucrose, fructose, and glucose	1
Glucose, fructose and galactose	2
Lactose, maltose and glucose	3
Glycogen, starch and fiber	4

3. When the body uses fat for fuel without the help of carbohydrate, this results in the production of:

Ketone bodies	1
Glucose	2
Starch	3
Galactose	4

4. Which of the following are not energy-yielding nutrients?

Vitamins	1
Carbohydrates	2
Fat	3
Protein	4

5. A benefit to health is seen when_____ is used in place of_____ in the diet.

Saturated fat/monounsaturated fat	1
Saturates fat/polyunsaturated fat	2
Monounsaturated fat/saturated fat	3
Polyunsaturated fat/cholesterol	4

6. Which of the following statements are not true? Fats:

Supply glucose	1
Provide energy	2
Protect against organ shock	3
Carry vitamin A, D, E and K	4

7. The essential fatty acids include:

Stearic acid and oleic acid	1
Oleic acid and linoleic acid	2
Palmitis acid and linolenic acid	3
Linoleic acid and linolenic acid	4

8. The lipoprotein most associated with a high risk of heart disease is:

CHD	1
HDL	2
LDL	3
LPL	4

9. Which of the following reflects height and weight?

Body Mass Index	1
Skinfold measures	2
Waist-to-hip ratio	3
Bioelectrical impedance	4

10. Successful weight loss depends on:

Avoiding fats and limiting water	1
Taking supplements and drinking water	2
Increasing proteins and restricting carbohydrates	3
Reducing energy intake and increasing physical activity	4

11. Which provides the most absorbable iron?

1 apple	1
1 cup of milk	2
90g steak	3
½ cup of spinach	4

12. How many servings of fruit and vegetables does a person need to eat per day? (One serving could be, for example, an apple or a handful of chopped carrots)

Two	1
Three	2
Four	3
Five or more	4

13. The Fruit and Vegetable group is a good source of which nutrients?

Iron and protein	1
Vitamin C and fiber	2
Vitamin B12 and D	3
Vitamin A and Calcium	4

SUB-SECTION 2: YES *OR* NO

Each question is followed by a list of food items.
Cross(x) ***either*** **YES** if you agree ***or*** **NO** if you don't agree for **each** of the food items in the list.

14. Do you think these are high in added sugar?

Food Item	*YES*	*NO*
Bananas		
Unflavored yogurt		
Ice cream		
Orange squash		
Tomato ketchup		
Tinned peaches		

15. Do you think these are high in total fat?

Food Item	*YES*	*NO*
Spaghetti (without sauce)		
Toasted Muesli		
Rice		
Olive oil		
Honey		
Nuts		
Bread		
Cream cheese		
Polyunsaturated margarine		
Yellow Cheese (e.g. Gouda/ Cheddar)		

16. Do you think these are high in salt?

Food Item	*YES*	*NO*
Sausages		
Pasta		
Corned beef		
Mixed frozen vegetables		
Cheese		
Canned tuna		

SUB-SECTION 3: TRUE *OR* FALSE
Please indicate whether you think the following statements are true or false.
Cross(x) ***either*** **TRUE *or* FALSE** next to **each** statement.

17. ½ a glass of unsweetened fruit juice counts as a helping of fruit.	*True*	*False*
18. There is more calcium in a glass of whole milk than in a glass of skimmed milk	*True*	*False*
19. Cholesterol is only found in animal products	*True*	*False*
20. To reduce your cholesterol level it is more important to eat less saturated fat than cholesterol	*True*	*False*
21. The body converts excesses of glucose into glycogen or fat	*True*	*False*
22. Given the same number of calories from excess dietary fat or carbohydrate, the body stores more calories from the fat than from the carbohydrate	*True*	*False*
23. The body's defense against free radical damage include vitamin E, Vitamin C, Beta-Carotene, and phytochemicals	*True*	*False*
24. The best way to control salt intake is to cut down on processed and fast foods	*True*	*False*

SECTION 2B:
NUTRITIONAL KNOWLEDGE RELATED TO SKINCARE

The following questions are all multiple choice.
Please **answer all** the questions, by making a cross(x) in only **ONE of the numbered** boxes next to the options. Choose the **MOST SUITABLE** answer.

1. Clients with acne skin need Vitamin A for the:

Renewal of scar tissue	1
Maintenance of healthy collagen	2
Decrease in sebum production	3
Synthesis of elastin	4

2. Deficiency signs of Zinc include:

Stretch marks	1
Eczema or Dermatitis	2
Premature aging	3
Slow wound healing	4

3. Rosacea is aggravated by:

Fruit	1
Spicy food	2
Milk	3
Deep fried food	4

4. Inadequate intake of essential amino acids and unsaturated fatty acids could result in an impaired

Barrier of Rein	1
Acid Mantle	2
Reticular layer	3
Stratum Granulosum	4

5. Inadequate intake of essential fatty acids Omega 3&6 and vitamin E could result in an impaired

Barrier of Rein	1
Acid Mantle	2
Reticular layer	3
Stratum Granulosum	4

6. Scaling of the skin around the nostrils may be a deficiency sign of

Vitamin B	1
Vitamin E	2
Vitamin C	3
Vitamin A	4

SECTION 3
YOUR FEELINGS (ATTITUDE) TOWARDS NUTRITION IN YOUR INDUSTRY

Below is a list of 10 statements. These statements are designed to provoke response. They do not necessarily reflect the opinions of the researcher.
Please **answer all** the questions by making a **cross(x)** in **only ONE** of the numbered boxes where:

