An investigation of the professional relationship between somatologists and medical professionals practising non-invasive aesthetic and anti-ageing medicine in eThekwini

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AN INVESTIGATION OF THE PROFESSIONAL RELATIONSHIP BETWEEN SOMATOLOGISTS/AESTHETICIANS AND MEDICAL PROFESSIONALS PRACTISING NON-INVASIVE AESTHETICS AND ANTI-AGING MEDICINE IN eTHEKWINI.

By

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A dissertation submitted to the Faculty of Health Sciences at The Durban University of Technology in partial compliance with the requirements for a Master's Degree in Technology: Somatology.

I, Sinegugu Nkwanyana, do declare that this dissertation is representative of my own work in both conception and execution.

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DEDICATION

- *To my Lord and savior, I am thankful that you are in ultimate control of everything that happens in my life.*
- *My late grandfather, Ndabezitha, Sthuli, Mageba for being a good role model amongst your children and grandchildren*
- *To my late grandmother, maNtuli for your words of encouragement “that knowledge is power”.*

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ABSTRACT

Background:

Internationally medical professionals have become increasingly aware of services that somatologists offer as adjunctive interventions. These include pre-surgery preparative and post-surgery maintenance treatments to enhance client recovery time and experience. This practice has led to the increasing utilisation of aestheticians/somatologists in medical practices internationally. In turn, the demand for aesthetic procedures has sparked great interest amongst medical professionals, more specifically dermatologists.

Conversely, within the South African context, specifically KwaZulu-Natal, Vosloo (2009) revealed a poor response regarding the referral practices between medical professionals practicing non-invasive aesthetic and anti-ageing medicine, and somatologists. Thus a paucity of literature limits our understanding of the role and placement of somatology services, as well as the referral practices and their impact on the client within the medical practice.

Aim: To determine whether a professional relationship currently exists between somatologists and medical professionals within the eThekwini area, in order to support the development of effective inter-professional relationships which promote higher procedure success rates and reduced client recovery time.

Methods: A cross-sectional survey was carried out in eThekwini. A total of 579 questionnaires were issued. The final sample size consisted of 172 somatologists and 21 medical professionals. The response rates were 31% and 81% respectively. A self-selection sampling technique was used. Structured questionnaires were hand-delivered to the participants' work setting. Data was analysed using SPSS version 21.0. Descriptive statistics were used to describe quantitative data. Correlation and regression analysis were used to determine the relationship between actual dimensions of two variables at a time.

Results: Currently 91% of medical professionals refer aesthetic treatments to somatologists through word-of-mouth. High levels of awareness were revealed amongst medical professionals with regards to the somatology treatments/services beneficial in a medical practice. All medical professionals felt that further information regarding the somatology curriculum was necessary. Somatologists preferred to establish a referral relationship with dermatologists. A lower referral relationship (55%) was revealed by this group.

Conclusion: Currently, a collaborative relationship between dermatologists and somatologists exists within the eThekwini area. Regulation of the somatology profession is crucial in order to promote this growing relationship.

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DEFINITION OF TERMS

Aesthetician: An international term for somatologist specialising in beauty treatments.

Baby boomer generation: Those born between 1946 and 1964

Cosmetic botulinum toxin (Botox™) injections: Injection used to erase fine lines and wrinkles commonly found in the upper third of the face.

Cosmetic dentists: Specialist in the treatment of cosmetic disorders of the mouth and teeth.

Cosmetic dermatology/Aesthetics medicine: A sub-specialty of dermatology treating appearance related problems of the skin.

Cosmeceuticals: Non-prescription creams, serums, and gels that address skin concerns at a deeper level and protect the skin from external environmental forces which cause premature ageing.

Dermal fillers or "liquid face lift": Injection used to fill hollow cheeks, plump lips, diminish the appearance of scars, elevate deep creases, and erase fine lines around eyes, downturned mouth.

Invasive procedure/surgical procedures: Describes procedures that break the skin.

Medical aesthetics: Integration of surgical procedures and aesthetic treatments, supporting demands for long –term age – management programs.

Medical spa: A medical facility that offers medical aesthetic procedures and traditional spa or aesthetic services in a spa – like setting.

Medi-spa: A term used interchangeably with medical spa.

Medical professionals: For the purpose of this study, medical professionals refer to aesthetic practitioners, dermatologists, plastic surgeons regardless of their specialties that are practising non-invasive aesthetic and anti-aging medicine.

Nurse practitioners (NP): Registered nurses who are regulated by the boards of nursing, in many countries, they are permitted to practice without physician supervision. In other countries they require varying levels of physician supervision.

Non – invasive/non - surgical: Describes procedures that do not break the skin

Physician assistant (PA): They do not have a nursing background. Their training is in the context of collaborative care within the scope of practice of the supervising physician. Physicians are allowed to assign certain aspects of medical practice to PAs. The level of supervision by a physician varies in many countries, however it may be occasional and distant in many countries.

Somatologist/aesthetician: A somatologist is a person interested in assisting others in improving their general wellness and aesthetic appearance through information and practice of healthy lifestyle habits, product use and clinic treatments.

ABBREVIATIONS

AHPCSA	Allied Health Professional Council of South Africa
ACSI	Association of Cutaneous Surgeons of India
AHA's	Alpha hydroxyl acids
BHA's	Beta hydroxyl acids
CSI	Cosmetology Society of India
CPM	Collaborative Practice Model
CIDESCO	Comitè International d'Esthètique et de Cosmètologie
NPC	Non-physician clinicians
NP	Nurse practitioners
PA	Physician assistants
AAMSSA	Aesthetic and Anti-aging Medicine Society of South Africa
SAACD	South African Association of Cosmetic Doctors
SASA	South African Spa Association
SAQA	South African Qualification Authority ASAPS
SOAP	Subjective Objective Assessment Plan
SOP	Standard Operating Procedures
SAAHSP	South African Association of Health and Skin care Professionals
ASAPS	American Society of Aesthetic and Plastic Surgery
NCEA	The National Coalition of Estheticians, Manufacturers/Distributors & Associations

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CHAPTER ONE: INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Internationally aesthetic/cosmetic medicine has continuously proven to be one of the fastest growing industries internationally. Trends reveal that non-invasive, anti-ageing procedures lead the market in aesthetics medicine as consumers are more attracted to these methods over traditional surgical procedures for physical and emotional gain, despite tough economic climates (Medical Aesthetic Bulletin No 6 2011). According to the American Society of Aesthetics Plastic Surgery (2013), in 2013 approximately 11 million surgical and non-surgical procedures were performed in the United States of America, with approximately 16.5% surgical procedures and 83.5% making up non-surgical procedures.

One significant aspect that has escalated in prominence is the incorporation of aesthetic services in traditional medical practices. Medical professionals have recognised the benefit of incorporating non-invasive, anti-ageing aesthetic services into their practices. This can provide a rewarding auxiliary business option (Thornfeldt and Bourne 2010). In conjunction with the expansion of medical aesthetics treatments, international studies (Gambino 1992; Lees 2007; Thornfeldt and Bourne 2010; Warfield 2001) indicate that over the past decade medical professionals are becoming increasingly aware of services that aestheticians/somatologists offer as adjunctive interventions to improve clinical outcomes and client satisfaction. Hence the increasing use of aestheticians/somatologists in medical practices internationally (Resneck and Kimball 2008).

Frequently, the client's initial point of contact in seeking non-invasive aesthetic and anti-ageing treatments prior to consulting with a medical professional is with an aesthetician/somatologist in a spa or skincare clinic. Internationally, somatologists are referred to as 'aestheticians'. According to Thornfeldt and Bourne (2010), aestheticians/somatologists are trained to recognise skin disorders and refer their clients to the most appropriate medical practitioner, thereby improving the client's prognosis and recovery. In addition, dermatologists also refer clients through referral

letters or by word of mouth to aestheticians/somatologists for assistance in selecting appropriate cosmetic products suited for specific skin needs. Although aestheticians/somatologists internationally have recently been utilised in the medical setting, some aestheticians/somatologists prefer to develop a referral relationship with dermatologists and plastic surgeons (Lees 2007; Warfield 2001). Within the South African context however, and specifically within eThekwini, KwaZulu-Natal, a paucity of literature limits our understanding of the referral practices and their impact on the client within the medical aesthetic practice.

1.2 PROBLEM STATEMENT

A South African study by Vosloo (2009) showed that only 39% of all medical professions, and not specifically medical professionals practicing non-invasive aesthetic and anti-aging medicine, referred patients to somatologists. Vosloo (2009) also highlighted the need for increased awareness amongst the medical professions pertaining to the treatments and services somatologists perform to support clients in achieving optimal outcomes, as well as pre- and post-medical interventions. Interestingly, 66% of somatologists surveyed in the same study indicated that they had a referral relationship with medical and/or complementary health practitioners (Vosloo 2009). The majority of inter-referrals occurred between complementary health care practitioners and somatologists, rather than conventional medical professionals and somatologists. Vosloo (2009) indicated that there was a poor response regarding the referral practices between medical professionals and somatologists within KwaZulu-Natal. Gauteng had a better response overall as a result of the high density population of medical professionals. Currently there are approximately 113 registered medical professionals practicing cosmetic medicine in South Africa. The majority (60%) of these medical professionals practice in the Gauteng Province (South African Association of Cosmetic Doctors 2012).

In contrast with the international setting, somatology is a young and growing profession in South Africa. In the past few years, a trend has been noted whereby National

Diploma and Bachelor of Technology somatology graduates have opted for positions where they assist dermatologists and plastic surgeons in medical practice. Evidence to support our understanding of referral practices and their impact on clients in South Africa, specifically eThekwini, is limited. Hence, the aim of this study is to explore the professional relationship between somatologists and medical professionals practising non-invasive aesthetic and anti-ageing medicine in eThekwini.

1.3 RESEARCH OBJECTIVES

1.3.1 To determine the demographics of the responding somatologists and medical professionals in eThekwini.

1.3.2 To determine the level of awareness amongst eThekwini medical professionals regarding the services and treatments that somatologists can provide, which may complement a medical practice.

1.3.3. To determine the extent to which medical professionals in eThekwini utilise the services of a somatologist.

1.3.4 To determine whether referral systems between the two professions exist and the implementation thereof.

1.4 RATIONALE

Critically, the role of an aesthetician/somatologist in a medical setting is to perform pre- and post-operative skin care treatments. This includes assisting patients in caring for changes in their skin while undergoing medical treatments; performing specialised treatments and services under the supervision of a medical professional; and assisting patients with the management of homecare protocols (Deitz 2013; Lees 2007).

The South African Qualification Authority (SAQA) states that a qualification in Health and Skincare will enable a candidate to “function as a member of a multi-disciplinary team, as a multi-skilled health and skincare practitioner (South African Qualifications Authority 2008). Thus within a South African context, somatology is a multi-disciplined

profession where a holistic approach is used as the cornerstone of all treatments. A somatologist is therefore a person interested in assisting others in improving their general wellness and aesthetic appearance. This is done through information and the practice of healthy lifestyle habits, product usage and clinic treatments to treat a variety of skin and body conditions (Reid 2010).

Aesthetic medicine is a unique speciality, because unlike other procedures it is initiated by the client and not by the medical professional. In this regard a client-orientated approach is therefore of utmost importance in order to optimally maximise client outcome and experience, whilst minimising client downtime when performing medical aesthetic treatments (Elsaie 2010). Thus, with the above in mind, a symbiotic relationship should be promoted where the knowledge and skills of the medical professional and somatologist complement one another to provide, with integrity, effective skincare solutions for the client (Thornfeldt and Bourne 2010).

The findings of this study may allow for a better understanding of the referral practices between a somatologist and medical professional. It may provide clarity on the role and placement of somatology services within the South African medical paradigm. In turn, this may support the development of collaborative relationships which promote client care and anti-ageing treatment options for clients. This collaborative relationship will assist in achieving a higher treatment success rate, and hence reduce malpractice suits. The findings of this study will also influence the somatology curriculum renewal process and assist in developing a scope of practice for the somatology profession. It may further aid in mapping out the referral guidelines of non-invasive aesthetic medical procedures.

1.5 LIMITATIONS

- Medical professionals represented had a small sample size compared with somatologists. The results of this study therefore cannot be generalised to South Africa.
- The majority of responding somatologists had completed their tertiary qualification at the Durban University of Technology (DUT) and the researcher is

an employee in the university. This could introduce bias to the study results regarding the responses from somatologists. To counteract this, questionnaires were coded and participants were asked to complete the questionnaires at a time that was convenient to them.

- Most interested participants who were currently involved in, or practiced, non-invasive anti-ageing medicine took part in the study.
- The majority of somatologists in eThekwini area are employed in medical practices.

1.6 OUTLINE OF THESIS /CHAPTERS

Chapter 1: The chapter provides an introduction which includes the problem statement, research objectives, rationale of the study and limitations.

Chapter 2: This chapter will contain a literature review which analyses the existing literature contributing to the area of research and explains the need for this particular research to be conducted.

Chapter 3: Research Methodology: This chapter covers the study design, study population, sample size, research instrument, data collection and analysis techniques and limitations.

Chapter 4: Results: Graphs and tables presenting the findings of the study are included.

Chapter 5: This chapter contains the discussion of results where data collection is interpreted.

Chapter 6: This chapter discusses the conclusion and recommendations of the study.

CHAPTER TWO: LITERATURE REVIEW

2.1 INTRODUCTION

As suggested by Way, Jones and Busing (2000), collaborative practice between medical professionals and somatologists within a medical aesthetic practice is purported to improve patient care and experience. It also optimises surgical outcomes and minimise patient downtime. In order to investigate whether a professional relationship exists between eThekwini medical professionals and aestheticians/somatologists, various elements need to be established. These include an overview of the medical aesthetic industry together with the role, functions and educational background of aesthetician/somatologists and medical professionals practising non-invasive aesthetic and anti-ageing medicine. Since the medical profession is a well-established profession worldwide, their educational background will be omitted. Furthermore, this literature review will utilise the collaborative model of Way, Jones and Busing (2000) as the theoretical framework.

2.2 THE MEDICAL AESTHETIC INDUSTRY INTERNATIONALLY

Facial beauty has created attention and had an impact on personal status in society. Although standards of facial beauty differ in each country and across various cultures, there are basics that define beauty. These basics include facial symmetry, balance, proportion, and harmony. Past generations have accepted the accumulation of fine lines and wrinkles as they were considered an irreversible consequence of the natural ageing process (Thornfeldt and Bourne 2010).

Today, as more baby boomers have matured into their sixties, they have been responsible for the creation of the multi-billion dollar industry called non-invasive aesthetics. This generation has driven the new developments, including scientific advances in products and services, equipment and techniques, to sustain a youthful appearance so as to meet their personal needs. Hence the introduction of non-invasive aesthetic procedures such as microdermabrasion, chemical peels and medical procedures such as Botox™ cosmetics, dermal fillers, injectable vein

therapy/sclerotherapy and medical peels (Culp *et al*. 2013). Presently, these procedures have become more affordable and have often produced immediate results when compared with traditional aesthetic services performed in a skin clinic/salon or spa. Furthermore, consumer acceptance of non-invasive medical aesthetics has resulted in the expansion of technological treatment advances, thus instituting aesthetic medicine as a sub-specialty with a defined body of knowledge and a standard of procedural proficiency (Goh 2009).

Aesthetic/cosmetic medicine is a medical discipline undertaken by registered medical practitioners incorporating a variety of non-surgical procedures. These procedures alter, improve, treat or change the appearance of colour, texture, structure or position of the cutaneous, subcutaneous tissues or associated structures using procedures that combine medical and aesthetic treatments. Aesthetic or cosmetic medicine focuses on light-based therapies (hair removal, laser treatments); cosmetic injectables (Botox™, soft tissue fillers); skin rejuvenation (medical grade chemical peels, microdermabrasion); and medical weight management (American Society of Aesthetic Plastic Surgery 2013).

Since the United States of America is the leading country worldwide in both invasive and non-invasive aesthetic medicine. Without doubt it is also the leading country in cosmetic medicine and will therefore set international trends for cosmetic medicine. It is for this reason that this literature review focuses mainly on the USA. According to the Annual Statistics of the American Society for Aesthetic Plastic Surgery (ASAPS) (2013), Americans spent nearly $11 billion on cosmetic procedures alone. Surgical procedures accounted for $6.7 billion, injectable procedures $2.0 billion, skin rejuvenation procedures $1.8 billion, and $483 million was spent on other non-surgical procedures including laser hair removal and laser treatment of leg veins (American Society for Aesthetic Plastic Surgery 2013). Over ten million surgical and non-surgical cosmetic procedures were performed by physicians alone in the USA in 2012. When procedures performed by physician assistants and nurse injectors were included, the total number

of both surgical and non-surgical procedures increased to over 12.6 million (ASAPS 2013).

Women had approximately 9.1 million cosmetic procedures which accounted for 90% of the total, and men almost one million procedures. People aged between 35-50 years had the majority of procedures, over 4 million (43%), followed by ages 51-64 years (29%). Approximately 59% of these cosmetic procedures were performed in a medical practice, 24% in a free-standing surgical practice, and 18% in hospitals (American Society for Aesthetic Plastic Surgery 2013). The top five non-surgical procedures performed by physicians, nurse assistants and nurse injectors (ranked in order) include: botulinum toxin Type A, hyaluronic Acid, laser hair removal, microdermabrasion, and chemical peels (American Society for Aesthetic Plastic Surgery 2013). Nationally, Botox™ has been the most popular non-surgical procedure since the year 2000. In 2002 Food Drug Administration (FDA) approval was given for Botox™ to be utilised for cosmetic purposes (American Society for Aesthetic Plastic Surgery 2013). Since 1997 in the USA alone, surgical procedures increased by 80%, whilst 461% accounted for non-surgical procedures. In contrast with the USA there is a paucity of literature from other countries. This could potentially signify a similar trend within the South African context.

Medical wellness and medical spas are fast-growing sectors of the medical aesthetic industry. This is making South Africa a favourite medical tourism destination where anti-ageing medicine, laser therapy, injectables and other medical procedures are offered at affordable prices to the international patient. Medical tourism includes invasive and non-invasive aesthetic procedures as part of a holiday package, in which medical spa treatments form part of the experience at destination spas around the country. International patients are choosing South African spas for their aesthetic procedures due to the growing number of reputable medical aesthetics doctors who can perform these procedures at affordable prices compared with the rest of the world (Annual Spa Trends 2007).

The enhanced desire across diverse populations to prolong youthfulness and self-image has been highlighted by two studies (Dogra 2009; Goh 2009) as the major contributing factor to driving the demand in non-surgical treatments. Today's clients prefer procedures that will look natural in order to better reflect their personalities and expressions and protect their emotional well-being. Moreover the financial crisis of the global economy, coupled with the demand for non-surgical treatments, has encouraged a rapid development of more affordable cosmetic procedures using cosmeceutical products. Tsao (2004) emphasised that the popularity of cosmeceuticals will continue to increase as long as improving physical appearance remained a top social priority. The word 'cosmeceutical' originates from the terms 'cosmetic' and 'pharmaceutical'. Cosmeceuticals are technologically advanced products which bridge the gap between prescription drugs and cosmetics, and are able to advance dramatic and noticeable results compared with over-the-counter cosmetic products.

In previous years, the gap between beauty salons and medical aesthetic clinics was immense. In recent years, however, many clinics have realised the potential benefit of incorporating non-invasive treatments onto their treatment menu. Statistics reveal that consumers continue to spend money on looking and feeling good, despite difficult global economic climates. Many cosmetic surgery clinics have been negatively affected, however, with clients preferring more affordable, non-invasive treatments rather than the higher-priced invasive treatments. Whilst surgical procedures such as face-lifts are anti-ageing (if the quality of the client's skin is poor) the surgical procedure will be less effective (Medical Aesthetic Bulletin No. 6 2011).

In order to grow and retain the clientele, beauty/aesthetic salons have incorporated results-driven treatments such as advanced facials, which incorporate medical evidence-based cosmeceuticals on their treatment menus. The incorporation of advanced facials in beauty salons has resulted in a huge potential for cross-referral, up-selling and for increasing retail sales of cosmeceuticals, as somatologists are trained to sell retail products in beauty salons or spas.

Currently medical professionals (specifically dermatologists) include cosmeceutical products in their practice, thus creating an ancillary profit centre (Lees 2007).

2.3 THE MEDICAL AESTHETIC INDUSTRY IN SOUTH AFRICA

South Africans have also joined the global anti-ageing trend where an increasing number of consumers prefer non-invasive cosmetic procedures, such as wrinkle smoothers and lip plumpers to delay the ageing process. In South Africa the growing middle class population together with the increasing demand for non-surgical procedures to slow the signs of ageing, are responsible for driving this market. Advanced product development and enhanced skill amongst South African medical professionals practicing anti-ageing medicine has led to improved procedure outcomes and patient satisfaction. South Africans follow global trends with regards to the majority of non-invasive cosmetic procedures. The majority of these procedures are being sought by women (Khan 2013), however 2% of the South African market are men. This is changing, however, since more men want to look healthy and well-groomed (American Society for Aesthetic Plastic Surgery 2013).

The Aesthetic and Anti-Aging Medicine Society of South Africa (Aesthetic and Anti-ageing Medicine Society of South Africa) is the official medical society devoted to the practice, advancement and regulation of aesthetic and anti-ageing medicine in South Africa. Membership of this society is only open to medical doctors and practitioners of aesthetic medicine (Aesthetic and Anti-ageing Medicine Society of South Africa 2012). Advice to the general public on cosmetic medicine is provided by the South African Association of Cosmetic Doctors (SAACD) (2014).

2.4 AESTHETICIAN TRAINING AND EDUCATION INTERNATIONALLY

Internationally somatologists are referred to as ‘aestheticians’. Licensed aestheticians are trained skin professionals who have a detailed understanding of the structure and functions of the skin. They perform various skin treatments and preventative skin care to maintain a healthy skin (Culp *et al*. 2013). The word ‘*esthetics’* originates from the Greek word *aesthètikos* which means ‘to have an appreciation of beauty’ (Thornfeldt

and Bourne 2010). An aesthetician is a person who is professionally interested in the health and beauty of the skin. The field of study includes anatomy and physiology, skin analysis, cosmetic chemistry, cosmetic ingredient formulations, various treatment modalities including non-invasive laser and light therapies, pre- and post-operative skincare, as well as hair removal techniques, massage techniques, and make-up artistry skills (Thornfeldt and Bourne 2010). Generally the scope of practice of aestheticians includes services that maintain and improve the appearance of the skin, and excludes services that use instruments or techniques in which they are not trained or which are not defined by the law (Lees 2007; National Coalition of Estheticians Associations 2004).

2.5 INTERNATIONAL QUALIFICATION AWARDING ORGANISATIONS

Internationally various beauty therapy colleges and private schools offer their learners an international qualification and accreditation. The majority of countries internationally offer the following qualifications: CIDESCO diploma, ITEC diploma, CIBTAC diploma, and City and Guilds diploma.

2.5.1 Comité Internationale D'Esthetique et de Cosmetologie (CIDESCO)

CIDESCO is an international accreditation body linked to the health and skincare industry. It was founded in 1946 in Brussels with its Head Office in Zurich, Switzerland. This organisation focuses on the co-ordination of professional activities and training standards in the health and skincare industry in over 30 countries across five continents. They ensure that the highest standards of conduct and ethics in the health and skin care industry are maintained. The CIDESCO diploma is a leading aesthetics and beauty therapy qualification, taught in over 230 schools internationally (Comité Internationale D'Esthetique et de Cosmetologie 2014)

2.5.2 Confederation of International Beauty Therapy and Cosmetology (CIBTAC)

CIBTAC is a qualification awarding body located in England, which offers a wide range of beauty therapy qualifications in over 30 countries. These qualifications include beauty therapy, spa wellbeing, diet and nutrition, sport therapy, as well as complementary and

holistic qualifications (Confederation of International Beauty Therapy and Cosmetology 2014).

2.5.3 ITEC

ITEC is an international qualification awarding body operating in over 38 countries, offering a variety of qualifications in five sectors, such as customer service and business and administration, beauty therapy, hairdressing, complementary therapy, sport and fitness. ITEC is represented in London, South Africa, Asia, Ireland and the United States (ITEC 2014).

2.5.4 City and Guilds

This is a vocational education and training organisation which provides services to training providers, employers, and trainees across various sectors to meet the needs of today's workplace. City and Guilds offers qualifications which cover all sectors within the beauty industry (City and Guilds 2014).

2.6 AESTHETICIAN QUALIFICATIONS IN VARIOUS COUNTRIES INTERNATIONALLY

2.6.1 United States of America

Currently in the United States there are no nationally required standards in aesthetic education. Training and education requirements for aestheticians differ in each state, with most states requiring between 600 to 1200 hours of training before licensure. The bulk of aesthetician training programmes are offered on a full time basis for approximately 40 weeks or nine months, where students attend 30 – 40 lectures or contact hours of theoretical and/or practical lectures per week (Culp *et al*. 2013). The two-tier licensing structure is a popular concept which has gained support from many aestheticians and educators. This concept separates aesthetic training and licensing into two separate modules: a 600-hour basic programme and a 600-hour advanced or Master Aesthetician programme. Currently Utah, Virginia and the District of Columbia are the only states that have brought this 1200 hour programme into law. The National Coalition of Estheticians, Manufacturers/Distributors & Associations (NCEA) support the

1200 hour programme. Presently, several states are also in the process of revising their statutes so as to offer a Master's degree programme in the future (Warfield 2001).

After the aesthetician has completed training at a training college or private school, he/she is required to register with the Aesthetician Licensing Board in order to practice (United States Bureau of Labor Statistics 2006). This limits aestheticians to perform services within their scope of practice as defined by the state within which they practice.

2.6.2 United Kingdom

In the United Kingdom (UK) the most usual form of training is through a one or two year course at a college or at a private beauty college, where prospective therapists may be awarded the CIDESCO diploma. Training programmes may be shorter and more intense. Training in the technical skills forms the basis of a beauty therapy course in the UK. A qualified beauty therapist who has completed a two-year qualification is able to carry out a comprehensive range of treatments including facial therapy, make up, manicure/pedicure, waxing body treatments, figure analysis, diet and exercise, body electrical treatments and body massage (Durban University of Technology: Centre for Quality Promotion & Assurance 2013).