4 = Strongly Agree
3 = Agree
2 = Disagree
1 = Strongly Disagree

1. I feel I know enough about nutritional causes that might attribute to skin problems.

Strongly agree	Agree	Disagree	Strongly disagree
4	3	2	1

2. I feel I can appropriately advise my clients about nutrition and its effect on the skin.

Strongly agree	Agree	Disagree	Strongly disagree
4	3	2	1

3. I feel I have the right to ask my clients about their dietary habits when I have identified possible problems.

Strongly agree	Agree	Disagree	Strongly disagree
4	3	2	1

4. I feel that my clients expect me to have answers to their nutrition-related questions.

Strongly agree	Agree	Disagree	Strongly disagree
4	3	2	1

5. I believe I have received the training I need to identify clients' nutritional status.

Strongly agree	Agree	Disagree	Strongly disagree
4	3	2	1

6. I believe I have received the training I need to advise clients about healthy eating habits.

Strongly agree	Agree	Disagree	Strongly disagree
4	3	2	1

7. I feel that more intense theoretical training with regard to nutrition is needed at health and skincare colleges and training facilities.

Strongly agree	Agree	Disagree	Strongly disagree
4	3	2	1

8. I feel that more intense practical application of nutritional knowledge is needed at health and skincare institutes.

Strongly agree	Agree	Disagree	Strongly disagree
4	3	2	1

9. I feel that nutritional counseling should form part of any health and skincare treatment.

Strongly agree	Agree	Disagree	Strongly disagree
4	3	2	1

10. I feel that any clinic/salon should provide the service of a dietician.

Strongly agree	Agree	Disagree	Strongly disagree
4	3	2	1

SECTION 4:
YOUR PRACTICE

The following questions are based on a possible course of action that you as a therapist may take during treatment sessions.
Make a **cross(x)** on the number next to the statement as indicated at each question.

1. Which of the following disciplines are included in your menu of services?
(Cross(x) **all relevant** options)

Facials (manual &/ electrical)	1
Waxing	2
G5	3
Body faradic	4
Vacuum Suction of the body	5
Body Wraps	6
Body Exfoliations	7
Swedish Massage	8
Aromatherapy message	9
Lymph Drainage	10
Hot Stone Massage	11

2. In your primary job have you done the following in the past year? :
(Make a cross(x) on ***either*** Yes (1) or No (2) **at each option**)

	Yes	No
Conduct dietary intake interviews		
Take family medical histories		
Take personal medical histories		
Provide nutritional assessment		
Advise on nutritional intervention/treatment		
Interpret assessment results to clients		
Keep records of nutritional reports of your clients		
Provide nutritional management services		
Refer clients to a registered dietician		
Refer clients to a medical doctor		
Record nutrition related skin problems		

3. With how many of your clients have you discussed the nutritional importance of their skin conditions? (Cross(x) only **ONE** of the numbered boxes)

Most : 51%+	4
Some : 26 - 50%	3
A few : 1-25%	2
None	1

4. Do you offer nutrition counseling **as part** of your **body therapy** sessions?

YES	NO

5. Do you offer nutrition counseling **as part** of your **facial therapy** sessions?

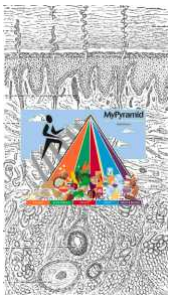
YES	NO

6. Within the past 6 months, from which of the following sources have you learned the **most** about nutrition? (Cross(x) only **ONE** of the numbered boxes)

Newspaper/Magazines	1
TV/Radio	2
Internet	3
Journals/Books/Newsletters	4
Conferences	5
Continuous education courses/workshops	6

THANK YOU FOR TAKING THE TIME TO COMPLETE THE QUESTIONNAIRE.

Please return your questionnaire to your owner/manager by no later than **THURSDAY 13 DECEMBER 2007**



ADDENDUM 4: POOL OF QUESTIONS SUBMITTED TO THE DELPHI-GROUP

A) General knowledge questions

The following 3 sections of general nutritional knowledge questions were compiled from various nutritional textbooks and are based on the SAAHSP nutrition syllabus.

SECTION 1:

Please select the 20 questions you believe are relevant and important to test the general nutritional knowledge of health and skincare therapists – Ring either YES / NO next to each question.

1. The DRIs were devised for which purpose:

YES / NO

To set nutrition goals for individuals	1
To suggest upper limits of intakes, above which toxicity is likely	2
To set average nutrient requirements for use in research	3
All of the above	4

2. According to the Food Guide Pyramid, which foods should form the foundation of a healthy diet?

YES / NO

Vegetables	1
Breads, cereals, rice, pasta	2
Fruits	3
Milk, yogurt, cheese	4

3. Which nutrient passes through the large intestines mostly unabsorbed?

YES / NO

Starch	1
Vitamin	2
Mineral	3
Fiber	4

4. The dietary monosaccharides include:

YES / NO

Sucrose, fructose, and glucose	1
Glucose, fructose and galactose	2
Lactose, maltose and glucose	3
Glycogen, starch and fiber	4

5. When the body uses fat for fuel without the help of carbohydrate, this results in the production of:

YES / NO

Ketone bodies	1
Glucose	2
Starch	3
Galactose	4

6. Which of the following are not energy-yielding nutrients?

YES / NO

Vitamins	1
Carbohydrates	2
Fat	3
Protein	4

7. A benefit to health is seen when_____ is used in place of_____ in the diet.

YES / NO

Saturated fat/monounsaturated fat	1
Saturates fat/polyunsaturated fat	2
Monounsaturated fat/saturated fat	3
Polyunsaturated fat/cholesterol	4

8. The basic building blocks of proteins are:

YES / NO

Glucose units	1
Amino acids	2
Side chains	3
Saturated bonds	4

9. Water excretion is governed by the:

YES / NO

Liver	1
Kidneys	2
Brain	3
Kidneys and brain	4

10. Which of the following statements about basal metabolic rate (BMR) is correct?

YES / NO

The more fat tissue, the higher the BMR	1
The more thyroxine produced, the higher the BMR	2
Fever lowers BMR	3
Pregnant women have lower BMRs	4

11. The obesity theory that suggests that the body chooses to be at a specific weight is the:

YES / NO

Set-point theory	1
Enzyme theory	2
Fat cell theory	3
External cue theory	4

12. Which of the following is a recommended weight-loss strategy?

YES / NO

Muscle stimulators	1
Stomach stapling	2
Herbs containing ephedrine	3
None of the above	4

13. Which of the following is a possible physical consequence of fasting?

YES / NO

Loss of lean body tissues	1
Lasting weight loss	2
Body cleansing	3
All of the above	4

14. Which of the following dietary factors may help to regulate blood pressure?

YES / NO

Calcium	1
Magnesium	2
Potassium	3
All of the above	4

15. The inorganic nutrients are:

YES / NO

Proteins and fat	1
Vitamins and minerals	2
Minerals and water	3
Vitamins and proteins	4

16. RDA stands for:

YES / NO

Required Daily Average	1
Reference Dietary Average	2
Recommended Dietary Allowances	3
Regulations on Deficiency and Adequacy	4

17. The diet-planning principle that provides all the essential nutrients in sufficient amounts to support health is:

YES / NO

Balance	1
Variety	2
Adequacy	3
Moderation	4

18. Daily Values of food labels are based on a:

YES / NO

1500-kcalorie diet	1
2000-kcalorie diet	2
2500-kcalorie diet	3
3000-kcalorie diet	4

19. Which nutrients leave the GI tract by way of the lymphatic system? :

YES / NO

Water and minerals	1
Protein and minerals	2
All vitamins and minerals	3
Fats and fat-soluble vitamins	4

20. Carbohydrates are found in virtually all foods except:

YES / NO

Milks	1
Meats	2
Breads	3
Fruits	4

21. The ultimate goal of carbohydrate digestion and absorption is to yield:

YES / NO

Fibers	1
Glucose	2
Enzymes	3
Amylase	4

22. Which of the following statements are not true? Fats:

YES / NO

Supply glucose	1
Provide energy	2
Protect against organ shock	3
Carry vitamin A, D, E and K	4

23. The essential fatty acids include:

YES / NO

Stearic acid and oleic acid	1
Oleic acid and linoleic acid	2
Palmitis acid and linolenic acid	3
Linoleic acid and linolenic acid	4

24. The lipoprotein most associated with a high risk of heart disease is:

YES / NO

CHD	1
HDL	2
LDL	3
LPL	4

25. Which of these foods contains the least protein per serving?

YES / NO

Rice	1
Broccoli	2
Pinto beans	3
Orange juice	4

26. The largest component of energy expenditure is:

YES / NO

Basal metabolism	1
Physical activity	2
Indirect calorimetry	3
Thermic effect of foods	4

27. The major factor influencing BMR is:

YES / NO

Gender	1
Food intake	2
Body composition	3
Physical activity	4

28. To ensure good health, a person with a body mass index (BMI) of 21 might want to

YES / NO

Lose weight	1
Maintain weight	2
Gain weight	3

29. Which of the following reflects height and weight?

YES / NO

Body Mass Index	1
Skinfold measures	2
Waist-to-hip ratio	3
Bioelectrical impedance	4

30. Which of the following increases disease risks?

YES / NO

BMI 19-21	1
BMI 22-25	2
Lower body fat	3
Central obesity	4

31. With fat loss, fat cells:

YES / NO

Decrease in size only	1
Decrease in number only	2
Decrease in both number and size	3
Decrease in number, but increase in size	4

32. Obesity is caused by:

YES / NO

Overeating	1
Inactivity	2
Defective genes	3
Multiple factors	4

33. Weight loss is successful when an obese person reduces bodyweight:

YES / NO

Down to weight he/she was at 25 years of age	1
Down to ideal weight in the weight-for-height tables	2
By 5% and maintain that loss for at least 1 year	3
By 15% and maintain that loss for at least 3 months	4

35. Successful weight loss depends on:

YES / NO

Avoiding fats and limiting water	1
Taking supplements and drinking water	2
Increasing proteins and restricting carbohydrates	3
Reducing energy intake and increasing physical activity	4