2.6.3 Australia

In Australia, health and skincare training is offered in colleges and private schools which also offer their learners the opportunity to complete international qualifications (Durban University of Technology: Centre for Quality Promotion & Assurance 2013).

2.6.4 Asia

In Asian countries training is provided in private schools which offer international qualifications (Durban University of Technology: Centre for Quality Promotion & Assurance 2013).

2.6.5 Africa

Since there are no national standards in any SADEC country other than South Africa, learners from SADEC countries complete their Somatology qualification in South African

institutions such as the Universities of Technology or private schools (Durban University of Technology: Centre for Quality Promotion & Assurance 2013).

2.7 SOMATOLOGY PROFESSION IN SOUTH AFRICA

In contrast with the international setting, Somatology is a young and growing profession in South Africa. The need to focus on the skills-based traditional aesthetic treatments, and to concomitantly be equipped with knowledge in order to educate and holistically treat the client, has led to the development of the Somatology profession in South Africa. A somatologist is a person who is able to apply and provide the appropriate preventative, rehabilitative and palliative treatments to promote physical, emotional balance and well-being. Somatologists may practice independently or work in conjunction with various healthcare professionals to promote holistic health and wellness through referral and cooperative practices (Durban University of Technology: Centre for Quality Promotion & Assurance 2013).

Somatology has its origin in the beauty industry, where previously somatologists were referred to as beauty therapists. With scientific advances in product and electrical equipment, aesthetic treatments in turn developed and advanced to incorporate holistic treatments. The somatologist's scope of practice is to identify, recommend and safely perform appropriate aesthetic, remedial, rehabilitative, curative, preventative, or palliative treatments on the client's body. Relevant referrals can be made to appropriate medical professionals according to professional and ethical standards (Durban University of Technology: Centre for Quality Promotion & Assurance 2013).

The somatology qualification includes reflexology, aromatherapy, electrical and manual body treatments including massage, basic and specialised facial treatments, exercise physiology, nutritional supervision, aesthetic enhancement treatments and minor surgical removal procedures which includes epilation (Durban University of Technology: Centre for Quality Promotion & Assurance 2013). Currently, learners in South Africa have the choice of completing their training at a private school or a University of Technology. Private institutions provide international qualifications at NQF levels 5 and

6, ranging between two to three years full-time. Many private schools have a teacher-training programme for aesthetician graduates interested in lecturer or educator training. The Somatology qualification is offered at only five Universities of Technology, namely Tshwane University of Technology, Cape Peninsula University of Technology, Central University of Technology Free State, University of Johannesburg, and the Durban University of Technology. These qualifications comprise a three or four year full-time National Diploma; a two year part-time/one year full-time Bachelor of Technology degree; and a full research-based Master of Technology degree. The programme is divided into theoretical and practical components (Durban University of Technology: Department of Chiropractic and Somatology 2013).

Once a somatologist/aesthetician has obtained his/her qualification, choices for rewarding career options include working in a salon or clinic, health spa and wellness centres. Full time and part-time opportunities are available where some aestheticians choose to specialise in various aspects such as spa treatments, age management, acneic skins, and waxing. Some may decide to provide all services to their client, which is the common aspect of employment for new graduates. Some aestheticians may have worked in the field for a long period of time before deciding to be a spa or salon owner. Manufacturers of skin care products and equipment may also employ aestheticians as sales representatives. Various cosmetic lines in departmental stores pay higher wages to licensed aestheticians, as they have realised that their clients have benefited from the professional training of an aesthetician.

Aestheticians/somatologists may also become buyers of cosmetics in a department store, specialty store or salon, or may be employed at salons or spas at resorts or on cruise ships. An aesthetician with talent and/or training in writing or journalism may pursue a career as an editor or columnist. Another area that an aesthetician may choose to specialise in is as a make-up artist. An aesthetician may also choose to be employed in a medical field, where she/he partners with a dermatologist or plastic surgeon in a team whose objective is to take care of a patient's skin (Culp *et al.* 2013; Thornfeldt and Bourne 2010).

Over the past decade the role of the somatologist has expanded to include a broader range of skin care services in various health, beauty and wellness settings such as skincare clinics, medical spas and wellness centres. Although each setting has its own specific requirements, many have integrated modern techniques with ancient beauty traditions in order to create a holistic skincare plan which embraces mind, body and spirit. This comprehensive approach to aesthetic treatments has strengthened the relationship between medical professionals and somatologists and has thus created an emergent acceptance of the role of the aesthetician in a medical setting. In the past few years, a trend has been noted where somatology graduates (both National Diploma and Bachelor of Technology) have chosen a position where they assist dermatologists and plastic surgeons with pre- and post-surgical treatments. A paucity of literature limits our understanding of the role and placement of somatology services, as well as the referral practices and their impact on the client within the medical practice (2011 pers.comm.14 March). Therefore the training for somatologists in South African, particularly at the Universities of Technologies, has little comparability to other countries worldwide. These Universities in particular can be viewed as the flagships in this profession.

2.8 PROFESSIONAL BODIES FOR AESTHETICIANS/SOMATOLOGIST

Internationally the beauty industry remains unregulated, hence the variety of qualification levels and standards within the industry. Several professional bodies exist, however, to set standards and for quality control (Culp *et al.* 2013).

2.8.1 International Professional Bodies

The National Coalition of Estheticians, Manufacturers/Distributors & Associations (NCEA) and Comitè International d'Esthètique et de Cosmètologie (CIDESCO) are international professional bodies for aesthetician/somatologists. The NCEA was established to support the skin care professional by working to increase the hours of training necessary to be successful in the skin care industry. It was also developed to set and increase standards for an aesthetician/somatologist job task through the state regulatory boards. This professional body is based in the USA and was also established to develop international recognition. Additionally, the NCEA is also responsible for

standardising continuing education in the USA and also trains aesthetic educators and instructors (Deitz 2013).

Comitè International d'Esthètique et de Cosmètologie

Comitè International d'Esthètique et de Cosmètologie (CIDESCO) is a professional body focused on the co-ordination of professional activities and training standards in the health and skin care industry. They ensure that the highest standards of conduct and ethics in the industry are maintained in 35 countries across five continents. CIDESCO was established to create awareness of the aesthetician/somatology treatments through information sharing amongst its members and medical professionals (Deitz 2013).

2.8.2 South African Professional Bodies

The South African Association of Health and Skin Care Professionals (SAAHSP) is an Association for somatologists and health and skin care therapists in South Africa. Their primary function is to advance higher education examinations in ensuring that standards are maintained. Representing South Africa in the international arena, SAAHSP is also the South African section of CIDESCO. Somatology professionals are not required by law to register with a professional body in order to practice in South Africa. Although somatologists have the option to register with SAAHSP, registration is not compulsory and it does not preclude unregistered somatologists from practising (Vosloo 2009). There are ongoing talks with somatology professionals, however, regarding motivation for the somatology profession to establish an association where only qualified somatologists (those with a three year diploma) would be allowed to register. Moreover, Vosloo (2009) also emphasised the need for somatologists to register with the Allied Health Professional Council of South Africa (AHPCSA).

South African Spa Association

The South African Spa Association (SASA) is the representative for the spa industry in all aspects related to spas, such as health and wellness, tourism and hospitality, education and training. Its key task is to liase with international Spa Associations and

respective authorities, providing members with new knowledge and current trends (South African Spa Association 2011).

2.9 AESTHETICIANS AND THE MEDICAL SETTING

The natural link between health, beauty and results-oriented skin care has created an interprofessional relationship where aestheticians and medical professionals work synergistically (Culp *et al.* 2013; Thornfeldt and Bourne 2010). The continued interest among aestheticians in enhancing treatments they perform in the salon/clinic has been influential in stimulating the efficacy of advanced medical procedures. Highly motivated skin care professionals have sought the advanced training and knowledge that has assisted in creating and defining the emerging role of aestheticians in medical practices. While aestheticians began referring clients/patients to physicians, it became evident that the treatments and services they provided such as facials, pre- and post-operative skin care, as well as make up application, complemented the procedures performed by medical professionals, thus adding value to the medical practices. Medical professionals also realised that not only were the treatments and services of an aesthetician beneficial, however aestheticians may also play a supportive role in client consultation and education; hence the ultimate enhancement of client/patient satisfaction.

Furthermore, treatments and products used by the aesthetician are also authenticated when medical professionals recommend them, in turn conferring on aestheticians the ability to treat clients more effectively (Culp *et al.* 2013; Gambino 1992; Lees 2007; Thornfeldt and Bourne 2010). Licensed aestheticians have therefore become an integral part of the medical aesthetic practice. They have become an increasingly important and recognised adjunct to physicians who practice cosmetic medicine. Currently there is no set standard of education for aestheticians employed in a medical setting. Terms such as medical aesthetician, paramedical aesthetician and clinical aesthetician are commonly used to refer aestheticians who have received advanced training, or who are currently employed under the direction of medical professionals. These terms are not supported by formalised training and therefore not legally recognised (Lees 2007).

Since not all states in the USA have brought into law the master aesthetician licensure option (a 600-hour advanced programme), it is recommended that aestheticians seeking employment in a medical setting obtain an advanced aesthetic education. Warfield (1997) reiterated that aestheticians in the USA do not receive superior training, more specifically in the field of anatomy, physiology and chemistry, to be fully knowledgeable about the aesthetic treatments that are beneficial within a medical aesthetic practice (Lees 2007; Thornfeldt and Bourne 2001; Warfield 2001). With the new advancements in today's medical aesthetic practice, a concern encountered by aestheticians entering the medical environment is that boundaries may become blurred, where aestheticians are often expected to perform treatments and services that are beyond the scope of their license. This may result in serious legal consequences. For this reason, it is critical that aestheticians in the medical setting are knowledgeable about their scope of practice and work within the guidelines of their respective states' licensing requirements (Culp *et al*. 2013; Warfield 2001).

Moreover, some states require aestheticians to serve an apprenticeship under a fully licensed aesthetician for a specific time period before they become fully licensed to practice on their own. Where apprenticeship is not a requirement, the aesthetician should obtain information regarding recognition of the aesthetician license in a medical setting from their state board, so as to ensure protection from liability. Aestheticians in a medical practice, however, are given an option to be employed either as an aesthetician or a medical assistant (Warfield 1997).

2.10 MEDICAL PROFESSIONALS ASSOCIATED WITH NON-INVASIVE AESTHETIC AND ANTI-AGEING MEDICINE INTERNATIONALLY

Although cosmetic medicine was primarily the domain of plastic surgeons and dermatologists, increased demand for aesthetic procedures has sparked great interest among medical professionals from various specialties. This includes general practitioners, internists, obstetricians, gynaecologists, ophthalmologists, endocrinologists and cosmetic dentists (Culp *et al*. 2010; Lees 2007). For the purpose

of this study, however, the relationship between medical professionals practising non-invasive medical aesthetics in particular will be reviewed (Culp *et al*. 2013; Lees 2007). The scope of practice prohibits aestheticians from diagnosing, however they are taught to recognise suspicious lesions and refer to the appropriate medical professional for further diagnosis and treatment. Hence a referral relationship may also be developed with medical professionals specialising in gynaecology, endocrinology and internal medicine, all of whom treat disorders affecting the health of the skin (Culp *et al.* 2013; Lees 2007; Thornfeldt and Bourne 2010).

Amongst medical professionals interest in cosmetic medicine has largely been attributed to a range of factors. These include significant advances in technology; financial constraints of managed care due to limited healthcare budgets, and an interest in taking a more holistic approach to health, beauty, and wellness. Also of relevance is the higher immediate cash reimbursement for cosmetic services compared with routine dermatology appointments, coupled with cultural and psychological factors (Culp *et al.* 2010; Thornfeldt and Bourne 2010). International studies have concurred that restricted income, higher medical education costs, a limited public healthcare budget, and an increasing interest and attraction for aesthetic medicine have resulted in the global scarcity of dermatologists in the workforce (Dogra 2009; Olerud 2007; Wu 2007) In India, dermatologists have generally adopted various surgical and cosmetic procedures in their clinical practices. Associations such as the Association of Cutaneous Surgeons of India (ACSI) and Cosmetology Society of India (CSI) have thus been established (Thappa 2002).

Furthermore, cosmetic medicine and dermatosurgery procedures continue to augment basic dermatological care, whilst in other practices this specialty is almost substituted (Dogra 2003). Resneck, Lipton and Pletcher (2007) expressed a similar concern about the reduced availability of academic dermatologists in the United Kingdom, where an increasing need for dermatological services is being experienced for an enlarging and ageing population. The scarcity of these professionals was first identified in 1973 and thereafter the percentage of dermatology residents choosing to pursue a career in

academics has progressively decreased (Wu 2006). Buckley *et al*. (2000) further elucidates that academic physicians spent more than 50% of their time seeing patients, thus leaving insufficient time for research, teaching, and mentoring required for a successful academic career. Due to insufficient time for academic pursuits, academic dermatologists are attracted to a private practice setting because of greater income potential and autonomy afforded by this setting. Furthermore, Bergstresser (1999) reported that new graduates who entered private practice identified restricted income, higher medical education costs and the attraction of cosmetic dermatology as the strongest drawback in entering an academic dermatology career.

Consequently, the scarcity of these academics has adversely affected patient access to basic skin specialists as more dermatologists increase consultation times in cosmetic and surgical dermatology, and short consulting time in treating patients with potentially fatal skin cancers (Dogra 2009; Kimball and Resneck 2008). The results of an American study by Suneja *et al.* (2001) established a benchmark waiting time of three weeks for a new patient appointment and two weeks for a return appointment. Furthermore, it was discovered that dermatologists practicing in high-density urban areas were more likely to have shorter waiting times for new patient appointments. Additionally, they were more likely to include cosmetic dermatology in their practices. Longer waiting times for patient appointments occurred in lower-density rural areas. Despite the growing shortage in the USA dermatology workforce, the waiting time for new patient appointments has continued to exceed one month in major cities around the USA, thus affecting patient access to basic skin specialists. This is threatening to affect the quality of dermatological care (Dogra 2009; Kimball and Resneck 2008).

Resneck, Lipton and Pletcher (2007) stated that patients seeking cosmetic botulinum toxin injections in the USA have more rapid access to dermatologists than for established check-up appointments, preventative care appointments and urgent appointments for malignant melanoma. Dermatologists selectively improve access for these patients because of higher and immediate reimbursement for cosmetic services. Moreover, the scheduling of these cosmetic procedures is done swiftly before the patient loses interest (Dogra 2009).

2.11 MEDICAL PROFESSIONALS ASSOCIATED WITH NON-INVASIVE AESTHETIC AND ANTI-AGEING MEDICINE IN SOUTH AFRICA

In South Africa only medical doctors and practitioners registered with the Health Professions Council of South Africa (HPCSA) are authorised to perform aesthetic medicine. The field of cosmetic medicine is not confined to any specialty. Thus, similar to the international industry, aesthetic medicine can be performed by a wide variety of medical specialists such as family or general practitioners, dermatologists, obstetricians/gynecologists, cosmetic surgeons/plastic surgeons, dentists, aesthetic and medicine doctors, to name a few (Aesthetic and Anti-Ageing Medicine Society of South Africa 2012). The AAMSSA is the main training provider for aesthetic medicine in South Africa. This society provides ongoing training, education, congresses, courses and medical literature to medical doctors in Southern Africa regarding this field of medicine.

Additionally, South African medical doctors who wish to pursue a career in aesthetic medicine may register for an Advanced Diploma: Aesthetic Medicine (ADAM) at NQF level seven. This qualification is currently registered with SAQA and is approved and endorsed by the AAMSSA. The target market for this diploma comprises of health care professionals who are employed full-time and who have a minimum qualification of a MBCHB (South African Qualifications Authority 2012).

2.12 COLLABORATIVE PRACTICE MODEL BASED ON WAY, JONES AND BUSING (2000)

The theoretical framework utilised in the study will now be explained using the diagram based on the structured collaborative model by Way, Jones and Busing (2000), within the context of the medical aesthetic practice.

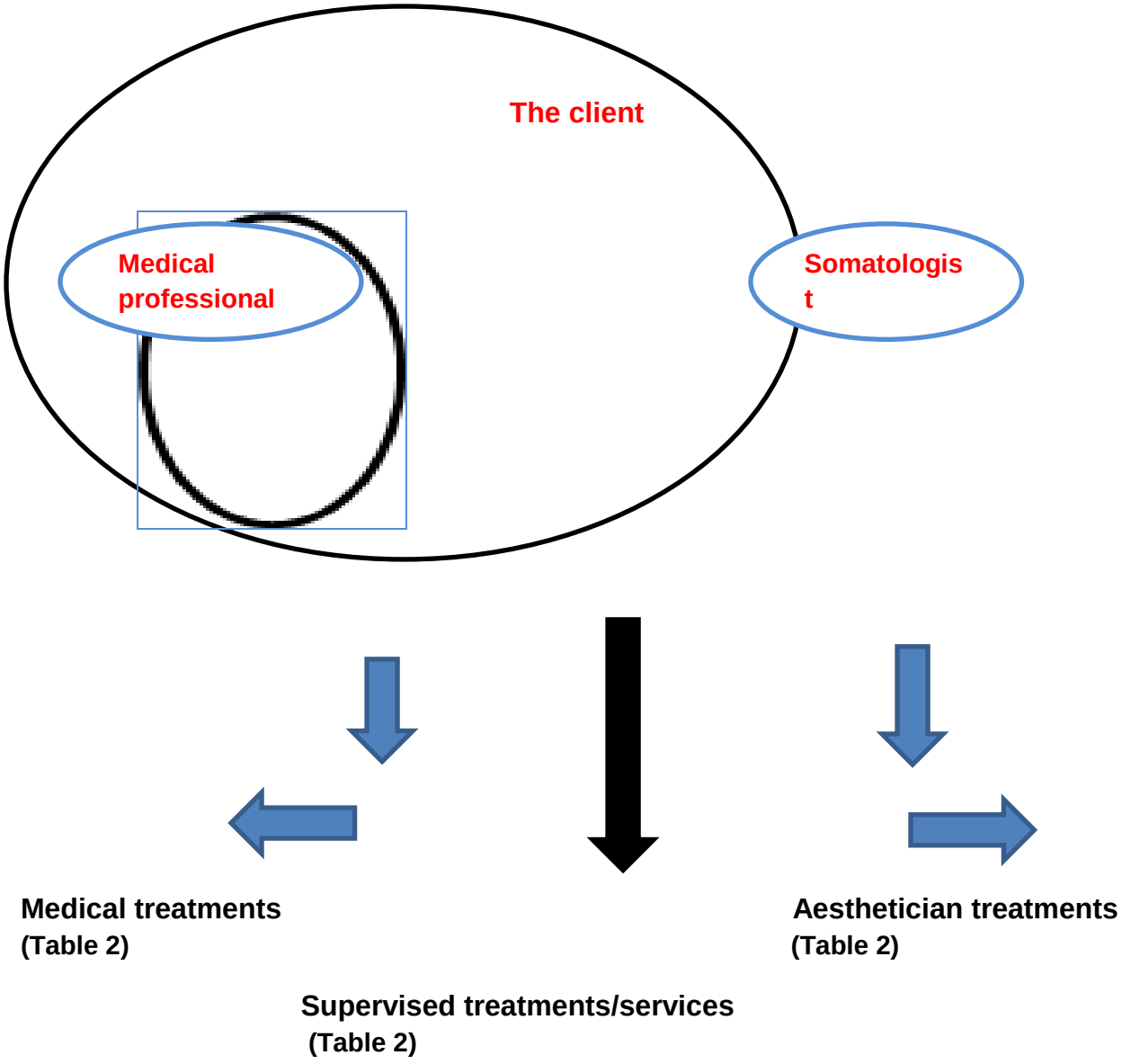

Figure 2.1 Collaborative practice model utilised in the medical aesthetic practice

The Collaborative Practice Model (CPM) (Way, Jones and Busing 2000) has been extensively utilised in primary health care settings to promote patient care. CPM is based on the premise that a team of health professionals is required to provide patient care, where each professional is licensed with a unique but overlapping scope of practice. The purpose of the patient visit may vary each time and the involvement of specific team members is dictated by patient requirements. It is assumed, however, that medical professionals are the leaders of the team and have the largest scope of practice and retain authority to refer or direct the care of other disciplines (Hastings 1997). Collaborative practice arrangements are most common in areas such as rehabilitative medicine, mental health, palliative care, geriatric care, chronic disease management, and community-based primary care and family medicine clinics (Canadian Medical Association 2007). Collaborative practice between medical professionals and health care professionals is purported to improve patient access to services, improve health outcomes, provide a more 'seamless service', increase efficiency of care, reduce health care costs and improve medical professional job satisfaction (Hastings 1997; Taylor 1996)

Barrett, Dort and White (2000) defines collaborative practice as

> *an integrated approach to delivering services where health professionals function as colleagues and grounded by common care goals, supported by shared decision making, and nurtured by a climate of mutual respect, trust and support. Clear definitions of roles, responsibilities and effective communication are integral to success.*

Since collaborative practice is not routinely taught and healthcare providers graduate with their own discipline/professional values, language, and consultation techniques, it is critical for each member of the healthcare team to have a common language and understanding of collaborative practice. Hence, Way, Jones and Busing (2000) described collaborative practice as "an inter-professional process for communication and decision making that enables the separate and shared knowledge and skills of care providers to synergistically influence the client/patient care provided."

Way, Jones and Busing (2000) have developed a core model based on a framework or structure that consists of seven essential elements for optimum collaboration. This model includes a process for identifying the roles and functions of the collaborating partners. It allows each group practice to design its operations according to the needs of the practice population, the geographic location of care, and the expertise of the practice partners. In this regard, each practice is able to deliver the most effective and efficient care in a manner which effusively utilises the knowledge, skills and preferences of its provider resources.

The theoretical framework for this study is therefore based on the collaborative practice model by Way, Jones and Busing (2000). The seven essential elements that form the structure or framework for collaboration will be implemented within the context of the medical aesthetic practice to determine whether a professional relationship between the medical professional and the somatologists/aesthetician exists. Each of the seven essential elements will now be discussed.

2.12.1 Responsibility and Accountability

In order to provide optimal care providers must be accountable and responsible for the outcome of their individual practice, whilst sharing responsibility for the proper functioning of the collaborative care team. In collaborative care teams the medical professional should be identified as the person most responsible for the clinical care of individual patients, and must also be accountable for the care provided to patients (Canadian Medical Association 2007).

Within a medical aesthetic practice, direction comes directly from the medical professional who maintains complete control over all facets of the medical procedure. Non-invasive medical procedures may only be performed by trained medical personnel such as medical doctors, nurse practitioners and physician assistants. Under the supervision of a medical professional, the aesthetician is able to perform pre- and post-operative treatments and skin care education before the patient undergoes a medical procedure.

Although each personnel in the medical practice has a responsibility in performing discipline-specific functions for which they are accountable, the medical professional, as a leader, is still responsible and accountable for the ultimate patient outcome (Way, Jones and Busing 2000).

2.12.2 Co-ordination

Co-ordination includes efficient and effective organisation of the essential components of the treatment plan. Mechanisms that are used to increase co-ordination include bi-directional consultation, referral and transfer of care (Way, Jones and Busing 2000). Components included in a treatment plan for a non-invasive medical aesthetic procedure include patient consultation and patient selection, both conducted by the medical professional. An experienced aesthetician may also play a role in client selection as well, but must ensure patient compliance. The client is then referred to the aesthetician for pre-operative consultation. Where a pre-operative consultation is conducted, the actual procedure is performed by the medical professional. Post-procedure the patient may either be referred back to the medical professional if complications arise, or return to the aesthetician for post-operative skincare treatment (Warfield, 1997; Way, Jones and Busing 2000).

2.12.3 Communication

Efficient and effective communication within collaborative care teams is critical for the provision of optimal patient care. Good communication skills based on team effort between physician, aesthetician and the patient is key to the success of the practice. Although medical professionals are assumed to take on the leadership role, it is the responsibility of each team member, where appropriate, to ensure that the client receives timely, clear and consistent information. A common, accessible client record between physicians and other health-care professionals is imperative to prevent duplication, to ensure co-ordinated care, shared information and to protect the safety of clients. Although each healthcare provider is able to voice their ideas and concerns, respectful listening is vital as it ensures that both healthcare providers receive joint input required for making effective client care decisions (Thornfeldt and Bourne 2010; Way, Jones and Busing 2000).

Since aestheticians have a rapport with their clients they are usually the first to discuss treatment options with the client, or to answer client questions about the treatment protocol itself. After a procedure, the aesthetician assists the patient to adhere to medical intervention guidelines by communicating skin care knowledge and performing clinic/aesthetic treatments. This minimises the risk of infection and maximises the patient outcome. Treatment complications are referred back to the medical professional (Warfield 1997; Lees 2007).

Computer imaging has become a well recommended and legal practice for any spa salon. (Lees 2007; Warfield 1997). This equipment is used to document gradual changes during each treatment phase and subsequently provides a means of interactive communication for all medical practice personnel.

2.12.4 Co-operation

Co-operation involves acknowledging and respecting other professionals' opinions and viewpoints, whilst being prepared to examine and modify one's own professional views and perceptions. Great disparities exist between the educational background of an aesthetician and the medical professional, whereby the latter spends more years training towards a medical degree and then furthering training in to specialise. It is therefore critical that aestheticians respect the education and training of the medical professional and other medical personnel in the medical practice. The aesthetician ensures that he/she follows the medical professionals' direction during pre-operative and post-operative care and does not deviate from these directions (Canadian Medical Association 2007; Warfield 2001). Since medical professionals have completed scientific training, they tend to be more concerned with medical conditions rather than aesthetic problems. In this regard, aestheticians practice clinical methods using sterile techniques and time-tested methods. They respect medical professionals' personal requests for patient care in instances when a patient needs dermatological attention instead of aesthetic care (Thornfeldt and Bourne 2010).