36. Which strategy would not help an overweight person to lose weight?

YES / NO

Exercise	1
Eat slowly	2
Limit high-fat foods	3
Eat energy-dense foods regularly	4

37. Which strategy would not help an underweight person to gain weight?

YES / NO

Exercise	1
Drink plenty of water	2
Eat snacks between meals	3
Eat large portions of foods	4

38. Vitamins:

YES / NO

Are inorganic compounds	1
Yield energy when broken down	2
Are soluble in either water or fat	3
Perform best when linked in long chains	4

39. With respect to thiamin, which of the following is the most nutrient dense?

YES / NO

1 slice whole-wheat bread(69 kcalories and 0.1 mg thiamin)	1
1 cup of yogurt (144 kcalories and 0.1mg thiamin)	2
1 cup snow peas (69 kcalories and 0.22 mg thiamin)	3
1 chicken breast (141 kcalories and 0.06 mg thiamin)	4

40. Which of the following is a B-vitamin?

YES / NO

Inositol	1
Carnitine	2
Vitamin B15	3
Pantothenic acid	4

41. Vitamin C serves as a (n):

YES / NO

Coenzyme	1
Antagonist	2
Antioxidant	3
Intrinsic factor	4

42. The RDA for vitamin C is the highest for:

YES / NO

Smokers	1
Athletes	2
Alcoholics	3
The elderly	4

43. Fat-soluble vitamins:

YES / NO

Are easily excreted	1
Seldom reach toxic levels	2
Require bile for absorption	3
Are not stored in the body's tissues	4

44. Good sources of vitamin A include:

YES / NO

Cooked ham, oatmeal	1
Chicken liver, raw apricots	2
Canned tuna, green peas	3
Mealie (Corn-on-the-cob), fresh grapefruit juice	4

45. The body generates water during the:

YES / NO

Buffering of acids	1
Dismantling of bone	2
Metabolism of minerals	3
Breakdown of energy nutrients	4

46. Regulation of fluid and electrolyte balance and acid-base balance depends primarily on the:

YES / NO

Kidneys	1
Intestines	2
Sweat glands	3
Specialized tear ducts	4

47. The distinction between the major and trace minerals reflect the:

YES / NO

Ability of their ions to form salts	1
Amounts of their contents in the body	2
Importance of their function in the body	3
Capacity to retain their identity	4

48. The role of chloride in the stomach is to help:

YES / NO

Support nerve impulses	1
Convey hormonal messages	2
Maintain a strong acidity	3
Assist in muscular contractions	4

49. Which would provide the most potassium?

YES / NO

Bologna	1
Potatoes	2
Pickles	3
Whole-wheat bread	4

50. Which of these people are least likely to develop an iron deficiency?

YES / NO

3-year old boy	1
52-year old man	2
17-year old girl	3
24-year old woman	4

51. Which provides the most absorbable iron?

YES / NO

1 apple	1
1 cup of milk	2
90g steak	3
½ cup of spinach	4

52. The mineral best known for its role as an antioxidant is:

YES / NO

Copper	1
Selenium	2
Manganese	3
Iodine	4

53. Which mineral enhances insulin activity?

YES / NO

Zinc	1
Iodine	2
Chromium	3
Manganese	4

54. Pregnant women should not take supplements of:

YES / NO

Iron	1
Folate	2
Vitamin A	3
Vitamin C	4

55. A true food allergy always:

YES / NO

Elicits an immune response	1
Causes an immediate reaction	2
Creates an aversion to the offending food	3
Involves symptoms such as headaches and hives	4

56. The nutrients most likely to fall short in the adolescent diet are:

YES / NO

Sodium and Fat	1
Folate and Zinc	2
Iron and calcium	3
Protein and Vitamin A	4

57. What is the most effective strategy for most people to lower blood pressure?

YES / NO

Lose weight	1
Restrict salt	2
Monitor glucose	3
Supplement protein	4

58. The most important dietary strategy in diabetes is to:

YES / NO

Provide for a consistent carbohydrate intake	1
Restrict fat to 30% of daily kcalories	2
Limit carbohydrates intake to 300mg a day	3
Take multiple vitamin and mineral supplements daily	4

59. How many servings of fruit and vegetables does a person need to eat per day? (One serving could be, for example, an apple or a handful of chopped carrots)

YES / NO

Two	1
Three	2
Four	3
Five or more	4

60. Which fat is most important for people to cut down on?

YES / NO

Monounsaturated fat	1
Polyunsaturated fat	2
Saturated fat	3

61. A type of oil which contains mostly monounsaturated fat is:

YES / NO

Coconut oil	1
Sunflower oil	2
Olive oil	3
Palm oil	4

62. Which combination of food items fall into the Fats and Lipids food group?

YES / NO

Pasta and rice	1
Mayonnaise and cream	2
Avocado and olives	3
Peanut butter and sardines	4

63. Which combination of food items fall into the Meat and meat alternatives food group?

YES / NO

Yogurt and sardines	1
Peanut butter and cheese	2
Lentils and cream	3
Soya beans and eggs	4

64. The Fruit and Vegetable group is a good source of which nutrients?

YES / NO

Iron and protein	1
Vitamin C and fiber	2
Vitamin B12 and D	3
Vitamin A and Calcium	4

SECTION 2

In the following section each question is followed by a list of foods to which the therapist should answer yes if (s)he agrees and no if (s)he disagrees.