2.12.5 Assertiveness

In a collaborative relationship individual providers support the opinions and perceptions of their own profession with confidence, assured of the value of their own contribution (Way, Jones and Busing 2000). As previously mentioned, the scope of practice of aestheticians include services that maintain and improve the appearance of the skin and excludes services that use instruments or techniques which they are not trained to use (Lees 2007; National Coalition of Estheticians Association 2007). It is crucial that aestheticians are knowledgeable about their scope of practice and perform treatments within the guidelines of their respective state's or country's licensing requirements. With the technological advancements in the medical aesthetic practice, aestheticians are often asked to perform duties that are outside the scope of their training, certification, and expertise. Performing treatment and services that are beyond the scope of practice can have serious legal consequences, leading to malpractice suits (Thornfeldt and Bourne 2010).

2.12.6 Autonomy

Collaborative relationships bestow on individual providers the authority to independently make decisions and carry out the treatment plan. Autonomy does not oppose collaboration but serves as a complement. Without being able to work independently, the provider team becomes inefficient and work is unmanageable (Way, Jones and Busing 2000).

Within a clinical setting teamwork is valued and crucial as the medical professional, nurse and aesthetician may see the patient through several phases of the treatment plan. Within a spa, salon or aesthetic setting, however, autonomy is more prevalent as it may primarily be the receptionist and the aesthetician seeing the client (Culp *et al.* 2013). In order for the collaborative relationship to be successful the support team is vitally important as it cultivates the atmosphere of a practice, since aestheticians often spend more time with the patient than the medical professional. Therefore, to a large degree the success of a medical practice is dependent upon how well the team of support members work together to provide a desirable experience for the client (Culp *et al.* 2013; Thornfeldt and Bourne 2010).

Supporting teamwork by adopting the same core values and work approach is critical in the medical practice, hence the growing trend amongst aestheticians in medical aesthetics to obtain continuing education. Furthermore, this teamwork is highlighted where aestheticians, if licensing permits, attend some seminars that medical staff are required to attend, such as laser hair reduction and IPL (Culp *et al.* 2013).

2.12.7 Mutual Trust and Respect

In a collaborative relationship each provider must be able to depend upon the integrity of the other as the foundation for their professional relationship (Canadian Medical Association 2007). By taking a clinical, scientific approach to skin care, the aesthetician gains respect from the medical professional. Possessing the knowledge of anatomy and physiology, dermatology and medical terminology reinforces the medical professionals' trust in the aestheticians' abilities. A successful working or referral relationship is built on mutual respect and trust for each other's professional standing, together with the desire to treat the patient with optimal care. For this reason it is critical for the aesthetician to have respect for the education and training of the medical professional and other team members, and not to disapprove of the medical professional's opinion or protocol (Culp *et al.* 2013). Likewise, the medical professional should be receptive to understanding the level of training, knowledge and skills that the aesthetician possesses (Thornfeldt and Bourne 2010).

According to Norsen, Opladen and Quinn (1995), co-operation cannot exist without trust and respect. Without trust and respect assertiveness becomes threatening and responsibility is shunned. Communication is hindered, autonomy is inhibited and co-operation is random. Furthermore, and as previously mentioned, international studies (Heathman 2005; Schroder 2012) indicate that medical aesthetic patients are less likely to seek litigation if they have received robust support prior to surgery

2.13 THE ROLE OF MEDICAL PROFESSONALS IN A NON-INVASIVE AESTHETIC AND ANTI-AGEING MEDICINE PRACTICE

The medical fraternity is traditionally regarded as a credible and trustworthy profession owing to its broad and diverse knowledge, training, experience and patient relationship. Hence, patients rely on and expect medical professionals to assume the role of a clinical leader in collaborative care teams. In a beauty salon/clinic environment employees are encouraged to think independently and share in the decision-making process. The medical practice often adheres to a strict top-down human resource methodology where all direction to perform procedures comes directly from the medical professional, who maintains complete control over all aspects of the procedure (Culp 2013; Thornfeldt and Bourne 2010). Physicians are responsible for expanding the expertise and input of the entire health care team so as to provide the patient with the most comprehensive care possible (Goh 2009). Consequently, medical aesthetic patients place their trust in medical professionals to carry out medical aesthetic procedures which are beyond the aestheticians' scope of practice. For this reason, advice and services offered by medical professionals are often taken seriously with the belief that these professionals will always provide scientifically proven and effective procedures (Goh 2009).

An individual seeking treatment in a medical setting is referred to as a *patient*, and not a client. For this reason, the role of every professional working in the aesthetic practice is altered (Elsaie 2010); therefore within a medical aesthetic practice the patient initiates the procedure and not the physician. Prior to the treatment procedure, the patient's psychological condition is evaluated by the medical professional in order to review emotional and psychological stability. During the assessment the patient is not merely regarded as a procedure-seeking individual, hence he/she undergoes a holistic evaluation where the medical professional devotes significant time to an examination into the patient's family, medical and surgical histories.

Knowledge of possible allergies, medication currently administered, cigarette and alcohol use is also gathered from the patient (Elsaie 2010). In order for the patient to

achieve optimal results an integrated or holistic approach is essential, where medical procedures are managed and supervised by a medical professional who has a comprehensive knowledge of all the modalities. This is in collaboration with the aesthetician, who evaluates the patient's skin and provides personalised pre- and post-operative treatments within the medical aesthetic setting (Canadian Medical Association 2007).

Due to the scientific advancements in products, equipment and techniques, various cosmetic medical procedures require a medical practitioner to supervise or administer those which a nurse practitioner or aesthetician is not qualified to perform. The field of non-invasive medical aesthetics comprises two areas: the aesthetic component which deals primarily with traditional treatments (Table 2.2:45) performed in a beauty salon/clinic or spa; and advanced medical procedures (Table 2.2:45) performed in a medical practice. In most states, these medical procedures may only be performed by trained medical professionals such as doctors, nurses, nurse practitioners and physician assistants. These professionals must not only be registered with the Medical Board, but should have completed an additional training qualification in non-invasive medical procedures. Under the supervision and direction of the medical professional, the aesthetician performs pre- and post-operative treatments in the medical practice. Furthermore, if post-surgery complications arise the physician is on site (Culp *et al*. 2013; Thornfeldt and Bourne 2010).

2.14 THE ROLE OF AESTHETICIANS IN VARIOUS MEDICAL AESTHETIC SETTINGS

Over the past decades the role of the aesthetician has expanded to incorporate a broad range of skin care services in a variety of health, beauty and wellness facilities, such as medical aesthetic practices, skin care clinics, medical spas and wellness centres. Career opportunities have also become available for aestheticians in various medical settings such as medical practices (cosmetic surgery and dermatology), oncology clinics, outpatient clinics, hospitals, independent clinics, laser centres, cosmetic dentistry and medical spas (physician directed). In this regard, each individual setting

determines the roles and responsibilities of the aesthetician (Culp *et al.* 2013). Although each facility has its own specific requirements, many have integrated modern techniques with centuries-old beauty traditions to create a holistic program of skin care that embraces mind, body and spirit.

This comprehensive approach to aesthetic procedures has strengthened the relationship between health professionals and aestheticians. It has created a growing acceptance of the role of the aesthetician in a medical setting (Culp *et al*. 2013). The most common aesthetic settings will now be discussed.

2.14.1 The Plastic Surgery Practice

Progressive aesthetic plastic surgeons are able to complement their skills by integrating the services of medical aestheticians into their practice. In order to assist the accomplishment of long-term goals for the surgery, the aesthetician must be well informed about new techniques in the practice. Since informed patients continually seek the latest procedures, failing to provide this valuable information can jeopardise profits and create a patient who is dissatisfied. One of the principal benefits of integrating a medical aesthetician into the surgery environment is enhanced service, which leads to superior patient satisfaction (Heathman 2005).

Many medical professionals within the medical aesthetic setting lack the psychological component of patient care and comfort. Since aestheticians have a rapport with clients accompanied by a baseline of medical aesthetic knowledge, they are often left to suggest options on medical procedures. They also answer questions that inevitably reassure the client and ease concerns about the procedures. Aestheticians are the patients' initial point of contact, as many patients will frequent their services prior to consulting with a medical professional to discuss the benefits of medical procedures (Thornfeldt and Bourne 2010; Lees 2007).

Service and support are key fundamentals for patients seeking cosmetic surgery, as this leads to greater patient satisfaction Therefore prior to surgery the medical aesthetician can provide support and care to patients who become anxious in anticipation of the

outcome of a facial rejuvenation procedure, while the plastic surgeon is left to focus on the actual procedure. Patients often become loyal and as a result trust the aesthetician for the comfort and support received during the post-recovery period (Heathman 2005).

Studies further indicate that patients are less likely to seek litigation if they have received robust support prior to surgery (Heathman 2005; Schroder 2012). In this regard, aestheticians have therefore become valuable assets within plastic surgery practices. In order for the synergistic relationship of the plastic surgeon and aesthetician to be successful, both professionals must have complete trust and belief in each other. They each bring a unique skill to the surgical procedure, which in turn affects a positive patient outcome (Heathman 2005). Under the supervision of a physician, the aestheticians may also provide surgical consultations in order to assist in the development of the patient-physician relationship, and to communicate realistic expectations prior to the procedure. Should the patient's recommended treatment plan include surgery or laser resurfacing, aestheticians will assist in outlining proper pre- and post-treatment care. This assists the patient to achieve optimal skin health before surgery, and prepares the skin for post-procedure healing. This may include treatments such as chemical peels, microdermabrasion or deep cleansing treatments prior to surgery, followed by skin soothing facials to stimulate the healing process after surgery.

Preparing the skin to be in its optimum state is the first step for a successful outcome in plastic surgery, as improved barrier function permits rapid healing to take place hence the enhanced outcome. During the pre-operative phase, the skin's metabolism is increased and cellular debris on the surface of the skin is reduced. Post-operatively, the objective is to decrease inflammation, moisturise, nurture and soothe the skin. In both the pre-operative and post-operative phases the skin is hydrated and protected from ultraviolet A and B rays emitted by the sun (Heathman 2005).

A complete surgical plan includes protocols for care, pre-operative consultation, procedure education, in-office and home care education, actual surgery and

post-surgical care. The aesthetician documents the patient's progress using 'before' and 'after' pictures, and records treatment notes in the patient's file (Deitz 2013; Lees 2007). As medical interventions can only be performed by highly trained medical professionals such as doctors, nurses, nurse practitioners and physician assistants, aestheticians need to be knowledgeable about the different medical interventions so that they are able to provide the client with accurate information. They will also then be able to ascertain when to refer clients to a physician or nurse.

New products enter the aesthetic market at a rapid pace and therefore updated information on medical procedures is essential. Regular discussions regarding medical procedures may also benefit everyone involved, including the client, the aesthetician, the doctor as well as the nurse. This will ensure that everyone is imparting the same information to the client (Culp *et al*. 2013; Lees 2007). Aestheticians also perform corrective skin care or camouflage make-up for patients with burns or disfigurements, and often serve as liaisons between physicians and patients. The aesthetician may assist with home care protocol reinforcement and the correct usage of medication/products, while providing skin education to the patient as directed by the physician (Lees 2007; Thornfeldt and Bourne 2010).

2.14.2 The Dermatology Practice

In a dermatology practice, the aesthetician is often utilised as a medical assistant. The focus in this setting is more analytical and clinical than in an aesthetic practice or medical spa. The role of the aesthetician within this setting includes mild superficial peels, facial cleansing, and assistance during surgeries, performing of extractions, post-operative wound care, photo-therapy and laser resurfacing, as well as ensuring that supplies are stocked (Lees 2007). In a medical spa attached to a physician's practice, the aesthetician will manage and control the retail product area and will assist in choosing and selling product lines that best suit the patient's needs. Furthermore, the aesthetician will provide make-up consultation services for post-procedure camouflage. Under the supervision of a physician or nurse practitioner, licensed aestheticians may perform laser therapies such as laser hair removal, vascular-spider vein or intense pulsed light (IPL) treatments, along with body-contouring procedures and treatments for

cellulite improvement (Thornfeldt and Bourne 2010). Table 2.1 provides treatments/services performed by aestheticians in diverse medical settings.

Table 2.1 Treatments/services performed by an aesthetician in diverse medical aesthetic settings (Culp *et al*. 2013).

Diverse medical aesthetic settings	**Treatments/services**
Cosmetic surgeon's practice	▪ Manage retail centre/sales, buying and ordering. ▪ Pre- and post-operative care. ▪ Patient education. ▪ Routine skin care/facials, microdermabrasion, peels. ▪ Camouflage therapy. ▪ Laser hair reduction.
Dermatology practice	▪ Routine skin care/facials, peels, microdermabrasion, extractions.
Outpatient clinic	▪ Manage retail centre/sales, buying, ordering. ▪ Routine skin care/facials, microdermabrasion, peels. ▪ Pre- and post-operative treatments. ▪ Patient education. ▪ Camouflage therapy. ▪ Laser hair reduction.
Hospital	▪ Routine skin care/facials, peels, microdermabrasion. ▪ Pre- and post-operative treatments. ▪ Patient education. ▪ Laser hair reduction. ▪ Research.
Skin care clinic	▪ Clinic administration. ▪ Training. ▪ Manage retail centre/sales, buying. ▪ Routine skin care treatments/facials, peels, microdermabrasion.
Laser centre/clinic (physician or registered nurse directed)	▪ Administer laser therapy: hair; vascular-spider veins; intense pulsed light (light therapy for wrinkles and pigment). ▪ Client/patient education.
Cosmetic dentistry clinic	▪ Product sales. ▪ Manage retail centre. ▪ Routine skin care/facials, peels, extractions.
Medical spa	▪ Manage retail centre. ▪ Routine skin care, facials, peels, microdermabrasion. ▪ Lasers. ▪ Endermologie (machine massage for cellulite).

2.15 PRE- AND POST-OPERATIVE AESTHETIC TREATMENTS PERFORMED BY AN AESTHETICIAN/SOMATOLOGIST

The treatments/services performed by an aesthetician and directed by a medical professional are offered as ancillary services in a medical aesthetic practice. These include:

- specialised facials (hydrating, soothing, deep cleansing, anti-ageing)
- permanent make-up
- camouflage make-up
- massage therapy
- manual lymphatic drainage face and body
- microdermabrasion
- superficial to medium depth chemical peels
- microcurrent facial and body treatments
- light-emitting Diode (LED) therapy (phototherapy)
- intense pulsed light (IPL)
- galvanic treatments (face and body)
- radiofrequency (skin tightening device)
- non-invasive/non-ablative laser treatment
- ultrasonic treatments
- mesotherapy
- skin care education and homecare advice.

Some treatments, such as IPL hair removal and photo-rejuvenation, require professional medical supervision while others may be performed without the supervision of a medical professional (Deitz 2013; Thornfeldt and Bourne 2010). Table 2 indicates the various medical aesthetics treatments, procedures/services.

Before the patient can begin a treatment procedure in the medical practice, a waiting period of eight weeks or a minimum of two weeks is adhered to, where the aesthetician performs any of the above aesthetic treatments targeted to improve the patient's healing processes and the overall outcome of the procedure. In the clinic treatments are

completed on a weekly basis or as per the protocols for the specific service recommended. The treatment plan is determined by the patient's skin type, level of photo-ageing and professional medical protocol. Prior to commencing with a treatment a thorough consultation is conducted by the aesthetician, where additional protocols based on the professional medical guidelines are implemented such as the incorporation of manual lymph drainage in the treatment plan (Culp *et al*. 2013).

2.15.1 Specialised facials (hydrating, soothing, deep cleansing)

Pre-operative care is provided by the aesthetician/somatologists four to six weeks prior to the cosmetic surgery. This may include deep cleansing treatments such as chemical peels and microdermabrasion which reduce cellular debris on the surface of the skin, thus increasing the skin's metabolism. Post-operatively the aim is to reduce inflammation, thus the aesthetician/somatologist may perform soothing treatments designed to stimulate the healing process and optimise the procedure outcome (Warfield 2001).

2.15.2 Permanent and camouflage make up

When post-surgery swelling and discolouration sets in, skin morbidity usually frightens and often disappoints patients. In this instance the role of the medical aesthetician is to assist the patient to overcome post-operative feelings of frustration, and further teach the patient to camouflage surgical after-effects using post-surgical camouflage make-up.

2.15.3 Peels

Chemical peels come in a variety of strengths. Depending on the aesthetician's level of experience, caution and care needs to be practiced when using these peels. According to the aestheticians' scope of practice (National Coalition of Estheticans Associations 2004), peels that can be used by the aesthetician range from the lightest enzymatic exfoliators to light-medium exfoliators. Training on lighter peels is performed in the basic aesthetician programme. Light to medium peel training can be obtained as an advanced course by an accredited postgraduate school. The aesthetician can only perform treatments on the epidermis; any peels that penetrate beyond the epidermis can only be used when under the supervision of a medical professional (Deitz 2013).

2.15.4 Microdermabrasion

Microdermabrasion is a mechanical form of exfoliating the outer layers of the stratum corneum, using various devices such as forced air, crystals, water, brushes, diamond- tipped probes and vibration (Thornfeldt and Bourne 2010). Since there are no clinical studies proving the benefits of this treatment, only treatment claims such as the visible improvement of fine lines, reversing sallowness, lightening of superficial hyperpigmentation, smoothing out roughness and loosening comedones (blackheads) have been made.

Microdermabrasion can therefore be used to treat ageing and sun-damaged skin, acne scarring and acne, hyperpigmentation, stretch marks, fine lines and wrinkles.This treatment is performed pre-operatively as it removes dead surface skin cells and introduces cellular turnover at the dermis and epidermis levels, in a safe and controlled manner. Post-operatively, microdermabrasion respects the integrity of the skin and promotes ‘even’ healing. Microdermabrasion is especially indicated for oily, thick skin with extreme sun damage. The use of chemical peels/exfoliators such as AHA’s and BHA’s scrubs and retinols must be discontinued two days prior and three days post-microdermabrasion treatment. Benefits of this treatment are that the patient will not experience any down time and the treatment is performed within a short duration of time (Culp *et al.* 2013; Thornfeldt and Bourne 2010). Microdermabrasion is considered an advanced treatment requiring further training and consent from the medical professional. Postgraduate aesthetician programmes include microdermabrasion as part of the standard curriculum (Warfield 2001).

2.15.5 Microcurrent therapy

Microcurrent therapy is a low-level electric current that imitates the body’s own natural electric rhythms. This has been used in medicine and physical therapy for many years. This treatment acts as an external source of energy which the body can use to accelerate healthier looking skin. The objective of the microcurrent facial is to perform a firming and toning treatment, as well as to provide an excellent medium for iontophoresis (hydrating) and desincrustation (deep cleansing). Through stimulating circulation and adenosine triphosphate (ATP), the microcurrent increases fibroblast

activity, hence regulating the production of collagen and elastin fibres. Furthermore oxygenation and respiration in the cells is improved, muscle movement is supported and DNA is replicated. Microcurrent therapy can therefore be used as a basic treatment for age management in a monthly routine. Pre-operatively, it may be used as a stand-alone service or may be combined with other treatments to assist the condition and tone the skin. Post-operatively its toning aspect is beneficial for long term enhancement of the medical procedures (Deitz 2013; Thornfeldt and Bourne 2010).

2.15.6 Light-emitting Diode (LED) Therapy (phototherapy)

LED releases light onto the skin to stimulate specific responses at the correct depths of the skin. These devices are commonly used to treat photo-damaged skin, mild to moderate acne, redness caused by inflammation from laser/light therapies, wound healing and the improvement of skin tone and texture. Studies have also shown that LED therapy increases adenosine triphosphate (ATP) which promotes fibroblast activity, thus stimulating collagen and elastin production. Neither downtime nor post-operative care is required after this treatment (Deitz 2013; Lees 2007).

2.15.7 Galvanic treatments face

This device may be incorporated into a pre-operative facial treatment to assist in product penetration, deep pore cleansing and hydration (Culp *et al*. 2013)

2.15.8 Radiofrequency (skin-tightening device)

This device is a non-surgical procedure used to tighten ageing skin. Its deeply penetrating energy heats collagen up to 4 mm below skin surface, causing it to contract and thereby tightening skin over time. Some disadvantages of this treatment are that pain is experienced and skin redness may be present for two to four days after treatment, due to possible nerve damage (Thornfeldt and Bourne 2010).

2.15.9 Ablative lasers and non-ablative lasers

Lasers have become a key therapeutic tool for aesthetic medicine and have made a significant contribution to improving the condition of various skin diseases. Several medical professionals are incorporating a multiplicity of laser treatments to generate income for their practices. Laser (Light Amplification Stimulated by Emitted Radiation) is

a coherent, monochromatic light of narrow spectrum which is powerful enough to damage major organs. All lasers produce controlled wounding, therefore pre- and post-procedure care is critical to maximising client outcome whilst minimising risk (Thornfeldt and Bourne 2010).

Laser training for an aesthetician or health care provider, however, is not comparable to years of medical school education in understanding the mechanism's complications and treatment associated with lasers. Ablative laser treatments are only performed by a medical professional since they penetrate the dermis and are therefore beyond the scope of practice of an aesthetician. Eight weeks prior to the skin resurfacing treatments the aesthetician performs a pre-operative treatment plan under a medical professional's direction. This will often be adapted according to the patient's needs. Conversely, if the aesthetician is not working within a medical professional's practice then he/she must ensure that his/her treatment plan is co-ordinated with the patient's medical professional. This treatment plan will be followed through to the post-operative phase (Thornfeldt and Bourne 2010).

Non-ablative lasers (including IPL lasers) are non-ablative techniques that can be used for both hair removal and skin rejuvenation. IPL hair removal has become the gold standard for hair removal. Aestheticians/somatologists may perform this treatment without the supervision of a medical professional. The directions and recommendations of a medical professional should, however, not be disregarded. Similarly, skin rejuvenating lasers are used to treat pigmented lesions, vascular lesions, and fine lines and wrinkles (Thornfeldt and Bourne 2010).

2.15.10 Ultrasonic treatments

This device may be incorporated into a pre-operative facial treatment to reduce and remove sebum and surface debris, improve congestion, and for the penetration of ampoules, serums and creams into the skin for hydration and barrier improvement (Deitz 2013).

2.15.11 Skin analysis/ageing analysis

Prior to the pre-operative treatment, the client's skin type is identified based on the intrinsic and extrinsic ageing processes and any existing skin condition that is observed. Various techniques such as magnifying lamp and skin scanners are employed to observe the skin. Skin evaluations are recorded on the treatment record forms. This evaluation will assist to enhance procedure success and client satisfaction (Culp *et al.* 2013).

2.15.12 Endermologie

Endermologie is a cellulite treatment used to stimulate the reduction of adipose tissue and may be performed before and after liposuction, thus improving skin appearance and tone (Culp *et al*. 2013).

2.15.13 Skin care education and homecare advice

Aestheticians/somatologists play a supportive role for clients with both in-office and homecare protocols prior to, and after, a procedure. Prior to surgery the client is provided with the correct skin care maintenance and education through regular facial treatments with the aesthetician/somatologist. The aesthetician is able to educate the client in layman's language on the medical procedure. Their role is also to ensure that the client follows the medical professionals' instructions on the use of medication and homecare instructions (Warfield 2001).

2.15.14 Massage – Manual lymph drainage

Manual lymph drainage (MLD) is a massage treatment that utilises a series of light rhythmic movements which stimulates lymph fluid to flow through the lymphatic vessels. When vessels become blocked or congested, excess water, protein and waste create oedema in the connective tissue. Lymphatic massage is indicated for the majority of pre- and post-operative procedures. After manual lymph drainage is performed pre-operatively, the patient benefits from an increase in hydration, reduced levels of stress and anxiety which is not present in other types of massage, cell regeneration and general detoxification. Once lymph is moved back through and into the bloodstream for cleansing and purifying, the post-operative healing process is accelerated, thus aiding in the rapid reduction of inflammation, bruising and pain. The outcome of lymphatic massage varies from patient to patient, and is also dependent on the patient's health

status and commitment to the programme. Generally if the aesthetician performs lymphatic massage accurately, patient recovery time and overall health is enhanced (Heathman 2005; Deitz 2013). Table 2.2 provides a summary of discipline specific medical and aesthetic/somatology treatments/services.

Table 2.2 Discipline specific medical and aesthetic/somatology treatments/ services

Medical and aesthetic/somatology treatments	Aesth	MP
Patient preoperative consultation – medical record chart, contra-indications	✓	✓
Pre/post-operative aesthetic treatments/services		✓
• Chemical peels (light – medium), enzymatic	✓	
• Microdermabrasion	✓	
• Manual lymph drainage	✓	
• Endermologie	✓	
• Microcurrent	✓	
• Camouflage make up	✓	
• Galvanic therapy	✓	
• LED light therapy (phototherapy)	✓	
• Permanent make up (micropigmentation)	✓	
• Radiofrequency	✓	
• Sonophoresis (low frequency current)	✓	
• Skincare education	✓	
• Home care protocol reinforcement	✓	
• Specialised facials (hydrating, deep cleansing, anti-aging)	✓	
• Skin analysis/skin imaging	✓	
Medical procedures		
• Botox™ injections		✓
• Medical chemical peels		✓
• Hyaluronic acid		✓
• Injectable collagen fillers		✓
• Invasive lasers		✓
• Noninvasive lasers	✓	✓
• Intense pulsed light (IPL)	✓	✓
• Mesotherapy		✓

• Tattoo removal		✓
• Sclerotherapy (vein therapy)		✓

2.16 THE MEDICAL SPA – MULTIDISCIPLINARY PRACTICE

Non-invasive anti-ageing procedures will lead the market in aesthetic medicine, as the ageing baby-boomer generation is more attracted to non-invasive anti-aging treatments compared with plastic surgery procedures which have minimal downtime (Culp 2013; Hill 2009). Concurrently, a phenomenal growth is experienced in both medical spas and day spas, both of which employ aestheticians and other health care providers. The annual revenue for medical spas in the United States of America was $1.06 billion, up from $469 million in 2006 (Hill 2009).