Please select the 3 questions you feel are important and relevant to test the general nutritional knowledge of a health and skincare therapist. Ring either YES or NO next to each question.

65. Do you think these are high in added sugar?

YES / NO

Food Item	*YES*	*NO*
Bananas		
Unflavored yogurt		
Ice cream		
Orange squash		
Tomato ketchup		
Tinned peaches		

66. Do you think these are high in fat?

YES / NO

Food Item	*YES*	*NO*
Spaghetti (without sauce)		
Toasted Muesli		
Rice		
Olive oil		
Honey		
Nuts		
Bread		
Cream cheese		
Polyunsaturated margarine		
Yellow Cheese (e.g. Gouda/ Cheddar)		

67. Do you think experts consider these as starchy food?

YES / NO

Food Item	*YES*	*NO*
Cheese		
Pasta		
Butter		
Nuts		
Rice		
Porridge		

68. Do you think these are high in salt?

YES / NO

Food Item	*YES*	*NO*
Sausages	■	
Pasta		■
Corned beef	■	
Mixed frozen vegetables		■
Cheese	■	
Canned tuna		■

69. Do you think these are high in protein?

YES / NO

Food Item	*YES*	*NO*
Chicken	■	
Cheese	■	
Fruit		■
Lentils	■	
Butter		■
Cream		■

70. Do you think these are high in fiber/roughage?

YES / NO

Food Item	*YES*	*NO*
Oats	■	
Apple juice		■
Red Meat		■
Oranges	■	
Nuts		■
Baked potatoes with skin	■	

SECTION 3: TRUE OR FALSE

Please select 10 true or false questions you believe are relevant and important to test the general nutritional knowledge of health and skincare therapists. Ring either YES or NO next to each answer of the following questions.

71. ½ a glass of unsweetened fruit juice counts as a helping of fruit.	*True*	*False*	*Yes*	*NO*
72. Vitamin A absorption decreases with age	*True*	*False*	*Yes*	*NO*
73. Margarine contains less fat than butter	*True*	*False*	*Yes*	*NO*
74. There is more calcium in a glass of whole milk than in a glass of skimmed milk	*True*	*False*	*Yes*	*NO*
75. Cholesterol is only found in animal products	*True*	*False*	*Yes*	*NO*
76. To reduce your cholesterol level it is more important to eat less saturated fat than cholesterol	*True*	*False*	*Yes*	*NO*
77. The main ingredient in a food is listed LAST on the label	*True*	*False*	*Yes*	*NO*
78. The energy intake recommendation is centered around the average requirements for each age and gender group	*True*	*False*	*Yes*	*NO*
79. The DRIs are for all people, regardless of their medical history	*True*	*False*	*Yes*	*NO*
80. The process of digestion occurs mainly in the stomach	*True*	*False*	*Yes*	*NO*
81. To digest food efficiently, people should not combine certain foods, such as meat and fruit at the same meal	*True*	*False*	*Yes*	*NO*
82. The body converts excesses of glucose into glycogen or fat	*True*	*False*	*Yes*	*NO*
83. Type 2 Diabetes is characterized by insulin resistance of the body's cells	*True*	*False*	*Yes*	*NO*
84. Type 1 Diabetes is most often controlled by successful weight loss and maintenance	*True*	*False*	*Yes*	*NO*
85. Using artificial sweeteners has been proven to help people lose weight	*True*	*False*	*Yes*	*NO*
86. LDL delivers triglycerides and cholesterol from the liver to the body's tissues	*True*	*False*	*Yes*	*NO*
87. Given the same number of calories from excess dietary fat or carbohydrate, the body stores more calories from the fat than from the carbohydrate	*True*	*False*	*Yes*	*NO*
88. Too little protein in the diet can have severe consequences, but excess protein has no adverse effects	*True*	*False*	*Yes*	*NO*
89. In general, nutrient are absorbed equally well from foods and supplements	*True*	*False*	*Yes*	*NO*

90. The best way to consume a diet rich in vitamins is to eat a variety of nutrient-dense foods everyday	*True*	*False*	*Yes*	*NO*
91. The body's defense against free radical damage include vitamin E, Vitamin C, Beta-Carotene, and phytochemicals	*True*	*False*	*Yes*	*NO*
92. You can survive being deprived of water for a week	*True*	*False*	*Yes*	*NO*
93. The best way to control salt intake is to cut down on processed and fast foods	*True*	*False*	*Yes*	*NO*
94. The dairy foods butter, cream and cream cheese are good sources of calcium whereas the vegetables such broccoli are poor sources	*True*	*False*	*Yes*	*NO*
95. A person wishing to gain weight will gain faster by consuming protein supplements in addition to ordinary foods	*True*	*False*	*Yes*	*NO*
96. The best way to plan a diet to support the immune system is to exceed the recommended intake for each nutrient	*True*	*False*	*Yes*	*NO*

B) Pool of nutritional knowledge related to skincare
The following section nutritional knowledge related to skincare questions were compiled from various nutritional textbooks and are based on the SAAHSP nutrition syllabus.

SECTION 1:
Please select the 5 questions you believe are relevant and important to test the nutritional knowledge related to skincare of health and skincare therapists.as before

1. A problem with the digestive system would show signs of congestion in which area on the face?

YES / NO

Jaw line	1
Hairline	2
Cheeks	3
The temples	4

2. Clients with acne skin need Vitamin A for the:

YES / NO

Renewal of scar tissue	1
Maintenance of healthy collagen	2
Decrease in sebum production	3
Synthesis of elastin	4

3. Scaling of the skin around the nostrils may be a deficiency sign of

YES / NO

Vitamin B	1
Vitamin E	
Vitamin C	
Vitamin A	

4. Deficiency signs of Zinc include:

YES / NO

Stretch marks	1
Eczema or Dermatitis	2
Premature aging	3
Slow wound healing	4

5. Cell and tissue damage from free radicals predominantly leads to:

YES / NO

Oily skin	1
Cellulite	2
Premature aging	3
Eczema	4

6. Crash dieting leads to premature sagging and wrinkling of the skin because:

YES / NO

Dieting has an adverse effect on the oxygen carrying capacity of red blood cells	1
Water is drawn from the tissue	2
Skin does not have enough time to adjust to the sudden change	3
Blood circulation decrease	4

7. Rosacea is aggravated by:

YES / NO

Fruit	1
Spicy food	2
Milk	3
Deep fried food	4

8. The following foods are rich in antioxidants and therefore slow down the ageing process:

YES / NO

Bread and biscuits	1
Chicken and red meat	2
Berries and broccoli	3
Pasta and rice	4

9. Inadequate intake of essential amino acids and unsaturated fatty acids could result in an impaired

YES / NO

Barrier of Rein	1
Acid Mantle	2
Reticular layer	3
Stratum Granulosum	4

10. Inadequate intake of essential fatty acids Omega 3&6 and vitamin E could result in an impaired

YES / NO

Barrier of Rein	1
Acid Mantle	2
Reticular layer	3
Stratum Granulosum	4

ADDENDUM 5: E-MAIL INVITATION LETTER TO DELPHI-GROUP EXPERTS

Dear Expert

I am currently completing my Master of Nutrition degree at the University of Stellenbosch. My research project deals with the knowledge, attitudes and practices of health and skin care therapists with regard to nutrition. The aim of my research is to determine how much health and skin care therapists know about nutrition and how they assess their client's nutritional needs.

For the purpose of data collection, I plan to send a questionnaire to all the health and skin care therapists working in SAAHSP accredited clinics around South Africa. The questionnaire consists of five parts, one of which deals specifically with the general nutritional knowledge of the health and skin care therapists. I have consulted various nutritional textbooks in order to compile a pool of 52 multiple choice and 18 True or False questions. The final questionnaire will however contain a maximum of 20 Multiple Choice and 10 True or False questions.

I hereby request your participation in my research project by serving as a member of a panel of independent experts in the field of nutrition, health and skin care.
Each member will receive the pool of questions, via e-mail. It will then be expected of each member to select the 30 general knowledge questions and 5 nutritional knowledge questions relate to skincare which he/she deems as relevant to the health and skin care industry and appropriate to this study. The members will be requested to select their choice of questions and return it to the researcher via e-mail within seven days. The general knowledge part of the pilot study questionnaire will be compiled according to the feedback from the panel of experts.

As a member of the expert panel we kindly request your availability, either telephonically or personally for an interview regarding the information we gather from the final questionnaires after completion of the survey. A time and venue convenient to you will be finalized closer to the time.

The completion of the questionnaire relies heavily on your input. It will be understood if you decide not to form part of the expert panel; however your participation in this regard will be very helpful to me in finalizing the questionnaire for the pilot study.

Please reply to this message by no later than <u>15 October 2007</u> to inform me of your decision.

Thanking you in anticipation of your cooperation
Kind Regards

Ilze Rademeyer

ADDENDUM 6: COVER LETTER FOR PILOT STUDY

UNIVERSITEIT•STELLENBOSCH•UNIVERSITY
jou kennisvennoot • your knowledge partner

7 November 2007

Dear Therapist

RE: Nutrition in the health and skincare industry

I am currently completing my Master of Nutrition degree at the University of Stellenbosch. My research project deals with the knowledge, attitudes and practices of health and skincare therapists with regard to nutrition. The aim of my research is to determine how much therapists know of nutrition, how you assess your client's nutritional needs and whether you feel nutrition has a place in the health and skincare industry.

The following questionnaire is a draft version of the questionnaire that will be sent to therapists working in SAAHSP accredited clinics around South Africa. Your participation, as a qualified therapist, by completing this draft questionnaire will be very helpful to us in realizing the need to make changes to ensure that the final questionnaire is of high quality. It will however be understood if you choose not to answer these questions.

To ensure anonymity, the survey forms will be allocated numbers. No attempt will be made to identify you. Completion of the questionnaire will be seen as consent granted. The information collected will be used for research purposes only. Once the survey is completed, a summary of results will be sent to all participating clinics.

Please complete the following questionnaire by making a cross(x) in the appropriate box, or entering information asked in the space provided.
Should you require assistance whilst completing the questionnaire, please feel free to ask me.