According to the NCEA (2004), a medical spa is a facility which operates during business hours under the on-site supervision of a licensed healthcare professional. The professional and other staff operate within their scope of practice, as defined by the respective licensing board (should licensure be required). Medi-spa is a shortened term for the word 'medical spa'. Essentially, a spa offers a combination of medical, cosmetic, and relaxation treatments in a spa-like setting. One of the requirements medical spas need to adhere to is that they function under the supervision of a medical doctor.

Medical spas may offer aesthetic treatments, wellness and medical procedures in a relaxed environment. Medical professionals perform non-invasive procedures such as deep chemical peels, laser treatments, and anti-ageing dermal injectables (Botox, dermal fillers). Wellness treatments such as ayurveda and acupuncture are performed by complementary health therapists, while the aesthetician performs pre- and post-operative facial treatments and massage therapy (Culp *et al.* 2013).

Medical professionals have discovered a profitable cash-based business by introducing a medical spa or aesthetic treatment centre. International studies have indicated that patients seeking cosmetic botulinum toxin injections have quicker access to dermatologists (Dogra 2009; Kimball and Resneck 2008; Resneck, Lipton and Pletcher

2007; Tsao 2004). Hence, dermatologists selectively improve access to these patients because of higher and immediate reimbursement for cosmetic services (Dogra 2009).

A medical spa may be located inside the medical practice itself or as a separate unit to the medical practice, and can be managed by a non-physician employed by the supervising medical professional. Alternatively, non-physicians may also buy into a medical spa or laser centre business.

What may sometimes be a problem in these facilities, especially at auxiliary locations, is that more emphasis may be placed on the medical procedure itself and not on the care of the patient. Although medical professionals or non-physicians may be skilled at performing medical procedures, a lack of in-depth training is evident when managing treatment complications. It is important to keep in mind that most non-core physicians do not receive in-depth specialised training and education of the skin, as do dermatologists, plastic surgeons and facial plastic surgeons. The majority of physicians or nurse practitioners operating medical spas or laser treatment centres therefore enter into this field with limited to no background knowledge in skin procedures and treatment (Hill 2009).

2.17 SAFETY AND QUALITY OF MEDICAL AESTHETIC TREATMENTS

The objective of laser companies is often to make a profit, hence the provision of cursory training on the specific equipment used in the medical spa. It goes without saying, however, that a once-off training session does not make a specialised cosmetic physician. An ongoing learning process that requires constant supervision, hands-on-training, and continuing education is crucial in ensuring maximum patient outcome and experience (D'Angelo 2003).

In the United States of America regulations for on-site supervision or immediate consultation by the supervising physician or NP vary in each state. Therefore, some medical professionals and medical spas train nurses and aestheticians to perform laser treatments and to administer injectables such as Botox™ and other dermal fillers under their malpractice insurance umbrella. Legally, aestheticians are prohibited from

administering any dermal injectables regardless of insurance coverage. In some instances these incidents have resulted in litigation.

In order to operate medical devices it is imperative that aestheticians receive continuing education, certification and supervision by a qualified medical professional within the medical spa (Hill 2009; D'Angelo 2003). Many procedures constituting aesthetic medicine have a strong scientific basis.

According to the Cochrane Skin Group (2013) there are a number of non-invasive aesthetic treatments and procedures that are supported by a moderate to high level of scientific evidence, and have local consensus that procedures are well-established and accepted. These procedures include chemical peels, medical lasers, intense pulsed light, radiofrequency, infrared, skin-tightening procedures, phototherapy, ultrasound, botulinum toxin injection, filler injection, sclerotherapy, thread lifts and lasers (vascular lesions, skin pigmentation and skin rejuvenation). Medical professionals rely on the scientific method (a philosophy of reasoning that is based on first generating and then testing a hypothesis) to evaluate drugs, procedures and equipment prior to usage on the general public. The scientific method is also used to develop theories which can be applied with accuracy to predict patient outcome, however this scientific theory is not generally associated with cosmetics. Some aesthetic treatments claim to rejuvenate the skin but are not supported by scientific evidence. These services and procedures are often provided to the patient at a substantial cost, hence deviating from the normal practice of modern medicine.

The Cochrane Skin Group (2013) currently regards procedures such as mesotherapy, carboxytherapy, microneedling dermaroller, skin whitening injections, stem cell activator protein for skin rejuvenation and endermologie for cellulite treatment, as having low evidence and /or being neither well-established, nor currently acceptable. Medical professionals have identified this deviation to be a growing problem needing urgent attention, as trust and professionalism in the medical fraternity is compromised. Significantly, concerns have been raised regarding the safety and quality of these services by the medical profession and the general public (Cochrane Skin Group 2013).

In South Africa there is no law governing the sale of laser machines. Hence this has become a grey area, as many unauthorised operators are performing treatments when they are not adequately trained. According to AAMSSA (2012) no regulatory legislation exists; this therefore creates mistrust and misconceptions on the use of lasers amongst somatologists in South Africa.

Like our international counterparts, in order to operate non-invasive lasers it is imperative that aestheticians receive continuing education and certification by the laser supplier. Importantly, medical or invasive lasers require supervision by a qualified medical professional within the medial spa/medical practice (American Anti-ageing Medicine Society of South Africa 2012).

2.18 RESEARCH STUDIES INTERNATIONALLY – MEDICAL AESTHETICS

Resneck, Lipton and Pletcher (2007) and Suneja *et al*. (2001) highlighted a distinct trend where cosmetic dermatology had become an integrated and largely accepted part of general dermatology. This has led to an increase in the quality and safety of cosmetic treatment modalities, thus showing added benefits.

Results from a study conducted in Canada by Marcoux and Gratton (2000) were that the majority of dermatologists (81%) expressed the need to be better informed regarding research and technological advances within the cosmetic industry. This included ingredients and product testing before offering advice to their patients.
The majority of dermatologists (88%) preferred to recommend products which they were familiar with, while their actual product knowledge was not extensive. Additionally, nine out of ten female dermatologists suggested that cosmetic treatment products could play a major role in the future of the dermatology specialty. As indicted by Marcoux and Gratton (2000), Canadian dermatologists are increasingly lobbied to treat skin problems that are not diseases.

The general public believes that advice on healthy skin care should be a service provided by dermatologists. Seventy-nine percent of dermatologists treated healthy skin

problems and skin diseases, whilst only 3% believed that treating healthy skin problems was not their role. Nine out of ten female dermatologists were more comfortable with treating healthy skin problems. All female dermatologists included in the study revealed that healthy skin problems were a daily occurrence in their practices. The subject frequently raised by patients regarding healthy skin problems pertained to the cutaneous problems associated with sun exposure. Approximately 87% percent of dermatologists treated patients with skin problems resulting from sun exposure. Patients often requested information on wrinkle prevention, skin care best suited for their skin type, stretch marks, cellulite, reduction of hair loss, and the effects of menopause on skin. The majority of dermatologists preferred to obtain information on skin care products and latest technologies from seminars at professional conferences, courses, and through articles published in medical journals and other professional publication (Marcoux and Gratton 2000).

Moreover, future trends predicted by Canadian dermatologists highlighted photo-ageing related problems and skin cancer as becoming important in the future. In addition, laser treatments and cosmetology were also predicted to grow, especially among young dermatologists. As information and education regarding healthy skin problems become more important, they will be compelled to become part of residency training in dermatology. They will also become an essential focus for continuing medical education, as medical aesthetic treatments become part of clinical practices (Marcoux and Gratton 2000). Presently, the medical aesthetic training in India has become a fundamental part of postgraduate training in dermatology and this trend could continue to evolve (Dogra 2009).

2.19 REFERRAL RELATIONSHIP BETWEEN MEDICAL PROFESSIONALS AND AESTHETICIANS/SOMATOLOGISTS

If the aesthetician does not work within a medical setting then it is essential for the aesthetician to establish a relationship with a local medical professional to whom he/she feels comfortable referring clients (Culp *et al*. 2013).

Aestheticians are frequently the patient's initial point of contact, as many patients will utilise their services prior to consulting with a medical professional. As aestheticians are trained to recognise (not diagnose) many skin diseases or abnormalities, they would encourage their patients to seek professional advice or further medical treatment (Thornfeldt and Bourne 2010). Dermatologists may refer clients through referral letters or by word-of-mouth to aestheticians for assistance in selecting non-comedogenic cosmetics. Alternatively, they may request the aesthetician to select cosmetic products suited for specific skin needs and which are allergy free. Camouflage makeup cases are also often referred by dermatologists (Lees 2007). A referral relationship may occur where an aesthetician/somatologist is in private practice and he/she chooses a dermatologist who does not have an aesthetician on staff. Alternatively he/she may be employed in a medical practice and referrals are therefore in-house (Lees 2007).

As stated previously, Vosloo (2009) showed that only 39% of all the medical professionals, and not specifically medical professionals practicing non-invasive aesthetic and anti-aging medicine, referred patients to somatologists. In the same study 66% of the somatologists surveyed indicated that they had a referral relationship with medical and/or complementary health practitioners (Vosloo 2009). Most inter-referrals occurred between complementary health care practitioners and somatologists rather than conventional medical professionals and somatologists. Vosloo's study (2009) reflected that there was a poor response from medical professionals and somatologists within KwaZulu-Natal. The majority of medical professionals (60%) practice in the Gauteng Province. For this reason, this study has therefore focused exclusively on the referral practices of medical professionals practising non-invasive medical aesthetics in KwaZulu-Natal.

2.20 CONCLUSION

The World Health Organisation (WHO) defines health as "a state of physical, mental and social well-being and not merely the absence of disease" (World Health Organisation 1992). This definition encompasses all aspects of an individual and represents a holistic understanding of health, with the realisation that all aspects of

health are interconnected and mutually dependent (Coulson, Goldstein and Ntuli 1998; Ewles and Simnett 1985). Consideration of the Collaborative Practice Model© (Way *et al*. 2000) (Figure 2.1) and the holistic view of the WHO on health, underscores the notion that collaboration between the medical professionals and aestheticians within the medical aesthetic setting is essential to maximise patient outcome and experience (Ewles and Simnett 1985; Way, Jones and Busing 2000). A professional relationship, including the medical aesthetic professional and the aesthetician, is the key to ensuring maximum patient outcome and experience whilst ensuring safe, affordable, effective skin care solutions. This ultimately assists with minimising malpractice suits within the medical aesthetics fraternity. In order for the patient to achieve optimal results, an integrated or holistic health care practice is essential. Treatments are managed and supervised by a medical professional, while the aesthetician evaluates the patients' skin and provides personalised pre- and post-treatment regimens within a medical aesthetic setting.

Several studies (Deitz 2003; Lees 2007; Thornfeldt and Bourne 2010; Warfield 2000) support this collaborative relationship with somatologists, as both the medical aesthetic patient (through improved procedure results) and the medical professional (through enhanced financial gain) benefit from this relationship. In this collaboration, somatologists can perform pre- and post-operative treatments that may optimise the surgical outcome and minimise recovery time, thereby preventing malpractice suits. Thus, the purpose of this study is to investigate the professional relationship between somatologists/aestheticians and medical professionals practicing non-invasive anti-ageing medicine in the eThekwini region.

CHAPTER THREE: METHODOLOGY

3.1 INTRODUCTION

This chapter describes the methodology utilised throughout the research process. This includes the study type, sampling procedure, inclusion and exclusion criteria, research procedure and measurement instruments. It also includes the focus group and pilot study, the questionnaire development, the measurement frequency and statistical analysis of the results.

3.2 STUDY TYPE AND DESIGN

This was a cross-sectional survey study, quantitative in nature; the tool used was a questionnaire (de Vos *et al*. 2012). A sample of the study population was determined and information was collected at one point in time. The information sought was either current or past (Katzenellenbogen, Joubert and Abdool Karim 2007).

3.3 SAMPLE SELECTION

The sample consisted of medical professionals and somatologists.

3.3.1 Medical Professionals

All 37 medical professionals were contacted via e-mail or telephonically to acquire permission to conduct the study. A self-selection sampling technique was used to select the medical professionals. A total of nine medical professionals expressed no interest in the study/cosmetic procedures and therefore were not willing to participate. Two medical professionals agreed to participate in the pilot and focus group. This brought the total study sample of medical professionals to 26 participants. A maximum response rate from medical professionals (n=26) was aimed at to enable a more representative sample and for accurate conclusions to be drawn.

3.3.2 Somatologists

The manager/owner of each somatology setting was contacted telephonically to acquire permission to conduct the study amongst all therapists/somatologists employed. The number of therapists/somatologists employed was established as n=553. A self-selection sampling technique was used to select the somatology sample. A maximum response rate of 30% was aimed at to enable a more representative sample and accurate conclusions to be drawn.

3.4 STUDY POPULATION

The study population consisted of two groups of professionals from the eThekwini region; one group being medical professionals and the other group being somatology graduates. The medical professional sample included the total population of medical professionals from eThekwini who were registered with the Aesthetic and Anti-ageing Medicine Society of South Africa as at 29 March 2011, as per the email received from the secretary of AAMSSA. The total sample size of medical professionals registered with AAMSSA was thirty-seven.

The somatology population included all somatology graduates from Universities of Technology and private school providers at the 97 somatology settings in eThekwini as listed on the Durban information HUB website, as well as the Health Spas Guide listing website. The somatology settings included somatology clinics, health and skin care/ beauty clinics; health spas (day spa, hotel spa, game lodge spa); and medical practices specialising in aesthetic and anti-ageing medicine and medical spas.

3.5. SAMPLE CHARACTERISTICS

This study took place in the eThekwini area of KwaZulu-Natal. The following were the inclusion and exclusion criteria.

3.5.1 Inclusion criteria

The inclusion criteria for the medical professionals and somatologists were:

A) Medical professionals

- Medical professionals registered with the Aesthetics and anti-Ageing Medicine Society of South Africa.
- Medical professionals in private practice.
- Medical professionals who practise non-invasive aesthetic and anti-ageing medicine in eThekwini.
- Medical professionals with South African residency.
- Medical professionals who had signed the informed consent letter.
- Medical professionals who had fully completed the following sections of the questionnaire: level of awareness, utilisation rate, referral relationship.

B) Somatologists

- Somatologists who had either completed a two-year Diploma (NQF5) or three-year National Diploma (NQF6) or Bachelor of Technology (B-Tech).
- Somatology graduates from Universities of Technologies and private providers within South Africa.
- Somatologists who managed, owned, or were employed in health and skin care clinics, medical/wellness centres, medical practices practising non-invasive aesthetic and anti-ageing medicine, and health spas in eThekwini.
- Somatologists who had signed the informed consent letter.
- Somatologists who had fully completed the following sections of the questionnaire: level of awareness, utilisation rate and referral relationship.

3.5.2 Exclusion criteria

The following were the exclusion criteria for medical professionals and somatologists:

A) Medical professionals

- Medical professionals who were not in private practice.
- Medical professionals who did not produce written informed consent.
- Medical professionals who participated in the focus group.
- Medical professionals who participated in the pilot study.

- Medical professionals who had only completed the demographic section of the questionnaire.

B) Somatologists

- Somatology graduates who were not working in a somatology setting.
- Somatologists who did not produce written informed consent.
- Somatologists who participated in the focus group.
- Somatologists who participated in the pilot study.
- Somatologists who had only completed the demographic section of the questionnaire.

3.6 RESEARCH PROCEDURE

The research procedure utilised in the study is described below.

Medical professionals:

- The researcher personally hand-delivered a survey package including a piloted questionnaire (Appendix E/F), consent form (Appendix B) and letter of permission (Appendix A) to the secretary of each medical professional on the day and time that was convenient and had been previously arranged for delivery.
- Participation in the study was completely voluntary and withdrawal from the study at any point was without penalties.
- An eight week time lapse from February 2012 – May 2012 was allowed for the return of the completed questionnaires with reminders being sent at two week intervals (i.e. at two, four and six weeks) telephonically and via e-mail.
- Due to the poor response rate, a further two week time lapse was allowed. The researcher e-mailed all medical professionals to emphasise that their participation in the study was of utmost importance to the outcome of the research results, and that completing the questionnaire would not be time consuming. An agreement to personally hand-deliver replacement questionnaires was made to the medical professionals who indicated that they had not received the initial questionnaire.

- Two sealed boxes were available for questionnaires and informed consent forms at each collection point (medical practice). Questionnaires were coded and no names or identity information was included, thus confidentiality was ensured.
- Questionnaires were counted by the researcher to determine the response rate of medical professionals. Where questionnaires were not returned after a ten week time lapse, the respondent in question was considered as 'not participating' in the study.
- Data analysis then took place.

Somatologists

- Data collection for somatologists took place between February and June 2012. The researcher personally visited each somatology setting as per the set appointment. Alternatively, if no appointment was given the researcher hand-delivered the research packages for each somatologist to the receptionist/manager/owner. They were informed to notify the researcher telephonically or by e-mail once all questionnaires were completed. On the collection date the receptionist/manager/owner was requested to place the completed questionnaires and informed consent forms into separate sealed boxes. Questionnaires were coded; no names or identity information were included, thus confidentiality was ensured.
- Where the researcher was given an appointment date questionnaires were self-administered by the somatologists employed. The research and its contents were explained to all participating somatologists and questions regarding the study were answered at this point.
- Thereafter, a letter of permission and consent was handed to each somatologist. The participant was informed that participation in the study was entirely voluntary and that withdrawal at any point of the study was without any penalties.
- Once the informed consent form was signed, participants took approximately ten minutes to complete the questionnaire.

- Thereafter the somatologist was requested to place the completed questionnaire and informed consent form into separate sealed boxes. Questionnaires were coded and no names or identity information was included, thus confidentiality was ensured.
- Questionnaires were counted by the researcher to determine the response rate of somatologists. Where questionnaires were not returned after the end of June 2012, the respondent in question was considered as ‘not participating’ in the study.
- Data analysis then took place.

The questionnaires were kept by the researcher until all data had been collected. They were stored in the Department of Chiropractic and Somatology. Only the researcher, supervisor and co-supervisor had access to the completed questionnaires.

3.7 RESPONSE RATE

A total of 597 questionnaires were issued. Twenty-six were issued to medical professionals and the rest (553) were issued to somatologists between February and June 2012. Tables 3.1 and 3.2 indicate the response rate of somatologists and medical professionals respectively.

Table 3.1 Somatologists' response

	Somatology settings	**Somatologist**	**Reason**
Initial study population	97	597	
Non-compliance	5	23	No interest in the study.
Non-compliance	3	14	Clinic closed.
Excluded	2	7	Focus group and pilot study.
Final study population	**87**	**553**	
Non returned	41	350	Questionnaires not returned.
Excluded	4	12	Arrived after due date.
Questionnaires returned	42	191	
Discarded	2	5	Respondents not somatology graduate.
Discarded	3	14	Returned unanswered.
Final sample size	**38**	**172**	
Sample response rate		**31%**	

The final sample size consisted of 172 somatologists, due to 350 questionnaires not being returned. Anther reason was that some questionnaires (12) were returned after the due date.

Table 3.2 Medical Professionals' response

	Medical professionals	**Reason**
Initial study population	37	
Non-compliant	9	No interest in the study.
Excluded	2	Focus group and pilot study.
Final study population	**26**	
Non returned	4	Questionnaire not returned.
Excluded	1	Arrived after due date.
Questionnaires returned	21	
Sample Response rate	**81%**	

The final sample size consisted of 21 somatologists due to four questionnaires not being returned. Anther reason was that one questionnaire was returned after the due date.

3.8 RESEARCH INSTRUMENT

The instrument used for the study was a structured, self-administered questionnaire. The researcher reviewed various literature and research articles in the various medical aesthetic settings, as well as collaborative relationship models used in primary healthcare settings. This was to identify areas in which questions should be developed for this study. As English is the medium of instruction in the somatology and medical professions, the questionnaire was not translated into any other language.

Questions were then developed with the aim of specifically phrasing and contextualising questions in such a manner as to obtain information regarding the referral relationship between the medical professional and somatologist, and the utilisation of somatologists

in the medical aesthetics setting (Appendices E and F). The research instrument consisted of 166 items for the somatologists and 149 items for the medical professionals, with a level of measurement at a nominal or an ordinal level. Each relevant questionnaire was divided into four sections which measured various themes. These included demographics, level of awareness, referral relationships, and utilisation. The two questionnaires (Appendix E: somatologists; Appendix F: medical professionals) were subjected to a focus group for further refinement. Thereafter, piloting of the two questionnaires was done to further refine the post-focus group questionnaire.

3.9 FOCUS GROUP

The focus group consisted of seven somatologists and two medical professionals. The reason for conducting a focus group was to stimulate the group members' thinking and to encourage them to develop ideas about the topic(s) surrounding the research (Cohen, Manion and Morrison 2007). This enabled the members of the group to critically assess the relevance of questions presented in the questionnaires (Appendix E and F), as well as to add to, delete from, or modify for clarity, the questions presented (Cohen, Manion and Morrison 2007). The focus group was able to contextualise the questionnaire so as to improve its face and content validity. In this context, face validity referred to the extent to which the measure or question made sense 'on the face of it'. Content validity was ensured, thus the questionnaire accounted for all the elements of the variable being investigated. Face validity and content validity were achieved by ensuring that focus group participants were from specific areas of expertise related to the research conducted (de Vos *et al*. 2012; Katzenellenbogen, Joubert and Abdool Karim 2007).

The focus group in this study consisted of the following:

- The researcher.
- The research supervisor.
- The co-supervisor, who is a somatologist by profession.
- One medical professional practising non-invasive aesthetic and anti-aging medicine.

- One somatologist/beauty therapist in a health and skin care clinic.
- One somatologist/beauty therapist in a medical practice.
- One somatologist/beauty therapist in a health spa.
- One somatologist/beauty therapist in a medical/wellness centre.
- The statistician.
- Someone who had participated in a focus group before.
- A client outside of the above was included to provide a neutral perspective.

Before commencing with the focus group, each participant was required to read and sign an information and consent letter (Appendix B). The somatology and medical professional questionnaires (Appendices E and F) were distributed to the participants. Each question in the questionnaire was discussed individually in sequential order and changes were made through consensus of the group. Suggestions were invited as to how the questionnaire could be adapted in order to accurately investigate the relationship between medical professionals practising medical aesthetics, and somatologists in eThekwini. The medical professional questionnaire was discussed first and the somatology questionnaire followed immediately thereafter.

3.10 THE PILOT STUDY

The changes to the questionnaire suggested by the focus group were implemented and the questionnaire was piloted thereafter. The purpose of the pilot study was to improve the quality of the questionnaire by identifying problem areas (Katzenellenbogen, Joubert and Abdool Karim 2007) and address them prior to the main study. The participants at the pilot study included:

- One medical professional.
- One somatologist/beauty therapist in a health and skin care clinic.
- One somatologist/beauty therapist in a medical practice.
- One somatologist/beauty therapist in a health spa.

Suggested changes for the pilot study were implemented and included:

- The cover pages on both questionnaires were amended to add “Please ensure that you have signed the letter of information and consent before completing the questionnaire.”

Section D: Referral Relationship

- Q5 and Q9: A spelling error on the medical professional questionnaire ‘Aczema’ spelled incorrectly and corrected to ‘Eczema’.

3.11. MEASUREMENT FREQUENCY

Four reminders were sent within a ten week period, at weeks two, four, six, eight and ten.

3.12 STATISTICS AND ANALYSIS

Quantitative data gathered by means of the questionnaire was entered into Microsoft Excel software; analysis was performed using the SPSS version 21.0. Descriptive statistics were used to describe the organising and summarising of quantitative data. Univariate and bivariate analyses were conducted. Discrete data was represented on bar and pie charts. Data resulting from observations made on two different related categorical variables (bivariate) was summarised using a two-way frequency table or contingency table. Inferential techniques were used to include the use of correlations and chi square test values which were interpreted using the p-values. Correlation and regression was used to determine the relationship between the actual dimensions of two variables at a time (knowledge and referral).

3.13 ETHICAL CONSIDERATIONS

- Ethical clearance was obtained from Durban University of Technology, where the researcher was registered.
- Each participant received a letter of information and consent (Appendix A) to sign for approval of participation. Participants were informed that participation is voluntary and participants may withdraw at any time without penalties.
- In terms of confidentiality and complete anonymity of participants, their identities were coded and these codes were only available to the researcher. Only

participants' coded identities appeared on the questionnaires and only the researcher, supervisor and co-supervisor had access to the completed questionnaires.

- The questionnaires are kept in a locked area and will be stored in the Chiropractic and Somatology Department for a period of five years, after which they will be shredded and discarded.

3.14 LIMITATIONS

- A number of somatology settings refused to participate or simply did not return the questionnaires, since they were under the impression that they were being scrutinised by a professional body.
- Some somatologists who had only completed a two-year diploma declined to participate. This could be because they felt intimidated.
- A medical spa which promoted formal in-house training declined to participate.
- Limited direct access to some medical professionals negatively impacted on the response rate.

CHAPTER FOUR: RESULTS

4.1 INTRODUCTION

This chapter presents data obtained from questionnaires of the responding somatologists and medical professionals. Data collected from the responses was analysed utilising SPSS version 21.0. Results present the descriptive statistics in the form of graphs, cross tabulations and other figures for the qualitative data. Inferential techniques include the use of correlations and chi square test values, which were interpreted using the p-values.

RESPONSE RATE

In total 172 somatologists and 21 medical professionals were surveyed. The return rates of the questionnaires were 31% and 81% respectively.

4.2 SECTION A - DEMOGRAPHICS

This section summarises the demographics of the somatologists and medical professionals in the eThekwini region. The parameters included gender, age, home language, area of practice, job title, type of work setting, institutions where respondents obtained their qualification, qualification, and area of speciality which will be described.

4.2.1 Gender

The majority of the somatology respondents were female (97.7%) whilst there were more male respondents (57.1%) amongst the medical professionals. This is indicated in Figure 4.1.