Thanking you in anticipation of your co-operation.
Yours sincerely

IlzeRademeyer

Fakulteit Gesondheidswetenskappe • Faculty of Health Sciences

Verbind tot Optimale Gesondheid • Committed to Optimal Health
Division of Human Nutrition • Afdeling Menslike Voeding
Department of Interdisciplinary Health Sciences • Department Interdissiplinere Gesondheidswetenskappe
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Webblad / Web page: www.sun.ac.za/nutrition; www.sun.ac.za/nicus

ADDENDUM 7: COMMENT SHEET FOR PILOT STUDY

KNOWLEDGE, ATITUDE AND PRACTICE QUESTIONNAIRE

Please feel free to comment or make suggestions with regard to the questionnaire.

SECTION 1: DEMOGRAPHIC INFORMATION
SECTION 2A: GENERAL NUTRITIONAL KNOWLEDGE
SECTION 2B: NUTRITONAL KNOWLEDGE RELATED TO SKINCARE
SECTION 3: YOUR FEELINGS TOWARDS NUTRITON IN YOUR INDUSTRY
SECTION 4: YOUR PRACTICE

ADDENDUM 8: COVER LETTER TO SAAHSP ACCREDITED CLINIC OWNERS

UNIVERSITEIT•STELLENBOSCH•UNIVERSITY
jou kennisvennoot • your knowledge partner

15 November 2007

Dear Clinic Owner/Manager

I refer you to our telephone conversation during April 2007.

I am currently completing my Master of Nutrition degree at University of Stellenbosch. My research project deals with the knowledge, attitudes and practices of health and skincare therapists with regard to nutrition. The aim of my research is to determine how much health and skincare therapists know about nutrition, how they assess their client's nutritional needs and whether they feel nutrition has a place in the health and skincare industry.

I am specifically looking at therapists working in SAAHSP accredited clinics, and hope that you and your staff will participate by answering the enclosed questionnaire. The questionnaire should not take more than 20 minutes to complete. To ensure anonymity, the survey forms are allocated numbers. No attempt will be made to identify respondents. The information collected will be used for my private research only. Once the survey is completed, a summary of results will be sent to all participating clinics

Please distribute the enclosed questionnaires to your staff to be completed and returned in the enclosed stamped addressed envelope by **14 December 2007.**

Thanking you in anticipation of your co-operation. Should you require any further information, please feel free to contact me at: 083 320 6229 or e-mail: ilzerademeyer@vodamail.co.za

Yours sincerely

Ilze Rademeyer

Fakulteit Gesondheidswetenskappe • Faculty of Health Sciences

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Webblad / Web page: www.sun.ac.za/nutrition; www.sun.ac.za/nicus

ADDENDUM 9: COVER LETTER TO THERAPISTS FOR FINAL SURVEY

UNIVERSITEIT•STELLENBOSCH•UNIVERSITY
jou kennisvennoot • your knowledge partner

15 November 2007

Dear Therapist

RE: Nutrition in the health and skincare industry

I am currently completing my Master of Nutrition degree at the University of Stellenbosch. My research project deals with the knowledge, attitudes and practices of health and skin care therapists with regard to nutrition. The aim of my research is to determine how much you know of nutrition, how you assess your client's nutritional needs and whether you feel nutrition has a place in the health and skin care industry.

I am specifically looking at therapists working in SAAHSP accredited clinics, and hope that you participate by answering the following questionnaire. The questionnaire should not take more than 20 minutes to complete. To ensure anonymity, the survey forms will be allocated numbers. No attempt will be made to identify you. It will be understood if you choose not to answer these questions; however a response will be very helpful to us in realizing your needs with regard to nutrition in the health and skin care industry. Completion of the questionnaire will be seen as consent granted. The information collected will be used for research purposes only. Once the survey is completed, a summary of results will be sent to all participating clinics.

Please complete the following questionnaire by ticking the appropriate box, or entering information asked in the space provided. Return the questionnaire to your owner/manager by **13 December 2007.**Should you require any further information, please feel free to contact me at: 083 320 6229 or e-mail: ilzerademeyer@vodamail.co.za

Thanking you in anticipation of your co-operation.
Yours sincerely

Ilze Rademeyer

Fakulteit Gesondheidswetenskappe • Faculty of Health Sciences

Verbind tot Optimale Gesondheid • Committed to Optimal Health
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ADDENDUM 10: POSTCARD USED FOR FOLLOW-UP

Dear Owner/Manager

Not long ago you received a request for your therapists to respond to an inquiry regarding nutrition within the health and skincare industry. If you have returned the questionnaire(s), thank you very much.

If, however you have not yet done so, might you please consider it now?
Your opinions are important, and I would like to obtain a high rate of response to be able to make a positive difference within our industry./address your needs with regard to nutrition.

If you have misplaced the form, you can e-mail me at ilzerademeyer@vodamail.co.za or contact me at 0833206229 and I will be pleased to send you some more questionnaires.
Thank you for your consideration.