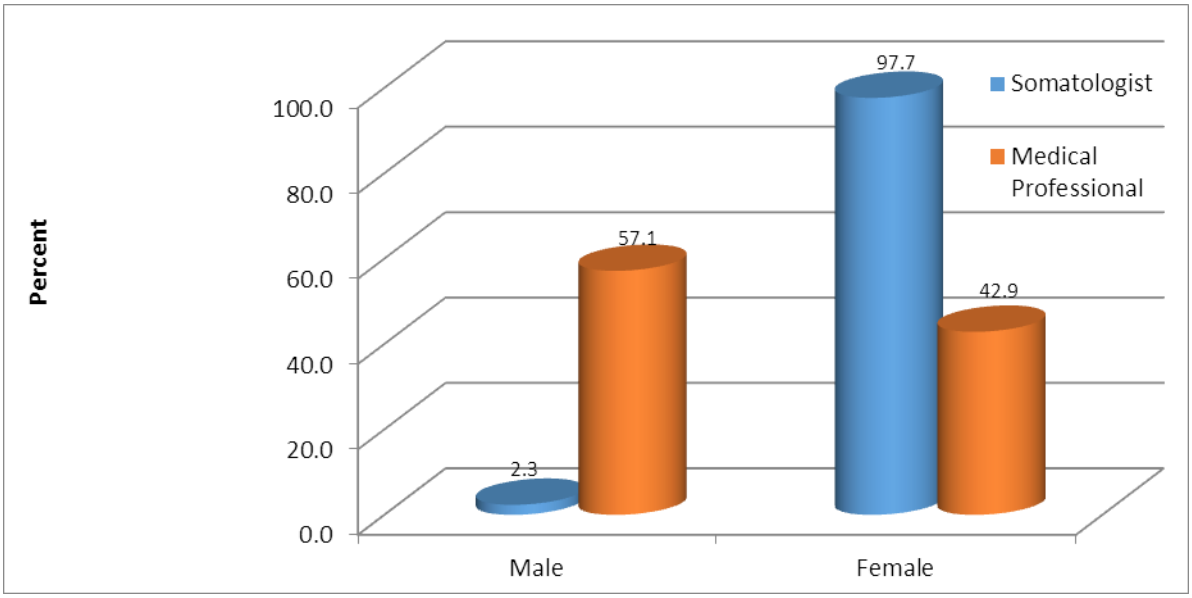

Figure 4.1 Gender distribution for somatologists and medical professionals

4.2.2 Age

More than three-quarters (77.8%) of the somatologists were younger than 29 years of age, whilst the majority (81.0%) of medical professionals were older than 45 years, as per Figure 4.2.

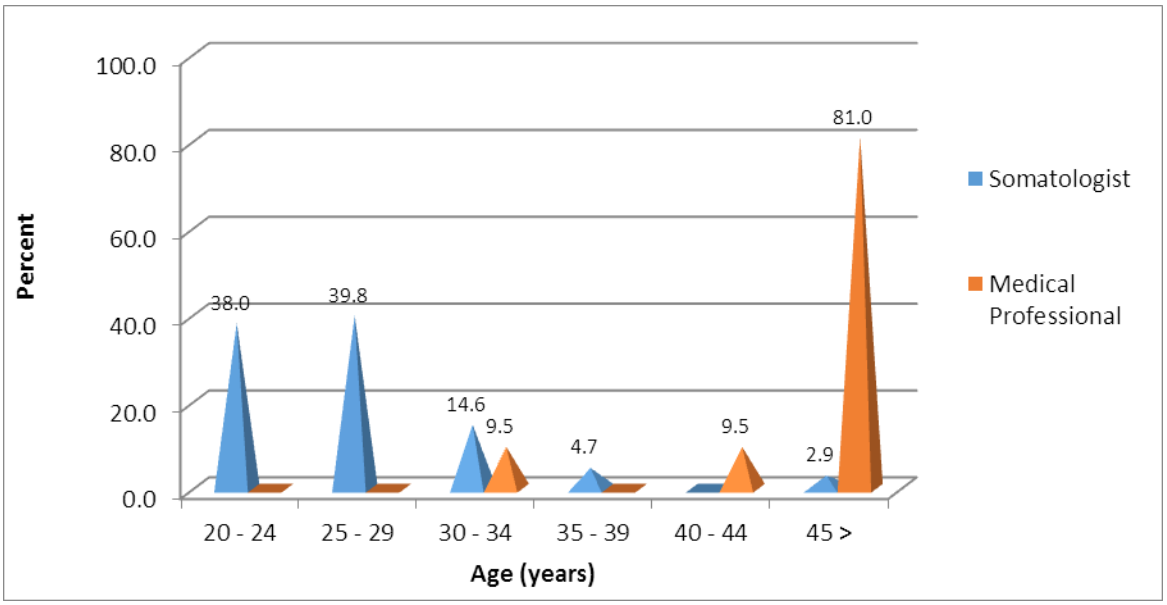

Figure 4.2 Age distribution for somatologists and medical professionals

4.2.3: Home Language

The home language for the majority of respondents was English, with approximately a quarter (26.3%) of the somatologists being isiZulu speaking, as per Figure 4.3.

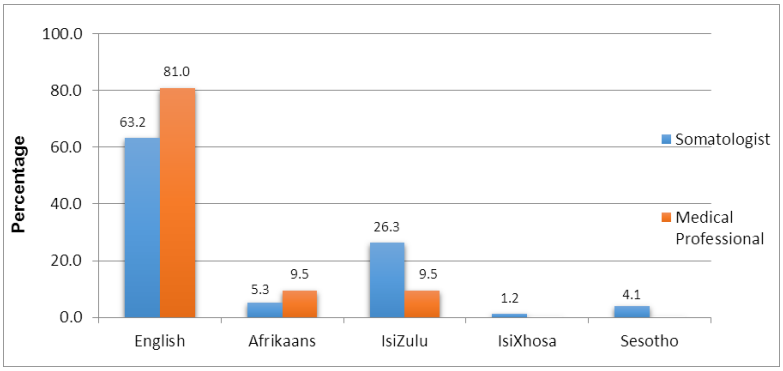

Figure 4.3 Home language for somatologists and medical professionals

4.2.4: Area of Practice

The majority of the practicing somatologists were employed in the Durban North area (43.3%) and Durban central area (38.0%) of eThekwini, whilst the majority of the medical professionals practiced in the Durban Central (52.4%) and Durban North (28.6%) areas of eThekwini. The area of practice for somatologists and medical professionals is indicated in Figure 4.4.

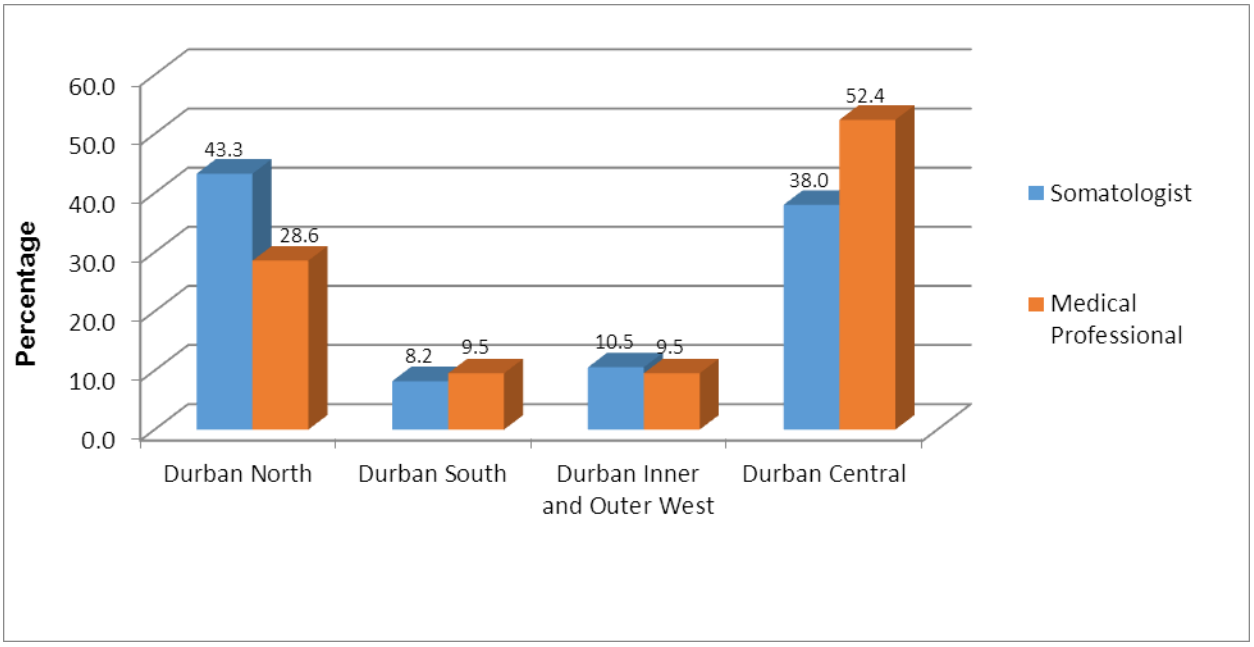

Figure 4.4 Area of practice for somatologists and medical professionals

4.2.5: Job Title

Amongst the somatologists most respondents (74.3%) had the title of a ‘Somatologist’. Most of the medical professionals (81.0%) were ‘Dermatologists’. Table 4.1 summarises the job titles for the respondents who participated in the study.

Table 4.1 Summary of job titles for somatologists and medical professionals

		Frequency	Percent
Somatologists	Owner / Employer	12	7.0
	Manager	4	2.3
	Head Therapist	4	2.3
	Somatologist / Therapist	127	74.3
	Laser Therapist	13	7.6
	B Tech Student	1	6
	Spa Co-ordinator	1	6
	Facilitator	2	1.2
	Spa Manager	2	1.2
	Lecturer	2	1.2
	Aromatherapist and reflexologist	3	1.8
	Total	171	100.0
Medical professionals	Dermatologist	17	81.0
	Associate professor/principal specialist	2	9.5
	General Practitioner	2	9.5
	Total	21	100.0

4.2.6. Work Setting

Half of the somatologist respondents were employed in health spas (49.7%) while 40.9% were employed in somatology clinics/health and skincare clinics/beauty clinics. Eighty-one percent of the medical professionals were in private practice. Table 4.2 summarises the work settings for somatologists and medical professionals.

Table 4.2 Type of work settings for somatologists and medical professionals

		Frequency	Percent
Somatologists	Somatology clinic/Health and skincare clinic/Beauty clinic	70	40.9
	Health spa (day spa, hotel spa, game spa, medi-spa)	85	49.7
	Medical practice specialising in aesthetic and anti-aging medicine	11	6.4
	Wellness centre	4	2.3
	Other. (Please specify)	1	.6
	Total	171	100.0
Medical Professionals	Private practice	17	81.0
	Group practice with other medical professionals	2	9.5
	Medical spa	2	9.5
	Total	21	100.0

4.2.7: Tertiary Institutions

Most of the respondents in both categories had trained at KwaZulu-Natal Universities. Table 4.3 summarises the tertiary training institutions where respondents obtained their qualifications.

Table 4.3 Tertiary training institutions where respondents obtained their qualification.

		Frequency	Percent
Somatologists	Beauty Specialist Training Centre	9	5.3
	Camelot International	12	7.0
	Durban University of Technology	107	62.6
	Institute of Beauty Technology	3	1.8
	Jill Farquharson College of Health & Beauty Therapy	18	10.5
	The Academy of Beauty Therapy	10	5.8
	The Beauty Academy	4	2.3
	Other	8	4.7
	Total	171	100.0
Medical Professionals	Nelson Mandela School of Medicine	17	81.0
	University of Cape Town	2	9.5
	Other	2	9.5
	Total	21	100.0

4.2.8: Qualification and Area of Speciality

Nearly two-thirds of the somatology respondents (65.5%) had a National Diploma as their highest qualification. Amongst the medical professionals, 90.5% indicated that they had specialised as dermatologists. Table 4.4 summarises the qualifications and areas of speciality.

Table 4.4: Summary for qualification and area of speciality for somatologists and medical professionals

			Frequency	Percentage
Qualification	Somatologists	Diploma	46	26.9
		National Diploma	112	65.5
		B Tech	9	5.3
		CIDESCO	2	1.2
		CIBTAC	2	1.2
		Total	171	100.0
Area of Speciality	Medical Professionals	Dermatology	19	90.5
		Missing System	2	9.5
		Total	21	100.0

4.3 SECTION B – LEVEL OF AWARENESS

This section deals with the level of awareness of the treatments/services that are performed in the work settings of both the medical professionals and somatologists. The scoring patterns of the respondents are analysed per variable per section. The results are first presented using summarised percentages for the variables that constitute each section, then further analysed according to the importance of the statements.

4.3.1 Treatments/Services

Although there are overlaps in terms of services provided, in most instances there is a clear distinction between somatology and medical professional treatments/services. Clear distinctions amongst medical professionals were found in the following treatments: Botulinum toxin™ (95,2%); injectable collagen fillers (47.6%); and tattoo removal (57.1%). Amongst somatologists, the following treatments/services were found: galvanic therapy (50.9%); microdermabrasion (15.8%); microcurrent body (5.8%); manual lymph drainage body (25.1%); specialized facials (90.1 %); mesotherapy (8.8%); non-invasive lasers (17.5 %) and skincare education (70.8%). Table 4.5 summarises the treatments/services that are performed by somatologists and medical professionals.

Table 4.5 Treatments/ services performed at the respondents' place of work.

		Somatologists			Medical Professionals		
		Responses		Percent of Cases	Responses		Percent of Cases
	Treatments/services	N	Percent		N	Percent	
Practice Particulars[a]	Botulinum toxin				20	10.0%	95.2%
	Chemical Peels	73	6.8%	42.7%	21	10.5%	100.0%
	Camouflage make up	21	2.0%	12.3%	4	2.0%	19.0%
	Dermal fillings	2	.2%	1.2%	17	8.5%	81.0%
	Enzymatic peels	81	7.6%	47.4%	5	2.5%	23.8%
	Galvanic therapy (desin/ionto) / Galvanic body	87	8.2%	50.9%			
	Home-care protocol reinforcement	166	15.6%	97.1%	2	1.0%	9.5%
	Injectable collagen fillers				10	5.0%	47.6%
	Invasive laser treatments	14	1.3%	8.2%	14	7.0%	66.7%
	Intense Pulsed Light (IPL)	44	4.1%	25.7%	20	10.0%	95.2%
	LED light therapy (phototherapy)	23	2.2%	13.5%	20	10.0%	95.2%
	Microcurrent (non-surgical face lift)	53	5.0%	31.0%	1	.5%	4.8%
	Microcurrent body	10	.9%	5.8%			
	Microdermabrasion	27	2.5%	15.8%			
	Manual lymph drainage/vacuum suction – face	39	3.7%	22.8%	8	4.0%	38.1%
	Manual lymph drainage/vacuum suction – body	43	4.0%	25.1%			
	Mesotherapy (non-invasive fat reduction)	15	1.4%	8.8%			
	Non-invasive lasers treatments	30	2.8%	17.5%			
	Permanent make up	13	1.2%	7.6%	2	1.0%	9.5%
	Radiofrequency (skin tightening)	16	1.5%	9.4%	16	8.0%	76.2%
	Specialised facials (hydrating, anti-aging, deep cleansing etc.)	154	14.4%	90.1%			
	Sonophoresis	14	1.3%	8.2%	9	4.5%	42.9%
	Sclerotherapy (spider vein removal)	3	.3%	1.8%	3	1.5%	14.3%
	Skincare education	121	11.3%	70.8%			
	Tattoo removal				12	6.0%	57.1%
	Other	18	1.7%	10.5%	16	8.0%	76.2%
Total		1067	100.0%	624.0%	200	100.0%	952.4%

a. Dichotomy group tabulated at value 1.

4.3.2 Somatology Qualifications

More than three-quarters (76.2%) of the medical professionals believed that somatologists should complete a B. Tech. Degree. Figure 4.6 presents the somatology qualifications.

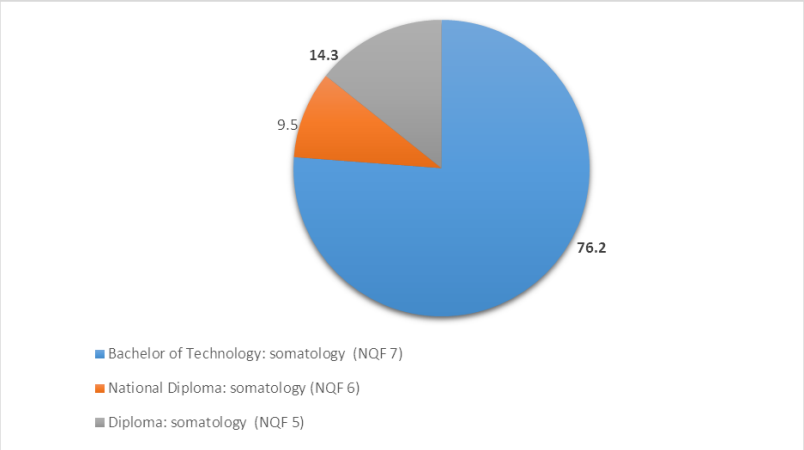

Figure 4.5 University of Technology and Private school providers' somatology qualification

4.3.3 Preferred methods of information dissemination

All medical professional respondents indicated that they would like further information regarding somatology, with 30.8% indicating medical aesthetic conventions and somatology professional journals as their preferred method of information dissemination. Figure 4.6 summarises the preferred methods of information dissemination regarding the somatology profession.

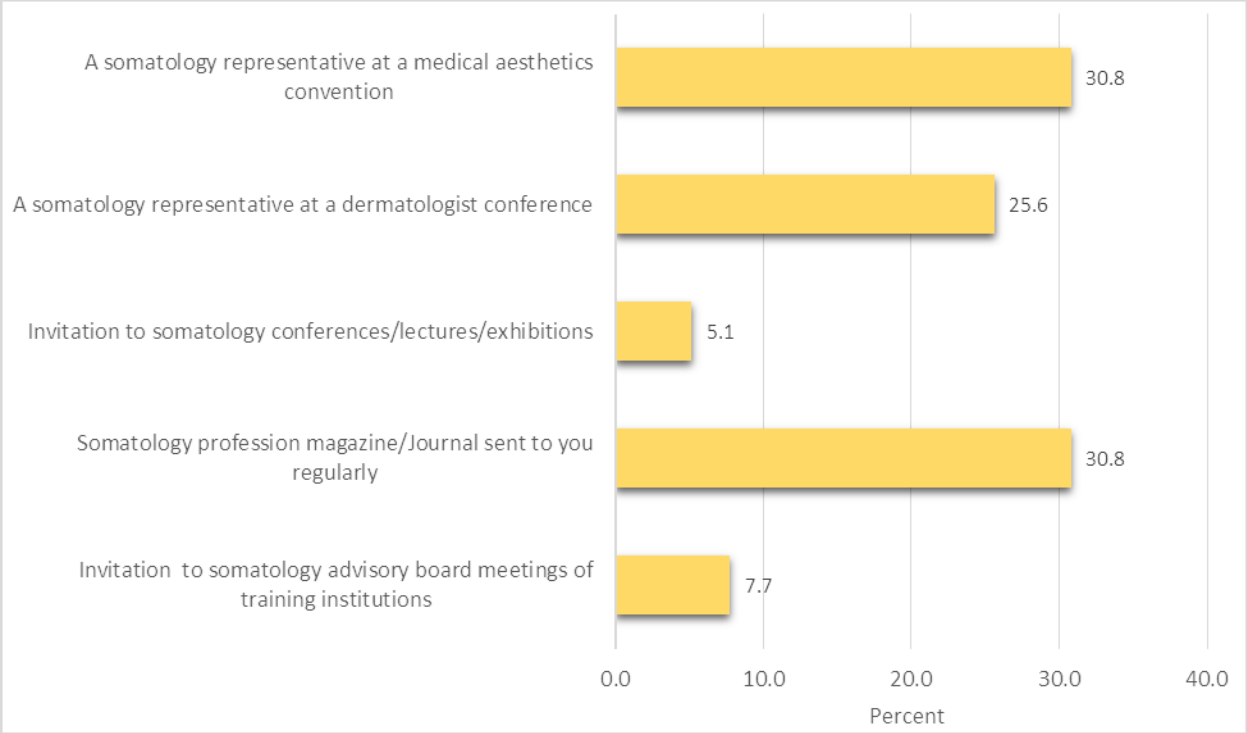

Figure 4.6 Preferred methods of information dissemination regarding the somatology profession amongst medical professionals

4.4 SECTION C - UTILISATION

This section is concerned with the utilisation of Somatology services in a medical practice. The analysis for each category of respondents is prepared separately.

4.4.1 Employment of a Somatologist in a Medical Practice

Table 4.6 indicates the opinions of somatologists as to whether the employment of a somatologist in a medical practice would be beneficial to the medical professional and

the patient. All somatologists (100%) believed that the employment of somatologists would be beneficial in a medical practice, as per Table 4.6.

Table 4.6 Opinions of somatologists regarding employment in a medical practice.

	Frequency	Percent
Yes	171	100.0

4.4.2 Non-supervised Treatments/Services

Levels of disagreement (negative statements) were collapsed to show a single category of 'Disagree'. A similar procedure was followed for the levels of agreement (positive statements). Levels of disagreement included the following treatments: Botulinum™ toxin (95.3%); dermal fillers (87.7%); injectable collagen fillers (95.9%); invasive lasers (80.1%); tattoo removal (80.1%). High levels of agreement amongst Somatologists were found in the following treatments/service: Chemical peels (82.5%); camouflage make-up (92.4%); enzymatic peels (89.4%); Galvanic therapy (93.6%); homecare protocol reinforcement (92.4%); microcurrent (92.4%); microdermabrasion (90.0%); manual lymph drainage - face and body (100% and 96.5%); non-invasive lasers (74.8%); permanent make-up (81.3%); specialised facials (98.8%); sonophoresis (96.5%) and skincare education (97.0%). This is represented in Table 4.7.

Table 4.7 Treatments/services performed by a somatologist without supervision of a medical professional

Treatments/Services	Disagree	Neither Agree nor Disagree	Strongly Agree
Botulinum toxin™	95.3	3.5	1.2
Chemical Peels	6.4	11.1	82.5

Camouflage make up	1.2	6.4	92.4
Dermal fillings	87.7	9.9	2.3
Enzymatic peels	5.3	5.3	89.4
Galvanic therapy (desin/ionto)	0.0	6.4	93.6
Galvanic body	0.0	6.4	93.6
Homecare protocol reinforcement	1.2	6.4	92.4
Injectable collagen fillers	95.9	4.1	0.0
Invasive lasers	80.1	5.8	14.0
Intense Pulsed Light (IPL)	28.7	13.5	57.9
LED light therapy (phototherapy)	25.7	15.8	58.5
Microcurrent (non-surgical face lift)	2.3	5.3	92.4
Microcurrent body	3.5	4.1	92.4
Microdermabrasion	4.7	5.3	90.0
Manual lymph drainage/vacuum suction – Face	0.0	0.0	100.0
Manual lymph drainage/vacuum suction – Body	2.3	1.2	96.5
Mesotherapy	31.6	32.2	36.3
Non-invasive lasers	12.9	12.3	74.8
Permanent make up	10.5	8.2	81.3
Radiofrequency	17.5	40.9	41.5
Specialised facials (hydrating, anti-aging, deep cleansing etc.)	0.0	1.2	98.8
Sonophoresis	0.0	3.5	96.5
Sclerotherapy	60.2	30.4	9.4
Skincare education	1.8	1.2	97.0
Tattoo removal	80.1	17.5	2.3

4.4.3 Somatologist Employment Opportunity

Most respondents (93.0%) indicated that they thought an employment opportunity was a good idea; only 7.0% gave a negative response, as per Figure 4.7.

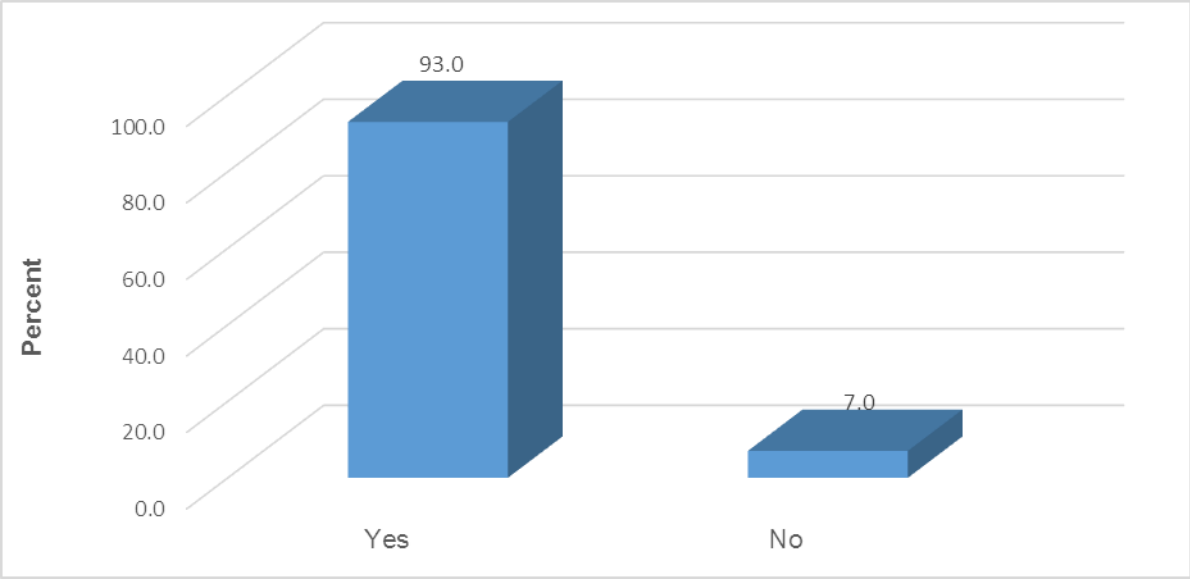

Figure 4.7 Somatologists' response on the employment opportunity in a medical practice/setting

4.4.4 Most Appropriate Medical/Health Professional

Somatologists believed that they were the most appropriate health professionals to perform the following treatments: Camouflage make-up (69.6%); enzymatic peels (81.9%); galvanic therapy (100.0%); homecare protocol reinforcement (100%); microcurrent face (93.6%); microcurrent body (96.5%); microdermabrasion (79.5%); manual lymph drainage - face (100%), and body (98.8%); non-invasive lasers (70.2%); specialised facials (100.0%); sonophoresis (97.7%); and skincare education (100.0%). Somatologists believed that the following procedures could only be performed by dermatologists: botulinum™ toxin (45%); dermal fillings (64.3%); injectable collagen (55%); invasive lasers (60.2%); sclerotherapy (41.5%); and mesotherapy (41.5%). This is reflected in Table 4.8.

Table 4.8: Most appropriate medical/health professional for the treatments/services

Treatments/services	Somatologist	GP	Dermatologist	Plastic surgeon	Aesthetic practitioner
Botulinum toxin	2.9	5.3	45.0	29.2	17.5
Chemical Peels	48.5	1.2	41.5	1.8	7.0
Camouflage make up	69.6		2.3	2.3	25.7
Dermal fillings	1.8		64.3	23.4	10.5
Enzymatic peels	81.9		11.7	1.8	4.7
Galvanic therapy (desin/ionto)	100.0				
Galvanic body	100.0				
Homecare protocol reinforcement	100.0				
Injectable collagen fillers		1.2	55.0	34.5	9.4
Invasive lasers	1.2	2.9	60.2	21.6	14.0
Intense Pulsed Light (IPL)	50.3	2.3	34.5	5.3	7.6
LED light therapy (phototherapy)	53.8	1.2	33.9	2.3	8.8
Microcurrent (non-surgical face lift)	93.6		1.8	1.2	3.5
Microcurrent body	96.5		1.2		2.3
Microdermabrasion	79.5	1.8	16.4		2.3
Manual lymph drainage/vacuum suction – face	100.0				
Manual lymph drainage/vacuum suction - Body	98.8		1.2		
Mesotherapy	29.8	2.3	41.5	13.5	12.9
Non-invasive lasers	70.2	2.9	22.2		4.7
Permanent make-up	57.9		5.3	1.2	35.7
Radiofrequency	38.0	5.8	42.7	2.3	11.1
Specialised facials (hydrating, anti-aging, deep cleansing etc.)	100.0				
Sonophoresis	97.7	1.2	1.2		
Sclerotherapy	2.9	5.8	41.5	27.5	22.2
Skincare education	100.0				
Tattoo removal	1.8	2.3	31.0	33.3	31.6

4.4.5 Medical Professionals Currently Employing Somatologists

Nearly eight out of every ten professionals (81.0%) employed somatologists in their medical practices, as per Table 4.9.

Table 4.9 Medical professionals' response regarding employment of a somatologist in medical practice

Response	Frequency	Percent
Yes	17	81.0
No	4	19.0
Total	21	100.0

4.4.6 Medical Professionals' Response Regarding Somatologists' Training

Medical professionals felt that somatologists were adequately trained to perform the following non-medical treatments/services: chemical peels(66.7%); camouflage make-up (66.7%); enzymatic peels (66.7%); homecare protocol reinforcement (76.2%); intense pulsed light (66.7%); LED light therapy (66.7%); galvanic therapy (52.4%); microcurrent (52.4%); non-invasive lasers (61.9%); permanent make-up (66.7%); permanent hair removal (66.7%); specialised facials (76.2%); sonophoresis (61.9%); and skincare education (81.0%). Treatments/services where medical professionals indicated there was inadequate training included: advanced electrolysis (9.5%); faradic low frequency muscle stimulation (23.8%); microdermabrasion (9.5%); and mechanical body massage G5 (9.5%). Table 4.10 below summarises the multiple response values and percentage of cases.

Table 4.10 Medical professionals' response regarding somatologist training with respect to non-medical treatments/services

Non-medical treatments/services	Responses		Percent of Cases
	N	Percent	
Advanced electrolysis	2	0.9%	9.5%
Chemical Peels	14	6.5%	66.7%
Camouflage make up	14	6.5%	66.7%
Enzymatic peels	14	6.5%	66.7%
Faradic low frequency muscle stimulation – body	5	2.3%	23.8%
Galvanic therapy face(desin/ionto) / Galvanic body	11	5.1%	52.4%
Home-care protocol reinforcement	16	7.5%	76.2%
Intense Pulsed Light (IPL)	14	6.5%	66.7%
LED light therapy (phototherapy)	14	6.5%	66.7%
Microcurrent (non-surgical face lift) / Microcurrent body	11	5.1%	52.4%
Microdermabrasion	2	0.9%	9.5%
Manual lymph drainage/vacuum suction-face / Manual lymph drainage/vacuum suction-body	8	3.7%	38.1%
Mechanical body massage – G5	2	0.9%	9.5%
Non-invasive lasers	13	6.1%	61.9%
Permanent make-up	14	6.5%	66.7%
Permanent hair removal.	14	6.5%	66.7%
Specialized facials (hydrating, anti-aging, deep cleansing)	16	7.5%	76.2%
Sonophoresis	13	6.1%	61.9%
Skincare education	17	7.9%	81.0%
Total	214	100.0%	1019.0%

4.4.7 Somatology Treatments/Services that may/could benefit a Medical Practice

High levels of agreement were found in the following treatment/services: chemical peels (100%); camouflage make up (100%); enzymatic peels (71.4%); homecare protocol reinforcement (95.2%); intense pulsed light (100.0%); LED light therapy (90.5%); microdermabrasion (76.2%); non-invasive lasers (100.0%); permanent hair removal (100.0%); specialised facials (100.0%); sonophoresis (71.4%); and skincare education (100.0%). High levels of disagreement were found in the following treatments/services: advanced electrolysis (85.7%); mechanical body massage G5 (57.1%); and permanent make up (52.4%). This is reflected in Table 4.11.

Table 4.11: Medical Professionals' level of agreement regarding somatology treatments/services that may/could benefit a medical practice

Somatology treatment/services	Disagree	Neither agree nor disagree	Agree
Advanced electrolysis	85.7		14.3
Chemical Peels			100.0
Camouflage make up			100.0
Enzymatic peels		28.6	71.4
Faradic low frequency muscle stimulation - body	4.8	95.2	
Galvanic therapy face(desin/ionto) / Galvanic body		81.0	19.0
Home-care protocol reinforcement		4.8	95.2
Intense Pulsed Light (IPL)			100.0
LED light therapy (phototherapy)		9.5	90.5
Microcurrent (non-surgical face lift) / Microcurrent body		81.0	19.0
Microdermabrasion	9.5	14.3	76.2
Manual lymph drainage/vacuum suction-face / Manual lymph drainage/vacuum suction-body	9.5	57.1	33.3
Mechanical body massage – G5	57.1		42.9
Non-invasive lasers			100.0
Permanent make up	52.4		47.6
Permanent hair removal			100.0
Specialised facials (hydrating, anti-aging, deep cleansing)			100.0
Sonophoresis		28.6	71.4
Skincare education			100.0

4.4.8 Treatments/Services that could be conducted under medical professional supervision

Only two categories showed responses in a 2:1 ratio, namely radio frequency (67:33) and invasive lasers (62:38), while mesotherapy was in an approximate ratio of 1:4. High

levels of disagreement were indicated with the following treatments: sclerotherapy (100.0%); injectable collagen fillers (100.0%); dermal fillings (100.0%); and botulinum™ toxin (100.0%). Figure 4.8 below indicates the treatment/services that could be conducted under the supervision of a medical professional.

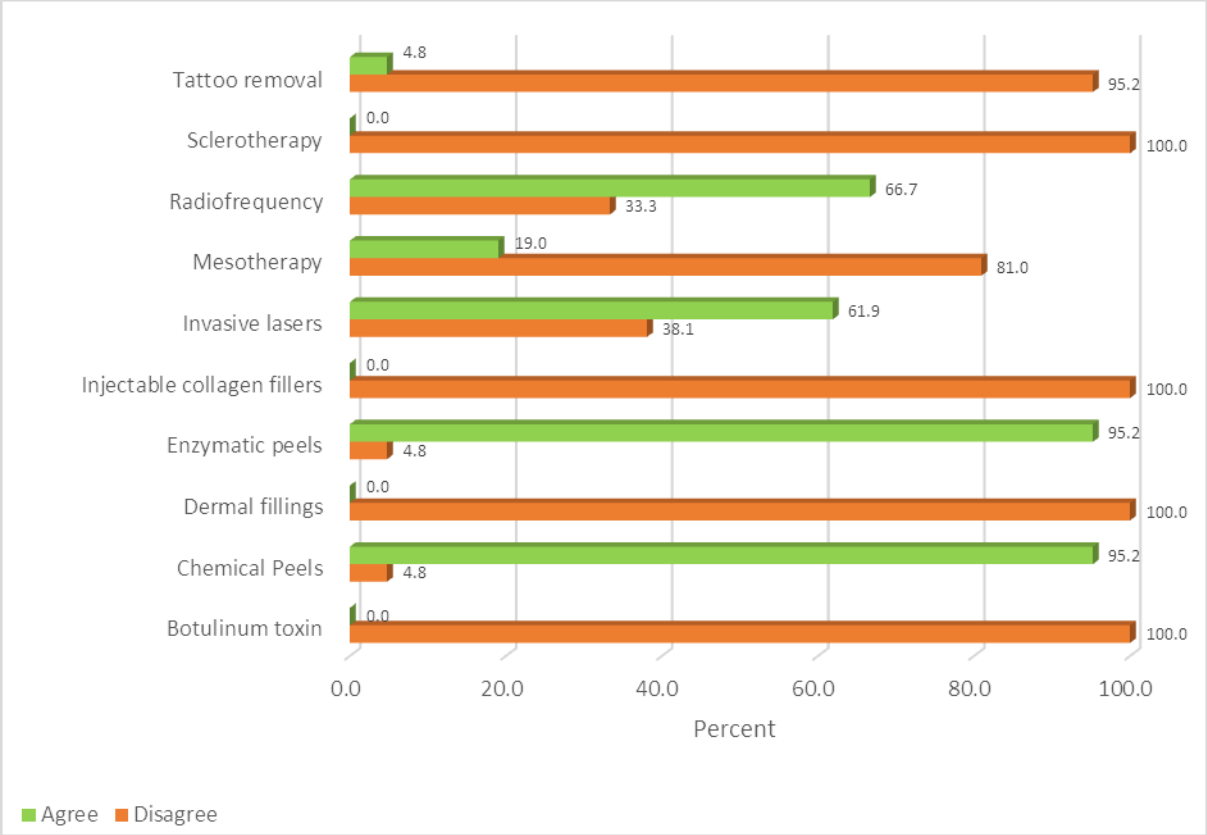

Figure 4.8 Medical Professionals' level of agreement regarding treatments/services that could be conducted under medical professionals' supervision

4.5 SECTION D – REFERRAL RELATIONSHIP

This section deals with the referral relationship between medical professionals and somatologists.

4.5.1 Existing Referral Relationship

Over half (55%) of the somatologists had an existing referral relationship with a medical professional, whilst 45% did not have a referral relationship, as per Figure 4.9.

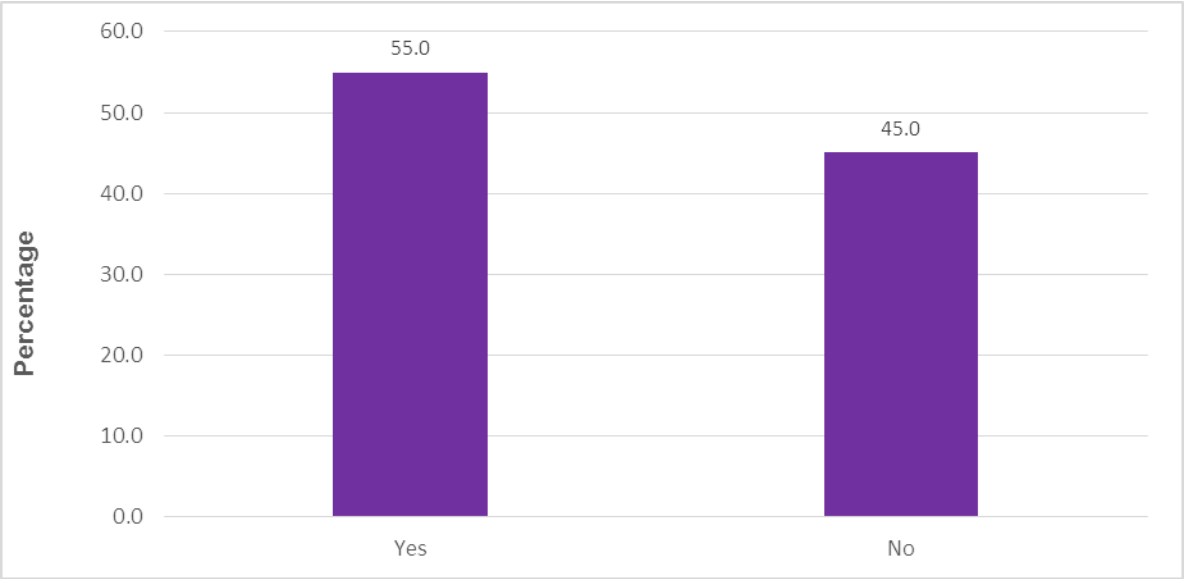

Figure 4.9 Responses of somatologists who currently have an existing referral relationship with a medical professional

4.5.2 Treatments/Services Somatologists refer to a Medical Professional

Table 4.12 below presents the multiple response frequencies with respect to the treatments/services that somatologists frequently refer to a medical professional. These treatments/services include botulinum ™ toxin (67.3%), dermal fillings (67.3%) and injectable collagen fillers (79.6%).

Table 4.12 Treatments/Services frequently referred to a Medical Professional by a Somatologist

Treatments/services	Responses		Percent of Cases
	N	Percent	
Botulinum toxin	66	10.2%	67.3%
Chemical Peels	36	5.6%	36.7%
Camouflage make up	6	.9%	6.1%
Dermal fillings	66	10.2%	67.3%
Enzymatic peels	16	2.5%	16.3%
Galvanic therapy (desin/ionto)	2	.3%	2.0%
Galvanic body	4	.6%	4.1%
Homecare protocol reinforcement	3	.5%	3.1%
Injectable collagen fillers	78	12.1%	79.6%
Invasive lasers	36	5.6%	36.7%
Intense Pulsed Light (IPL)	34	5.3%	34.7%
LED light therapy (phototherapy)	31	4.8%	31.6%
Microcurrent (non-surgical face lift)	9	1.4%	9.2%
Microcurrent body	9	1.4%	9.2%
Microdermabrasion	22	3.4%	22.4%
Manual lymph drainage/vacuum suction -Body	2	.3%	2.0%
Mesotherapy	18	2.8%	18.4%
Non-invasive lasers	11	1.7%	11.2%
Permanent make-up	29	4.5%	29.6%
Radiofrequency	27	4.2%	27.6%
Specialised facials (hydrating, anti-aging, deep cleansing etc.)	13	2.0%	13.3%
Sonophoresis	9	1.4%	9.2%
Sclerotherapy	54	8.4%	55.1%
Skincare education	8	1.2%	8.2%
Tattoo removal	42	6.5%	42.9%
Other	13	2.0%	13.3%
Total	644	100.0%	657.1%

4.5.3 Percentage of Somatologists willing to refer to a Medical Professional

All respondents (100%) indicated their willingness to refer when the opportunity was created. Refer to table 4.13 below.

Table 4.13 Percentage of somatologists willing to refer clients to a medical professional when the opportunity was created

-		Frequency	Percentage	Valid Percentage	Cumulative Percent
Valid	Yes	164	95.9	100.0	100.0
Missing	System	7	4.1	-	-
Total	-	171	100.0	-	-

4.5.4 Treatments/Services that a Somatologist would refer to a Medical Professional

High levels of referral agreements were indicated towards the following treatments/services: botulinum™ toxin (96.9%); dermal fillings (96.3%); injectable collagen fillers (92.6%); and invasive lasers (89.4%) as per Table 4.14.

Table 4.14: Treatments/services that somatologists would refer to medical professionals when the opportunity availed itself

Treatments/services	Disagree	Neither Agree nor Disagree	Agree
Botulinum toxin	0.0	3.1	96.9
Chemical Peels	46.3	20.6	33.1
Camouflage make up	72.5	14.4	13.1
Dermal fillings	0.0	3.7	96.3
Enzymatic peels	81.9	8.8	9.4
Galvanic therapy (desin/ionto)	85.6	10.6	3.8
Galvanic body	90.6	6.9	2.5
Homecare protocol reinforcement	90.0	8.8	1.3
Injectable collagen fillers	0.0	7.4	92.6
Invasive lasers	6.3	4.4	89.4
Intense Pulsed Light (IPL)	24.4	15.0	60.6
LED light therapy (phototherapy)	38.3	18.5	43.2
Microcurrent (non-surgical face lift)	76.3	12.5	11.3
Microcurrent body	80.6	10.0	9.4
Microdermabrasion	73.8	11.9	14.4
Manual lymph drainage/vacuum suction - face	85.6	8.1	6.3
Manual lymph drainage/vacuum suction - body	86.9	8.1	5.0
Mesotherapy	41.9	18.8	39.4
Non-invasive lasers	66.3	26.9	6.9
Permanent make-up	78.8	12.5	8.8
Radiofrequency	48.8	33.1	18.1
Specialised facials (hydrating, anti-aging, deep cleansing etc.)	91.9	5.0	3.1
Sonophoresis	83.1	10.0	6.9
Sclerotherapy	5.6	12.5	81.9
Skincare education	92.5	4.4	3.1
Tattoo removal	1.9	9.3	88.9

4.5.5 Most appropriate Medical/Health Professional

Table 4.15 below indicates a strong referral relationship between somatologists and dermatologists. A high level of referrals was observed for the following skin types and skin conditions: ageing skin (79.5%); congested/oily skin (98.2%); diffused redness/sensitive skin (95.3%); dehydrated skin (98.8%); dry skin (98.8%); hyperpigmentation (70.8%); and photo aged skin (76.6%).

Table 4.15 Most appropriate Medical/Health Professional to whom Somatologists would refer

Skin conditions	Somatologist	GP	Dermatologist	Plastic surgeon	Aesthetic practitioner
Allergies	0.0	76.0	22.8	0.0	1.2
Acne	26.9	0.0	71.9	0.0	1.2
Eczema	8.2	8.2	83.6	0.0	0.0
Aging skin	79.5	1.2	8.2	2.3	8.8
Bleeding disorders	0.0	94.7	5.3	0.0	0.0
Bacterial infections	1.8	86.5	11.7	0.0	0.0
Congested/oily skin	98.2	0.0	1.8	0.0	0.0
Diffused redness/sensitive skin	95.3	0.0	4.7	0.0	0.0
Dehydrated skin	98.8	0.0	0.0	0.0	1.2
Dry skin	98.8	0.0	1.2	0.0	0.0
Fungal infections	2.9	71.3	25.7	0.0	0.0
Hyperpigmentation	70.8	1.2	26.3	0.0	1.8
Keratosis	23.4	2.9	63.7	7.6	2.3
Lentigens	5.8	5.8	78.4	8.8	1.2
Nevus	1.2	18.7	62.0	10.5	7.6
Photo aged skin	76.6	0.0	19.9	0.6	2.9
Scarring	40.9	0.0	20.5	31.6	7.0
Skin Cancer	1.2	9.9	82.5	5.3	1.2
Skin lesions	3.5	10.5	83.6	1.2	1.2
Viral infections	0.0	81.3	17.5	0.0	1.2

4.5.6 Medical Professionals who refer clients to Somatologsts

Of the respondents, 91% of medical professionals referred clients to somatologists. Table 4.16 indicates the referral relationship of the medical professionals.

Table 4.16: Percentage of medical professionals that refer clients to somatologists

Do you refer patients to a somatologist?					
		Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Valid	Yes	19	90.5	90.5	90.5
	No	2	9.5	9.5	100.0
	Total	21	100.0	100.0	

4.5.7 Frequency of Referrals

Considering these respondents as a total (92%), more than half (52.6%) indicated that referrals were done on a daily basis. Table 4.17 below indicates the frequency of referrals from medical professionals to somatologists.

Table 4.17: Frequency of referrals from medical professionals to somatologists

			Do you refer patients to a Somatologist?	**Total**
			Yes	
If yes, how often do you refer?	Once in six months	Count	2	2
		% of Total	10.5%	10.5%
	Once every two months	Count	1	1
		% of Total	5.3%	5.3%
	Weekly	Count	6	6
		% of Total	31.6%	31.6%
	Daily	Count	10	10
		% of Total	52.6%	52.6%
Total		Count	19	19
		% of Total	100.0%	100.0%

4.5.8 Treatments/Services referred to Somatologists

High levels of referral agreements were indicated for the following treatments/services: camouflage make-up (90.5%); enzymatic peels (76.2%); homecare protocol reinforcement (100%); manual lymph drainage (90.5%); mechanical body massage (100%); permanent make-up (100%); and specialised facial (90.5%) skincare education (100%). Table 4.18 below indicates non-medical/aesthetic treatments or services that medical professionals refer to somatologists.

Table 4.18: Non-medical/aesthetic treatments/services that medical professionals refer to somatologists

Non-medical/aesthetic treatments/services	Disagree	Neither agree nor disagree	Agree
Advanced electrolysis	19.0	19.0	61.9
Chemical Peels	66.7	9.5	23.8
Camouflage make up	9.5	0.0	90.5
Enzymatic peels	9.5	14.3	76.2
Faradic low frequency muscle stimulation - body	19.0	9.5	71.4
Galvanic therapy face(desin/ionto) / Galvanic body	19.0	9.5	71.4
Home-care protocol reinforcement	0.0	0.0	100.0
Intense Pulsed Light (IPL)	66.7	9.5	23.8
LED light therapy (phototherapy)	71.4	9.5	19.0
Microcurrent (non-surgical face lift) / Microcurrent body	19.0	9.5	71.4
Microdermabrasion	19.0	9.5	71.4
Manual lymph drainage/vacuum suction-face / Manual lymph drainage/vacuum suction-body	9.5	0.0	90.5
Mechanical body massage – G5	0.0	0.0	100.0
Non-invasive lasers	0.0	76.2	23.8
Permanent make-up	0.0	0.0	100.0
Permanent hair removal.	0.0	42.9	57.1
Specialized facials (hydrating, anti-aging, deep cleansing)	0.0	9.5	90.5
Sonophoresis	19.0	9.5	71.4
Skincare education	0.0	0.0	100.0

4.5.9 Medical Professionals' Response

Only 14.3% of medical professionals responded by specifying the reasons for not referring; 85.7% did not specify why they did not refer, as per Table 4.19 below.

Table 4.19 Percentage of medical professionals' who gave specific reasons for not referring clients to somatologists

Other					
		Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Valid	Yes	3	14.3	100.0	100.0
Missing	System	18	85.7		
Total		21	100.0		

4.5.10 Skin Conditions referred to a Medical Professional

There were high levels of agreement with most of the conditions specified below. Only dehydrated skin conditions (28.6%) and bleeding disorders (18.2%) are sometimes not referred to medical professionals. Refer to Figure 4.10 below.

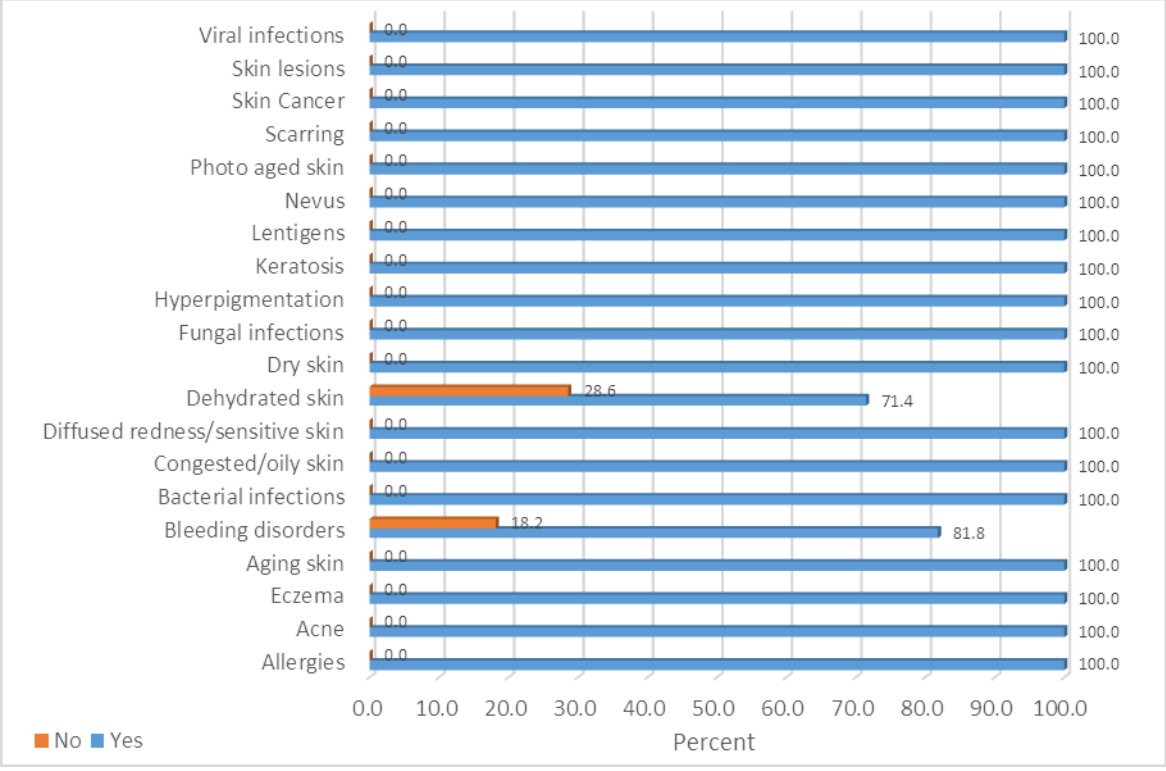

Figure 4.10 Percentage of skin conditions referred to a medical professional

4.5.11 Method/s of Referral

The most common method of referring clients to medical professionals is by word-of-mouth (81.0%). Figure 4.11 below indicates the means of referrals from somatologists to medical professionals.