Kind regards

Ilze Rademeyer

ADDENDUM 11 – FOCUS GROUP INTERVIEW SCHEDULE

- Why do you think it is important to have knowledge of nutrition?
- Does this knowledge help you in practice (is there a purpose for it?)
- How do you get to the information/ to the point where client asks you about nutrition? Do you take her through a process or is it something that just comes up every now and again?
- What type of questions do you ask to know what is going on in her "nutritional world"
- What do you do with the information that you receive? How do you incorporate it into your treatment? And later your home care advice?
- Do you have one set eating plan which you hand out to everybody? How does it work
- What do you do with a once off client who has a therapeutic nutritional disorder
- Where are we supposed to draw the line/are we suppose to draw a line?
- Are we doing any weight-loss treatments and does this not go hand-in-hand with healthy eating plans/habits?
- Do you know of dieticians to which you can refer clients
- Do you think what you've learned in your 2 years enable you to advice clients during any treatment?
- Where is the contact point between nutrition and specifically skincare?
- Do you know why nutrition is NB in skincare?
- Do you think it is important? Why would you advise clients to follow a healthy balanced eating plan?
- How do you stay up to date
- Do you question?
- Do we have to and why?

ADDENDUM 12: DELPHI GROUP INTERVIEW SCHEDULE

1. Field of expertise
2. What do you think is the purpose of the Nutrition Module as part of the training of health and skincare therapists?
3. What do you think about part-time learners having the option of following the nutrition module?
IF 80% therapists believed that they received the training they need to advice clients about healthy eating habits 4. Why do you think 78% (42% SA) of therapists agreed that more intense theoretical training is needed 5. Why do you think 83% (44%SA) of therapists agreed that more intense practical training is needed at institutions?
IF 82% therapists feel that NC should form part of any health and skincare treatment 6. Why do you think 59% of therapists do not offer nutritional counseling as part of their Body Therapy treatments? 7. Why do you think 63% of therapists do not offer nutritional counseling as part of their Facial Therapy
8. Do you think therapists have a responsibility towards clients with regard to nutrition?
9. Should nutritional assessments form part of training/treatments? 10. How should this information reach SAAHSP? (What to do?)
11. Do you think SAAHSP should include more specific information as to what should be included in the syllabus instead of only giving outcomes and leave the lecturer to decide for herself/himself what information is needed
12. Attention is given to malnutrition within the syllabus, but all the subjects covered are therapeutic of nature. Should the focus of malnutrition not rather be directed at signs visible to the therapist and ways in which the therapist can contribute to better the nutritional status?
13. Do you evaluate the learners' learning experience at the end of each module?
14. On what grounds should the syllabus be changed?
15. Did you know that the Syllabus changed for 2008? (who decides/how is it decided)
16. Were schools/lecturers asked to comment on the information/syllabus before changes were made? 17. Do you think you should have had the opportunity to give comments/suggestions?
18. What do you think of a standardized syllabus? (everybody studies the work to the same depth)
19. Where do you find your information? How do you decide which references to use?

ADDENDUM 13: LETTER OF ETHICS APPROVAL FROM THE HUMAN RESEARCH COMMITTEE OF THE FACULTY OF HUMAN SCIENCES OF STELLENBOSCH UNIVERSITY

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11 October 2007

Ms CE Rademeyer
Division of Human Nutrition
Dept of Interdisciplinary Health Sciences

Dear Ms Rademeyer

RESEARCH PROJECT : "THE KNOWLEDGE, ATTITUDE AND PRACTICE OF HEALTH AND SKINCARE THERAPISTS WORKING IN SAAHSP ACCREDITED CLINIC IN SOUTH AFRICA WITH REGARD TO NUTRITION"
PROJECT NUMBER : N07/09/213

It is my pleasure to inform you that the abovementioned project has been provisionally approved on 9 October 2007 **for a period of one year from this date**. You may start with the project, but this approval will however be submitted at the next meeting of the Committee for Human Research for ratification, after which we will contact you again.

Notwithstanding this approval, the Committee can request that work on this project be halted temporarily in anticipation of more information that they might deem necessary to make their final decision.

Please note that a progress report (obtainable on the website of our Division) should be submitted to the Committee before the year has expired. The Committee will then consider the continuation of the project for a further year (if necessary). Annually a number of projects may be selected randomly and subjected to an external audit.

In future correspondence, kindly refer to the above project number.

I wish to remind you that patients participating in a research project at Tygerberg Hospital will not receive their treatment free, as the PGWC does not support research financially.

The nursing staff of Tygerberg Hospital can also not provide extensive nursing aid for research projects, due to the heavy workload that is already being placed upon them. In such instances a researcher might be expected to make use of private nurses instead.

Yours faithfully

CJ VAN TONDER
RESEARCH DEVELOPMENT AND SUPPORT (TYGERBERG)
Tel: +27 21 938 9207 / E-mail: cjvt@sun.ac.za

CJVT/pm

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ADDENDUM 14: LETTER OF APPROVAL FOR THE USE OF THE NUTRITION FOR HEALTH AND SKINCARE THERAPY SYLLABUS FROM SAAHSP

29 November 2007

Dear Ilze Rademeyer

RE: Nutrition syllabus

It has been decided that whilst completing your Masters in Nutrition at the University of Stellenbosch that you may use the SAAHSP Nutrition Syllabus. The SAAHSP Nutrition Syllabus may only be used for the sole purpose of research and never for the gaining of an income or for training purposes.

We trust that you find this in order and attached please find a copy of the syllabus.

Kind Regards
Sandy Roy
President SAAHSP – CIDESCO Section SA

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