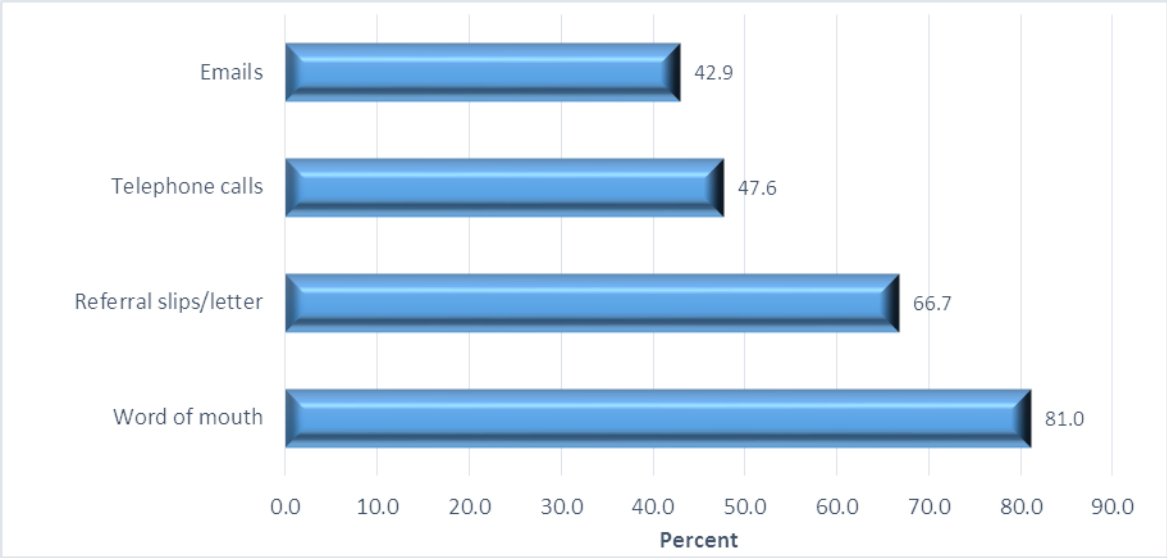

Figure 4.11: Most common methods of referral

4.5.12 Employment Opportunity for a Somatologist

The majority of respondents (95.2%) indicated that they would employ a somatologist if the opportunity arose, as per Figure 4.12 below.

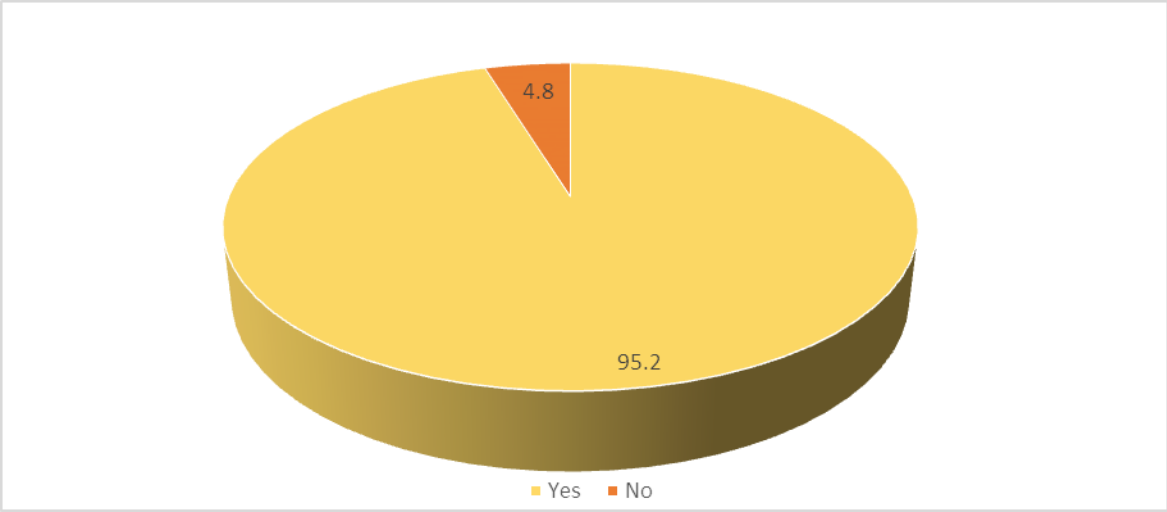

Figure 4.12: Medical professionals' response for the employment of a somatologist in a medical practice/setting

4.6 CORRELATION

Bivariate correlation was also performed on the data. The results are found in Appendices E and F. Positive values indicate a directly proportional relationship between the variables and a negative value indicates an inverse relationship, where the variables have an opposite effect on each other. All significant relationships are indicated by * or **.

4.6.1 Somatologists

The correlation value between “In what type of setting do you work in?” and “What is your job title?” is 0.337. This is a directly related proportionality. Respondents indicate that the type of setting in which they are employed directly influences their job title.

The correlation value between “Age Group” and “Do you refer clients/patients or currently have an existing referral relationship with medical professional?” is -0.251. This implies that the older the respondents are, the less likely they are to refer patients and *vice versa*.

4.6.2 Medical professionals

The correlation value between “Age” and “Do you refer clients/patients or currently have an existing referral relationship with somatologists?” is -0,946. This implies that the older the respondents the less likely they were to refer patients and *vice versa*.

The correlation value between “In what type of setting do you work?” and “What is your job title?” is 0,759. This is a directly related proportionality. Medical professionals indicate that the type of setting in which they are employed directly influences their job title.

The correlation value between “Which one of the following institutions did you obtain your qualification” and “Do you refer?” is -0,843. This implies that respondents who did not obtain their qualification from a KZN University were less likely to refer.

CHAPTER FIVE: DISCUSSION

5.1 INTRODUCTION

This chapter will discuss the findings obtained from both the somatology and medical professional questionnaires in this study. A total of 579 questionnaires were hand-delivered to somatologists and medical professionals in the five areas of eThekwini. Only 212 questionnaires were returned and 193 of these were used for analysis. Thus, an overall response rate of 33,3% was obtained.

5.2 TO DETERMINE THE LEVEL OF AWARENESS AMONGST THE eTHEKWINI MEDICAL PROFESSIONALS OF THE SERVICES AND TREATMENTS THAT SOMATOLOGISTS CAN PROVIDE, WHICH MAY COMPLEMENT A MEDICAL PRACTICE

To establish the level of awareness among medical professionals, the somatology perspective needs to be clearly stated, as currently there is no clear scope of practice that regulates this profession. What has emerged from the data is that there are overlaps in terms of services provided by both the medical professionals and somatologists. There is a clear distinction between somatology and medical treatments/services. Somatologists indicated that they performed treatments/services such as galvanic therapy, microcurrent body, microdermabrasion, manual lymph drainage, mesotherapy, non-invasive lasers, specialised facials and skincare education in their work settings. This may be due to the fact that 6.4% of the somatology respondents were employed in a medical practice specialising in aesthetic and anti-ageing medicine and were possibly offering those services/treatments. It is also for this reason that overlaps were found in the treatments such as chemical peels, camouflage make up, dermal fillings, enzymatic peels, homecare protocol reinforcement, invasive laser treatments, intense pulsed light (IPL), LED light therapy, microcurrent: face, manual lymph drainage: face, permanent make-up, radiofrequency, sonophoresis and sclerotherapy.

Besides the treatment overlaps that have been revealed by somatologists, somatologists have additionally indicated that they perform dermal fillers (1.2%), invasive laser (8.2%), and sclerotherapy (1.8%) at their place of work. This therefore indicates uncertainty amongst somatologists of the somatology treatments/services performed within the medical aesthetic practice. With the new advancements in today's medical aesthetic practice, however, aestheticians are often expected to perform treatments and services that are beyond their defined treatment guidelines (Lees 2007; NCEA 2007). Currently in South Africa there are no structured regulations on the somatology profession, hence the existing confusion.

In contrast, all medical professionals were in agreement that medical procedures such as sclerotherapy, injectable collagen fillers, dermal fillers and botulinum™ toxin could not be conducted by a somatologist, nor could they be performed under medical professional supervision. They were in agreement that radiofrequency and invasive lasers and mesotherapy treatments required medical supervision. As previously mentioned, medical professionals in some countries train nurses and aestheticians to perform laser treatments and administer injectables under their malpractice insurance umbrella. Legally, however, aestheticians/somatologists are prohibited from administering any dermal injectables, regardless of insurance coverage.

In order for somatologists to operate medical devices, continuing education certification and supervision by a qualified medical professional within a medical setting is critical (D'Angelo 2003; Hill 2009; Thornfeldt and Bourne 2010). Currently South Africa is aligned to this structure, as somatologists working within a medical practice would receive ongoing training and certification from medical professionals (dermatologists) and laser suppliers.

The field of non-invasive medical aesthetics is comprised of two areas: the aesthetic component which deals primarily with traditional treatments (Table 2.2) performed in a beauty salon/clinic or spa, and advanced medical procedures (Table 2.2) performed in a medical practice. Internationally the scope of practice of aestheticians includes services

that maintain and improve the appearance of the skin, and excludes services that use instruments or techniques in which they are not trained or which are not defined by the law (Lees 2007; National Coalition of Estheticians Associations 2004). Medical procedures outlined in Table 2.2 may only be performed by trained medical professionals such as doctors, nurses, nurse practitioners and physician assistants. Therefore a clear distinction between somatology and medical professional treatments is guided by each profession's scope of practice. The scientific advancements in products, equipment and techniques, and various cosmetic medical procedures, require a medical practitioner to supervise or administer treatments which are not within the aestheticians' scope of practice. Hence, there is overlap in some treatments (Lees 2007; National Coalition of Estheticians Associations 2004; Thornfeldt and Bourne 2010).

Only a small portion of medical professionals felt that somatologists were inadequately trained to perform advanced electrolysis, faradic low frequency muscle stimulation, and mechanical body massage. It could be that these treatments are of no interest to medical professionals as they are used by other medical professionals (physiotherapists) and are not specifically anti-ageing. This therefore indicates a small percentage of limited knowledge of the somatology curriculum amongst some medical professionals, since these treatments are included in the somatology curriculum.

The majority of these medical professionals believed that somatologists should continue with postgraduate studies or a B.Tech Degree. Generally, a high level of awareness regarding the somatology treatments/services was discovered amongst the responding medical professionals. It also emerged that somatologists were adequately trained to perform these treatments. More than half of the somatologists completed their tertiary training at the Durban University of Technology. Almost two-thirds of the somatology respondents had a national diploma as their highest qualification. The need for continuous education is therefore emphasised. Culp *et al.* (2013) and Thornfeldt and Bourne (2010) noted that possessing the knowledge of anatomy and physiology, dermatology and medical terminology will assist in gaining and reinforcing the medical professionals' trust and respect for the aesthetician's abilities. Again, if the profession is

regulated then all somatologists would be required by law to update and complete continued professional development training, as development is so rapid in the field of anti-ageing medicine.

All the medical professional respondents expressed an interest in obtaining further information regarding the somatology profession. Some preferred to obtain this information from a somatology representative at a medical aesthetic convention. Others preferred to be sent a somatology professional magazine/journal on a regular basis. This preferred trend of information dissemination amongst dermatologists is again highlighted in a Canadian study (Marcoux and Gratton 2000), where the responding dermatologists preferred to obtain skin care product education and information from seminars at professional conferences, and through articles published in medical journals and other professional publications.

5.3 TO DETERMINE THE EXTENT MEDICAL PROFESSONALS IN eTHEKWINI UTILISE SOMATOLOGY SERVICES WITHIN THEIR PRACTICES.

Most of the medical professionals were utilising somatologists in their practices; the majority showed interest in the employment opportunity and a minority had no interest. Most medical professionals revealed that they would be interested in employing a somatologist in their practice should the opportunity arise. All somatologists, however, felt employment in a medical practice would be beneficial to both the medical professional and patient. As previously stated, Warfield (2001) draws attention to the benefits of this relationship. Prior to this relationship, however, financial planning, protocol integration, and medical preparation are required. The incorporation of somatology services into the medical practice utilising a somatologist is a new concept in South Africa. Hence, more than three-quarters of the medical professional respondents believed that should they work either in collaboration with, or employ a somatologist, and that a B.Tech degree would be an advantage.

It was noted that somatologists who showed no interest could be between the ages of 30 – 45 years, while the group that showed more interest was less than 29 years old.

With regards to gender, it is not clear whether male somatologists were included in the group which expressed no interest in the medical aesthetic practice employment opportunity, since more male medical professionals took part in this study. Therefore, a correlation between utilisation and age may be expected. Most somatologists were employed in the Durban North and Durban Central areas, therefore it is speculated that the utilisation of somatologists within these two areas of eThekwini would be higher. The small group of somatologists employed in a medical aesthetic practice may have been from the two areas of eThekwini mentioned above.

Since the number of somatologists employed in health spas were not calculated per category, it is not clear what percentage of somatologists were employed in medical spas. Medical spas offer aesthetic treatments, wellness and medical procedures in a relaxed environment (Culp *et al.* 2013). According to the Annual Spa Trends (2007), South Africa has become a favourite medical tourism destination where aesthetic treatments and medical aesthetic procedures are performed by reputable medical aesthetic doctors, at affordable prices to the international patient when compared with other countries. More than half of the participating somatologists had obtained a national diploma, with somatology being their highest qualification. Medical professionals were confident that somatologists were adequately trained to perform various aesthetic treatments without supervision. This, therefore, confirms that a national diploma in somatology is the minimum qualification for employment in a medical aesthetic practice. Therefore the two variables, utilisation and qualification, may be correlated.

A high level of agreement was revealed amongst medical professionals with regards to some somatology treatments/services benefiting a medical practice. Treatments/services such as chemical peels, camouflage make-up, enzymatic peels, homecare protocol reinforcement, intense pulsed light, LED light therapy, microdermabrasion, non-invasive lasers, permanent hair removal, specialised facials, sonophoresis, and skincare education are used as pre-operative care. This assists the patient to achieve optimal skin health pre-operatively, and post-operatively to prepare

the skin for post-procedural healing (Deitz 2003; Lees 2007). In addition, medical professionals concurred that some medical treatments such as radiofrequency, invasive lasers, and mesotherapy could be performed by the somatologist under supervision.

5.4 TO DETERMINE WHETHER REFERRAL SYSTEMS EXIST BETWEEN THE TWO PROFESSIONS AND HOW THIS IS IMPLEMENTED.

More than half of the somatologists had an existing referral relationship with a medical professional, whilst less than half did not refer. The percentage of treatments/services that were frequently referred strictly included medical procedures: botulinum ™ toxin, dermal fillings, injectable collagen fillers and sclerotherapy. These medical procedures are performed by medical professionals, including medical doctors, nurse practitioners and medical assistants. During the years of study a somatologist is taught to treat minor skin disorders and conditions appearing on a healthy skin; they are prohibited from working on diseased skin unless supervised or in conjunction with a dermatologist (Culp *et al.* 2013; Durban University of Technology: Department of Chiropractic and Somatology 2013; Lees 2007).

All respondents who did not have an existing referral relationship were interested in doing so when the opportunity was created. Furthermore, somatologists and medical professionals also indicated that they would refer the same treatments as those that currently had an existing referral relationship. In addition, these somatology respondents also preferred to refer invasive lasers. This trend, therefore, demonstrates a good understanding on the side of somatologists of the treatments that are not incorporated in the somatology curriculum and therefore cannot be practiced by somatologists. Similarly, a study by Rademeyer (2010) made known that somatologists revealed high levels of discomfort in advising clients on therapeutic nutritional application. Most somatologists preferred to refer their clients to specialised healthcare professionals.

The use of lasers is not regulated within the South African market, hence the increasing complaints and the numbers of lawsuits being filed against non-medical personnel performing invasive laser procedures (South African Medical Association 2011).

Somatologists preferred to treat healthy skin conditions only, such as ageing skin, congested/oily skin, diffused redness/sensitive skin, dehydrated skin, dry skin (98.8%), hyperpigmentation, photo-aged skin, and preferred to refer diseased skin to dermatologists and general practitioners. A referral relationship with plastic surgeons and cosmetic /aesthetic practitioners seemed to be lower and therefore indicates a lack of knowledge regarding the scope of practice of medical professionals who perform medical aesthetic treatments.

Nearly all medical professionals referred aesthetic treatments which they felt did not require supervision and were used as pre- and post-operative treatments in the medical practice. Referrals to somatologists were done on a daily basis using word-of-mouth as a method of referral. The following treatments/services were referred to somatologists: camouflage make-up; enzymatic peels; homecare protocol reinforcement; manual lymph drainage; mechanical body massage; permanent make-up; specialised facials and skincare education. Although most medical professionals did not specify the reason for not referring, only a small percentage agreed that the treatments were not within the somatologist training.

A correlation was observed between “Age Group” and “referral relationship amongst somatologists and medical professional’s .Therefore “Age” directly influenced referral relationship in both groups.

5.5 REFLECTION OF COLLABORATIVE RELATIONSHIPS UTILISED BY SOMATOLOGISTS AND DERMATOLOGISTS IN eTHEKWINI.

This study suggests that a collaborative relationship is occurring in South Africa, although not as rapidly or as regulated as in other countries. Generally, medical spas and medical aesthetic practices specialising in non-invasive and anti-aging medicine promote this relationship. Both medical professionals and somatologists are aware that collaboration benefits both parties as well as the patient and the medical aesthetic practice. Although the majority of medical professionals believe that somatologists should continue with postgraduate studies or a B.Tech Degree, a national diploma in somatology is the minimum qualification for employment in a medical aesthetic practice.

Referrals between the two professions take place on a daily basis, using either word-of-mouth or referral slips. Somatologists refer the following medical treatments since they are not included in their training: botulinum toxin™; dermal fillers; injectable collagen fillers; sclerotherapy; and invasive lasers. Medical professionals refer the following somatology treatments and are aware of such treatments/services: chemical peels; camouflage make-up; enzymatic peels; homecare protocol reinforcement; intense pulsed light; LED light therapy; micro-dermabrasion; non-invasive lasers; permanent hair removal; specialised facials; sonophoresis; skincare education. They are aware that such treatments/services are beneficial to the medical aesthetic practice. These somatology treatments are used as pre-operative care to assist the patient to achieve optimal skin health and post-operatively to prepare the skin for post-procedural healing.

Treatments such as radiofrequency, invasive lasers and mesotherapy are only performed by somatologists under medical professional supervision. Therefore, this professional relationship result suggests that the patient’s recovery and downtime is reduced, whilst procedure results and patient experience is improved.

5.5.1 COLLABORATIVE PRACTICE MODEL BASED ON WAY, JONES AND BUSING (2000)

The theoretical framework utilised in the study will now be explained using the diagram based on the structured collaborative model by Way, Jones and Busing (2000), within the context of the medical aesthetic practice in South Africa.

This study suggests that a similar practice is occuring in South Africa, although not as rapidly or regulated as in other countries. Thus we can show this integration using the following figure below.

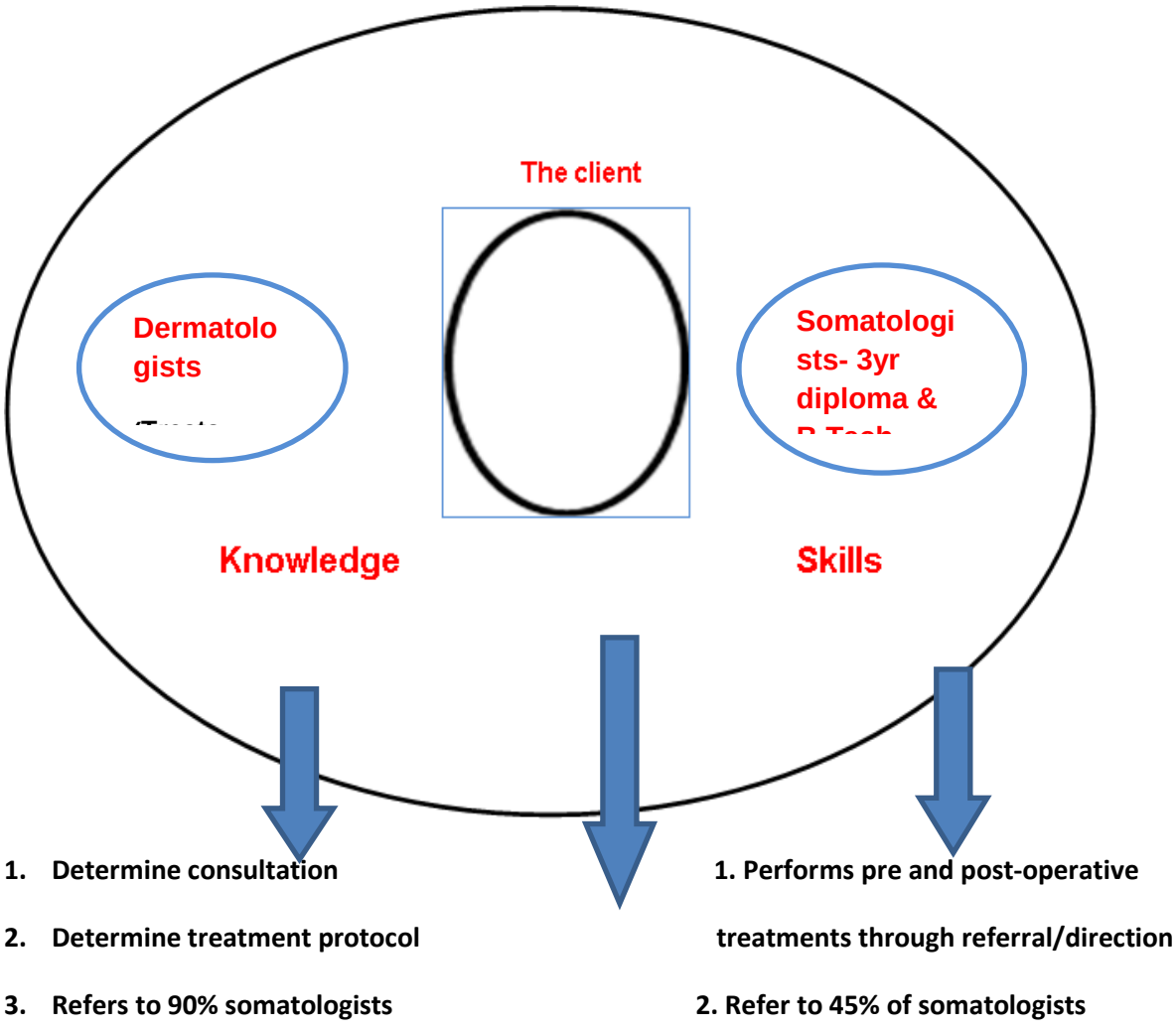

Figure 5.1: Way and Jones Adapted Model utilised by Somatologists and Dermatologists

CHAPTER SIX: CONCLUSION AND RECOMMENDATIONS

This study has revealed high levels of awareness amongst the responding medical professionals with regards to the treatments/services that somatologists can provide, and which may complement a medical practice. Some medical professionals, however, indicated a paucity of knowledge regarding the somatology curriculum. Nevertheless, all medical professionals felt that further information regarding the somatology profession was critical.

Currently, learners in South Africa may choose to complete their training at a private school where they may obtain international qualifications at NQF level five and six, ranging between two and three years full-time, or at a University of Technology. The somatology qualification is offered at only five Universities of Technology in South Africa. These qualifications comprise a three year full-time National Diploma (NQF6), a two year part-time/one year full-time B.Tech (NQF7) and a full research-based M.Tech (NQF8). One major disadvantage regarding the two providers is the great disparity that exists in the levels of training. For this reason, it is critical for medical professionals to be receptive to understanding the level of training as well as the knowledge and skills of the somatology qualification offered at the UoT's and private providers. It is to be noted that there are vast differences in the training levels between the two providers. This could be rectified should the profession become regulated and the various qualifications registered according to the qualification outcomes. This will provide the medical professional with clearer guidelines and the scope of practice of the somatology profession.

As previously stated, the somatology profession is not regulated since a register for qualified somatologists does not exist with either HPCSA or the AHPCSA. Registers for therapeutic aromatherapy, therapeutic reflexology and therapeutic massage only exist through the AHPCSA. Currently there are ongoing talks regarding the registration of the

somatology profession with the AHPCSA. An association is also currently being established by stakeholders from all the Universities of Technology in South Africa. The SAAHSP is the professional body that acts as the controlling body in South Africa, which sets standards for education, therapists and the treatments they perform. It has been highlighted that some stakeholders in the somatology industry did not understand the difference between the association and statutory body with regard to their roles and functions. This reiterates the need for regulation to establish clear guidelines.

In contrast, some somatologists seem to lack clarity regarding the somatology treatments/services that may be performed within the medical aesthetic practice, perhaps because somatology is a young and growing profession in South Africa. Due to scientific advances in product and electrical equipment, aesthetic treatments in turn developed and advanced to incorporate holistic treatments. For this reason it is therefore critical for somatologists to be knowledgeable about the somatology pre- and post-operative treatments performed in the medical aesthetic practice, so that they may perform their treatments/services within the guidelines of their professional requirements to avoid malpractice consequences. In order to shed light on the treatments/services beneficial to the medical practice, the medical aesthetic practitioner should be invited to conduct ongoing medical aesthetic training to higher level students such as third year's and postgraduates. Somatologists should also be encouraged to attend medical aesthetic conventions and seminars for information-sharing with the medical professionals. Alternatively, this would create a platform for somatologists to enlighten medical professionals of somatology treatments/services that they can perform to benefit the medical practice.

Most medical professionals employ somatologists in their medical practices and expressed an interest in employing somatologists in the future. Therefore it stands to reason that somatology treatments/services are beneficial to the medical practice, hence their high employment rate. For this reason, the extent that medical professionals utilise somatology treatments/services may be confirmed to be high. Generally a good referral relationship was demonstrated between dermatologists and general

practitioners. It seems, however, that somatologists lacked knowledge with regards to the scope of practice of plastic surgeons and cosmetic/aesthetic practitioners. Some somatologists preferred to refer invasive laser procedures, since the use of this equipment was not incorporated in the somatology curriculum. Some medical professionals, however, felt somatologists could perform these treatments under supervision. Word-of-mouth and referral slips were the most preferred methods of referral.

In order to continue and maximise collaboration with medical professionals, it is critical that the somatology profession be registered with a statutory body so that it may have a defined scope of practice. The medical professionals (employer) will therefore be made aware of the treatments/services that a somatologist can provide. In turn, somatologists will have clearer guidelines of the treatments that they can and cannot provide. Communication and information-sharing needs to be promoted, whereby somatologists are invited to medical aesthetics congresses and seminars and *vice versa.*

This study has therefore revealed that there is currently a collaborative relationship between dermatologists and somatologists within the South African context. Medical professionals believe somatologists are adequately trained to provide pre- and post-operative treatments to assist in achieving higher treatment success rates. Cases of malpractice suits due to unqualified therapists performing aesthetic medicine, currently a concern in South Africa, would also be reduced. In order to further promote this growing relationship, however, regulation of this profession is crucial. The adapted collaborated practice model could be used as a guideline for both medical professionals and somatologists to establish effective professional relationships.

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Appendix A – Permission letter to somatologists to conduct the study

To: Whom it may concern

Re: Permission to conduct a study amongst somatologists and medical professionals practicing aesthetic and anti-aging medicine in eThekwini.

I am a lecturer in the Department of Chiropractic and Somatology, who is currently registered for a Master's degree in Somatology with the Durban University of Technology. In order to obtain my qualification I am required to complete a dissertation which includes conducting a study within the field of Somatology.

The aim of my study is to explore the professional relationship between somatologists and medical professionals practising non-invasive aesthetics and anti -aging medicine in the eThekwini area of Kwazulu- Natal.

I would greatly appreciate it if you would participate in my study, by answering the questionnaire, read the letter of information and complete the consent form, which I will personally hand deliver to your practice. After completion of the questionnaire, you are welcome to notify me for collection alternatively, I will notify you before collection.

Two sealed boxes will be available for the questionnaire and informed consent at collection point. Questionnaires will be coded. No names or identity information will appear on the questionnaire. Information gained will be treated with confidentiality and will only be used for research purposes. Only myself as the researcher will have access to this information.

It is hoped that the information gained from this study will lay the possible foundation in support of increasing awareness levels amongst medical professionals towards the somatology profession in South Africa and will also determine whether there is a need for awareness interventions with regards the somatology profession.

The study protocol has been approved by the Durban University of Technology Ethics Committee and Faculty research committee. Ethics reference number FHSEC 015/11.

Should you require additional information regarding this study, you may contact the researcher or the following persons mentioned below:

Your kind response would be greatly appreciated.

Researcher: Sinegugu Nkwanyana
Tel (w) 031 – 3732535 or (c) 0825217534 or email sinegugun@dut.ac.za

Supervisor: Dr Anisa Mosam on (c) 0844978608 or email mosama@ukzn.ac.za

Co-supervisor: Dorinda Borg Tel (w) 031- 3732390 or (c) 0842584932, email dorindaraphineb@dut.ac.za

Yours Faithfully
SineguguNkwanyana

Appendix B: Letter of information and consent

Letter of Information and consent

Dear Participant

Thank you for agreeing to participate in the following study:

Title of the Research Study:

An investigation of the professional relationship between somatologists and medical professionals practising non-invasive aesthetics and anti -aging medicine in eThekwini.

Principle Investigator: Sinegugu Nkwanyana

Brief Introduction and Purpose of the Study:
Somatology is a relatively young and growing profession in South Africa. Although a number of medical specialities can use the services of a somatologist, the most common are dermatology and plastic surgery as these two specialities deal more directly with skin appearance and aesthetics (Warfield, 2001).The focus of this study will be on the somatologists and medical professionals practising non-invasive aesthetics and anti -ageing medicine in eThekwini.

The objectives of this study are:

1. To determine the demographics of the responding somatologists and medical professionals.
2. To determine the level of awareness (knowledge) amongst medical professionals of the services and treatments that somatologists can provide which may complement a medical practice.
3. To determine the extent medical professionals utilise the somatology services and whether referral systems exist between the two professions and how this is implemented.

Outline of the Procedures:

- A focus group and pilot study have been conducted in order to develop a questionnaire for use in this research.
- Firstly, you will receive this information letter with which written permission will be sought from you. Each of you will then be hand delivered a post –piloted questionnaire (as attached).
- You will be asked to complete a short questionnaire (Appendix E or F).
- Once you have completed, the questionnaire, you will be asked to place the completed questionnaire and informed consent form into separate sealed boxes. No names or identity information will be available on the questionnaire thus confidentiality will be ensured.

Risks or Discomforts to the Subject:

There is no risk or discomfort expected to be experienced by you. It should not take you more than 10 minute to complete the questionnaire.

Benefits:
Improved inter-professional relationships may be built once this research reveals the current state of inter-professional knowledge and relationships.
Reason/s why the Subject May Be Withdrawn from the Study:
Should you feel that you can no longer continue answering the questions, you are allowed to discontinue.

Remuneration / Costs of the Study:
You will unfortunately not be remunerated for participation, however you are also not be expected to pay for participation.

Confidentiality:
The questionnaires have been coded to ensure anonymity, and confidentiality. Participation is voluntary, you may withdraw from the study at any point and there will be no adverse consequences. The completed questionnaires will be kept in the Department of Chiropractic and Somatology. Only the researcher, supervisor and co-supervisor will access to the completed questionnaires. After 5 years questionnaires will be shredded and discarded.

Research-related Injury:
No injuries are envisaged in this study.

Persons to Contact in the Event of Any Problems or Queries:
Sinegugu Nkwanyana, Department of Chiropractic and Somatology, Faculty of Health Sciences, Durban University of Technology. Cell number: 0825217534

Supervisor: Dr Anisa Mosam, Dept of Dermatology UKZN on. Cell number: 0844978608 or email mosama@ukzn.ac.za
Qualification: Associate Professor/ Principal Specialist
MB ChB, FC Derm (S.A), MMed (Univ Natal) , PhD (UKZN)

Co-supervisor: Mrs Dorinda Borg, Department of Chiropractic and Somatology, Faculty of Health Sciences, Durban University of Technology. Telephone (work) 031- 3732390 or (cell) 0842584932, email dorindab@dut.ac.za
Qualification: NHDip, BT (TN); Med (Higher Education)

Statement of Agreement to Participate in the Research Study:
(I……
(Subject's full name and ID number)
have read this document in its entirety and understand its contents. Where I have had any questions or queries, these have been explained to me by
……to my satisfaction. Furthermore, I fully understand that I may withdraw from this study at any stage without any adverse consequences and my future health care will not be compromised. I, therefore, voluntarily agree to participate in this study.

Subject's name (print):	Subject's signature:	Date
Researcher's name (print):	Researchers signature	Date
Witness name (print):	Witness signature:	Date
Supervisor's name:	Supervisor's signature	Date

Co-supervisor's name: Co-supervisor's signature: Date:

APPENDIX C

SPECIFIC CHANGES MADE TO THE QUESTIONNAIRES WERE AS FOLLOWS:

Medical professionals

An instruction was added at the beginning of each section A, B, C, D 'Mark your answer by making a cross (X) in the appropriate block'. This was included to add more clarity to the questionnaire instructions.

In all the questions, 'other 'was given as an option, 'Please specify' was added next to 'other'.

Section B: Practice Particulars

- Q4: Option 2 was revised from 'Somatology profession magazine sent to you regularly' to 'Somatology profession magazine/journal sent to you regularly'.

Section C: Utilisation

- Q2: the following medical aesthetic/non-somatology treatments: botulinum toxin, dermal fillings, injectable collagen fillers, invasive lasers, mesotherapy, radiofrequency, sclerotherapy and tattoo removal, were removed from the list of options.
- Q3: rephrased from 'Please indicate the somatology treatments/services that you feel may/could benefit a medical practice' to 'Please indicate which of the following somatology treatments/services may/could benefit a medical practice.' You may choose <u>one</u> option'.
- Q3: same as Q2 above
- Q3: Add ordinal, likert scale 'Strongly agree (1), Disagree (2), Neither agree nor disagree (3), Agree (4), Strongly agree (5)' at the top of the page to show continuation and to prevent confusion of Q3.
- Q4: a new question was included 'Do you think the following treatments/services could be conducted under your supervision?' Only medical aesthetic treatments were included to determine the level of supervision.

Section D: Referral Relationship

- Q3: modified from ‘If yes, please select the treatments/services you recommend/would recommend for a patient,’ to ‘If yes, please indicate which of the following somatology treatments/services would you refer a patient for’. ‘You may only choose one option’.
- Q5: the word ‘indicate’ was replaced by ‘select’.
- Q5: amended by using numeric scaling ’Yes or No’ as options.
- Q8 and Q9 were completely omitted from the questionnaire.

Somatologists

An instruction was added at the beginning of each section A, B, C, D ‘Mark your answer by making a cross (X) in the appropriate block’. This was included to add more clarity to the questionnaire instructions. In all the questions where ‘other ‘was given as an option, ‘Please specify’ was added next to ‘other’.

Section C: Referral relationship

- Q4: an instruction was added which specified the number of options that could be selected when answering question 4.
- Q5: was a new question added to the questionnaire, to determine whether the somatologist was knowledgeable about the referrals of various skin conditions to their respective disciplines. This question was removed from section D.

Section D: Utilisation

- Q2: was amended from ‘ Please indicate the treatments/services performed by a somatologist that you feel would be beneficial to the medical professional and the patient from the list below’ to ‘Please indicate from the list below the treatments/services that can be performed by a somatologist without supervision of a medical professional’. ‘Please select one option’.
- Q4: was revised from ‘Indicate to whom you would refer the patient to in order to receive the following interventions’ to ‘From the list below, identify the most appropriate medical professional for the following treatments/services’. ‘Please select one option’.

- Q5: This question was removed from Section D to Section C.

APPENDIX D

FINAL QUESTIONNAIRES

Both the questionnaires (Appendix C and D) were divided into 4 sections:

Medical professional questionnaire (Appendix F)

Section A: Demographic Information

Section A comprised of eight questions aimed at gathering basic demographic information, job title, type of work setting and area of specialty.

Section B: level of awareness and attitude

Section B comprised of four questions, which focused on the level of awareness and attitude of medical professionals regarding the treatments/services that somatologits can provide, which may complement a medical practice.

Section C: Utilisation

Section C comprised of four questions and focused on the utilisation and the level of supervision required for somatologists in the medical practice.

Section D: Referral Relationship

Section D comprised of seven questions directed at determining whether a referral relationship existed, as well as the frequency and the methods of referral, between the somatologist and medical professional in medical aesthetics.

3.11.2 Somatologist questionnaire (Appendix E)

Section A: demographic information

Section A comprised of eight questions aimed at gathering basic demographic information, job title, type of work setting and qualification institution of respondents.

Section B: Practice particulars

Section B comprised of one question focusing on the treatments/services performed by the somatologist within their work setting.

Section C: Referral Relationship

Section C comprised of five questions directed at determining whether a referral relationship existed, as well as the frequency and the methods of referrals between somatologists and medical professionals in medical aesthetics.

Section D: Utilisation

Section D comprised of four questions focused on the utilisation of a somatologists in the medical practice, as well as the treatments/services that could be performed by a somatologist without supervision.

Respondent Number:

SOMATOLOGISTS

Appendix E: Participant questionnaire

FACULTY OF HEALTH SCIENCES
Dept: Chiropractic & Somatology

Dear Sir/Madam

This should not take more than 10 minutes to complete.

MASTERS IN SOMATOLOGY RESEARCH PROJECT

RESPONSIBLE RESEARCHER: SINEGUGU NKWANYANA (0825217534)

An investigation of the professional relationship between somatologists and medical professionals practising non-invasive aesthetics and anti- aging medicine in eThekwini.

Definition: For the purpose of this study, somatologist refers to anyone who has completed a two year (2) diploma (NQF 5); three year (3yr) National Diploma (NQF level 6) or Bachelor of Technology (B-Tech) (4yrs) in somatology from a Universities of Technology or a private provider:

Thank you for taking the time to complete the questionnaire.

Please ensure that you have signed the letter of information and consent before completing the questionnaire.

Note: Mark your answer by making **a cross (x)** in the appropriate block.

SECTION A : DEMOGRAPHICS

1. Gender

Male		**1**
Female		**2**

2. Age Group

20-24		**1**
25-29		**2**
30-34		**3**
35-39		**4**
40-44		**5**
45>		**6**

3. Home Language

1.	English		**1**
2.	Afrikaans		**2**
3.	IsiZulu		**3**
4.	IsiXhosa		**4**
5.	Sesotho		**5**
6.	Other		**6**

4. In which area of eThekwini is your place of work located?
Specify area. E.g. Berea

5. What is your job title?

6. In what type of setting do you work in?

Somatology clinic/Health & skincare clinic/Beauty clinic		**1**
Health spa (day spa, hotel spa, game spa)		**2**
Medical practice specialising in aesthetic and anti-aging medicine		**3**
Medical spa		**4**
Wellness centre		**5**
Other. Please specify		**6**

7. In which one of the following institutions did you obtain your qualification?

Beauty Specialist Training Centre		**1**
Central University of Technology		**2**
Camelot International		**3**
Cape Peninsula University of Technology		**4**
Durban University of Technology		**5**
Face to Face Beauty & Make up Design School		**6**
Institute of Beauty Technology		**7**
Jill Faruharson College of Health & Beauty Therapy		**8**
Johannesburg University		**9**
The Academy of Beauty Therapy		**10**
Tshwane University of Technology		**11**
The Beauty Specialist Training Centre		**12**
The Beauty Academy		**13**
Other. Please specify		**14**

8. What is the highest qualification that you have obtained in Somatology?
E.G National Diploma Somatology

SECTION B : Level of awareness

Mark your answer by making a cross (x) in the appropriate block.

1. Which of the following treatments/ services do you carry out in your place of work?

Botulinum toxin (botox)		**1**
Chemical Peels		**2**
Camouflage make up		**3**
Dermal fillings		**4**
Enzymatic peels		**5**
Galvanic therapy (desin/ionto) Galvanic body		**6**
Homecare advice		**7**
Injectable collagen fillers		**8**
Invasive laser treatments		**9**
Intense Pulsed Light (IPL)		**10**
LED light therapy (phototherapy)		**11**
Microcurrent (non-surgical face lift)		**12**
Microcurrent body		**13**
Microdermabrasion		**14**
Manual lymph drainage/vacuum suction – face		**15**
Manual lymph drainage/vacuum suction -body		**16**

Which of the following treatments/ services do you carry out in your place of work?

Mesotherapy (non- invasive fat reduction)		**17**
Non-invasive lasers treatments		**18**
Permanent make up		**19**
Radiofrequency (skin tightening)		**20**
Specialised facials (hydrating, anti –aging, deep cleansing etc.)		**21**
Sonophoresis		**22**
Sclerotherapy (spider vein removal)		**23**
Skincare education		**24**
Tattoo removal		**25**
Other. Please specify		**26**

SECTION C : Referral Relationship

Mark your answer by making a cross (x) in the appropriate block.

1. Do you refer clients/patients or currently have an existing referral relationship with medical professional?

Yes		**1**
No		**2**

2. If yes, please indicate the treatments/services you refer to a medical professional.

Botulinum toxin		**1**
Chemical Peels		**2**
Camouflage make up		**3**
Dermal fillings		**4**
Enzymatic peels		**5**
Galvanic therapy (desin/ionto)		**6**
Galvanic body		**7**
Homecare protocol reinforcement		**8**
Injectable collagen fillers		**9**
Invasive lasers		**10**
Intense Pulsed Light (IPL)		**11**
LED light therapy (phototherapy)		**12**
Microcurrent (non-surgical face lift)		**13**
Microcurrent body		**14**
Microdermabrasion		**15**

If yes, please indicate the treatments/services you refer to a medical professional.

Manual lymph drainage/vacuum suction – face		**16**
Manual lymph drainage/vacuum suction -Body		**17**
Mesotherapy		**18**
Non-invasive lasers		**19**
Permanent make up		**20**
Radiofrequency		**21**
Specialised facials (hydrating, anti –aging, deep cleansing etc.)		**22**
Sonophoresis		**23**
Sclerotherapy		**24**
Skincare education		**25**
Tattoo removal		**26**
Other. Please specify		**27**

3. If no, would you refer clients/patients to a medical professional if an enabling environment was created.

Yes		**1**
No		**2**

4. Please indicate the treatments/ services that you would refer to a medical professional. Please select only <u>one</u> option.

	Strongly Disagree 1	**Disagree 2**	**Neither Agree nor disagree 3**	**Agree 4**	**Strongly Agree 5**
Botulinum toxin					
Chemical Peels					
Camouflage make up					
Dermal fillings					
Enzymatic peels					
Galvanic therapy (desin/ionto)					
Galvanic body					
Homecare protocol reinforcement					
Injectable collagen fillers					
Invasive lasers					
Intense Pulsed Light (IPL)					
LED light therapy (phototherapy)					
Microcurrent (non-surgical face lift)					
Microcurrent body					
Microdermabrasion					
	Strongly	**Disagree**	**Neither**	**Agree**	**Strongly**

	Disagree **1**	**2**	**Agree nor disagree** **3**	**4**	**Agree** **5**
Manual lymph drainage/vacuum suction – face					
Manual lymph drainage/vacuum suction - Body					
Mesotherapy					
Non-invasive lasers					
Permanent make up					
Radiofrequency					
Specialised facials (hydrating, anti –aging, deep cleansing etc.)					
Sonophoresis					
Sclerotherapy					
Skincare education					
Tattoo removal					
Other. Please specify					

5. Select <u>one</u> medical professional to whom you would refer the patient if they presented with the following conditions. Please select <u>one</u> option.

	Somatologist **1**	**GP** **2**	**Dermatologist** **3**	**Plastic surgeon** **4**	**Cosmetic/aesthetic practitioner** **5**
Allergies					
Acne					
Eczema					
Aging skin					
Bleeding disorders					
Bacterial infections					
Congested/oily skin					
Diffused redness/sensitive skin					
Dehydrated skin					
Dry skin					
Fungal infections					
Hyperpigmentation					
Keratosis					
Lentigens					

	Somatologist 1	GP 2	Dermatologist 3	Plastic surgeon 4	Cosmetic/aesthetic practitioner 5
Nevus					
Photo aged skin					
Scarring					
Skin Cancer					
Skin lesions					
Viral infections					

SECTION D : Utilisation

Mark your answer by making a cross (x) in the appropriate block.

1 .In your professional opinion, do you feel that the employment of a somatologist in a medical practice would be beneficial to the medical professional and the patient?

Yes		**1**
No		**2**

2. Please indicate from the list below the treatments/services that can be performed by a somatologist without supervision of a medical professional. Please select one option.

	Strongly Disagree 1	Disagree 2	Neither Agree nor disagree 3	Agree 4	Strongly Agree 5
Botulinum toxin					
Chemical Peels					
Camouflage make up					
Dermal fillings					
Enzymatic peels					
Galvanic therapy (desin/ionto)					
Galvanic body					
Homecare protocol reinforcement					
Injectable collagen fillers					
Invasive lasers					
Intense Pulsed Light (IPL)					
LED light therapy (phototherapy)					
Microcurrent (non-surgical face lift)					
Microcurrent body					
Microdermabrasion					

	Strongly Disagree 1	**Disagree 2**	**Neither Agree nor disagree 3**	**Agree 4**	**Strongly Agree 5**
Manual lymph drainage/vacuum suction-Face					
Manual lymph drainage/vacuum suction - Body					
Mesotherapy					
Non-invasive lasers					
Permanent make up					
Radiofrequency					
Specialised facials (hydrating, anti –aging, deep cleansing etc.)					
Sonophoresis					
Sclerotherapy					
Skincare education					
Tattoo removal					
Other. Please specify					

3. If you are not currently employed in a medical practice/setting and had the opportunity to be so employed, would you?

Yes		**1**
No		**2**

4. From the list below, identify the most appropriate medical professional for the following treatments/services. Please select <u>one</u> option.

	Somatologist **1**	**GP** **2**	**Dermatologist** **3**	**Plastic surgeon** **4**	**Cosmetic/aesthetic practitioner** **5**
Botulinum toxin					
Chemical Peels					
Camouflage make up					
Dermal fillings					
Enzymatic peels					
Galvanic therapy (desin/ionto)					
Galvanic body					
Homecare protocol reinforcement					
Injectable collagen fillers					
Invasive lasers					
Intense Pulsed Light (IPL)					
LED light therapy (phototherapy)					
Microcurrent (non-surgical face lift)					
Microcurrent body					
Microdermabrasion					
Manual lymph drainage/vacuum suction – face					
Manual lymph drainage/vacuum suction -Body					
Mesotherapy					
Non-invasive lasers					
Permanent make up					
Radiofrequency					
Specialised facials (hydrating, anti –aging, deep cleansing etc.)					
Sonophoresis					
Sclerotherapy					
Skincare education					
Tattoo removal					

Thank you

Respondent Number:

Medical Professional

Appendix F: Participant questionnaire

FACULTY OF HEALTH SCIENCES

Dept: Chiropractic & Somatology

Dear Sir/Madam

This should not take more than 10 minutes to complete.

MASTERS IN SOMATOLOGY RESEARCH PROJECT

RESPONSIBLE RESEARCHER: SINEGUGU NKWANYANA (0825217534)

An investigation of the professional relationship between somatolgists and medical professionals practising non-invasive aesthetics and anti- aging medicine in eThekwini.

Definition: For the purpose of this study, somatologist refers to anyone who has completed a two year (2) diploma (NQF 5); three year (3yr) National Diploma (NQF level 6) or Bachelor of Technology (B-Tech) (4yrs) in somatology from a University of Technology or a private provider.

Definition: For the purpose of this study, medical professionals practising non- invasive aesthetic and anti -aging medicine refers to all physicians and practitioners, regardless of their specialties.

Thank you for taking the time to complete the questionnaire.
Please ensure that you have signed the letter of information and consent before completing the questionnaire

Note: Mark your answer by making **a cross (x)** in the appropriate block.

SECTION A : DEMOGRAPHICS

1. Gender

Male		**1**
Female		**2**

2. Age Group

2O -24		**1**
25-29		**2**
30-34		**3**
35-39		**4**
40-44		**5**
45>		**6**

3. Home Language

1.	English		**1**
2.	Afrikaans		**2**
3.	IsiZulu		**3**
4.	IsiXhosa		**4**
5.	Sesotho		**5**
6.	Other		**6**

4. In which area of eThekwini is your place of work located?
Specify area. E.g. Berea

5. What is your job title?

6. In what type of setting do you work in?

Private practice		**1**
Group practice with other medical professionals		**2**
Medical spa		**3**
Other. Please specify		**4**

7. In which one of the following institutions did you obtain your qualification?

Nelson Mandela school of medicine		**1**
Medusa medical school		**2**
Stellenbosch university		**3**
University of Cape Town		**4**

University of Witwatersrand		**5**
Other		**6**

8. Select your area of specialty.

Dermatology		**1**
Plastic surgery		**2**
Aesthetic medicine		**3**
Anti aging medicine		**4**
Cosmetic surgery		**5**
General practitioner		**6**
Other		**7**

SECTION B : Level of awareness

Mark your answer by making a cross (x) in the appropriate block

1. Which of the following treatments /services do you carry out in your place of work ?

Botulinum toxin		**1**
Chemical Peels		**2**
Camouflage make up		**3**
Dermal fillings		**4**
Enzymatic peels		**5**
Galvanic therapy face(desin/ionto) Galvanic body		**6**
Home-care protocol reinforcement		**7**
Injectable collagen fillers		**8**
Invasive lasers		**9**
Intense Pulsed Light (IPL)		**10**
LED light therapy (phototherapy)		**11**
Microcurrent (non-surgical face lift) Microcurrent body		**12**
Microdermabrasion		**13**
Manual lymph drainage/vacuum suction-face Manual lymph drainage/vacuum suction-body		**14**
Mesotherapy		**15**
Non-invasive lasers		**16**
Permanent make up		**17**
Radiofrequency		**18**

Which of the following treatments /services do you carry out in your place of work ?

Specialized facials (hydrating, anti-aging, deep cleansing)		**19**
Sonophoresis		**20**

Sclerotherapy		**21**
Skincare education		**22**
Tattoo removal		**23**
Other. Please specify		**24**

2. In your opinion, which one of the following qualifications should a somatologist complete to provide services and treatments in a medical practice.

Doctor of Technology: somatology (NQF 8and above)		**1**
Master of Technology: somatology (NQF 8)		**2**
Bachelor of Technology: somatology (NQF 7)		**3**
National Diploma: somatology (NQF 6)		**4**
Diploma: somatology (NQF 5)		**5**

3. Would you like to obtain more information of the somatolgy profession ?

Yes		**1**
No		**2**

4. If yes, indicate how you would like to be informed? You may select more than one option.

Invitation to somatology advisory board meetings of training institutions		**1**
Somatology profession magazine/Journal sent to you regularly		**2**
Invitation to somatology conferences/lectures/exhibitions		**3**
A somatology representative at a dermatologist conference		**4**
A somatology representative at a medical aesthetics convention		**5**
A somatology representative at a plastic surgeons conference		**6**
Other. Please specify		**7**

SECTION C: Utilisation

Mark your answer by making a cross (x) in the appropriate block

1. Do you currently employ a somatologist ?

Yes		**1**
No		**2**

2. Do you feel somatologists are adequately trained to perform the following treatments/ services.

Advanced electrolysis		**1**
Chemical Peels		**2**
Camouflage make up		**3**
Enzymatic peels		**4**
Faradic low frequency muscle stimulation - body		**5**
Galvanic therapy face(desin/ionto) Galvanic body		**6**
Home-care protocol reinforcement		**7**
Intense Pulsed Light (IPL)		**8**
LED light therapy (phototherapy)		**9**
Microcurrent (non-surgical face lift) Microcurrent body		**10**
Microdermabrasion		**11**
Manual lymph drainage/vacuum suction-face Manual lymph drainage/vacuum suction-body		**12**
Mechanical body massage – G5		**13**
Non-invasive lasers		**14**
Permanent make up		**15**
Permanent hair removal.		**16**
Specialized facials (hydrating, anti-aging, deep cleansing)		**17**
Sonophoresis		**18**
Skincare education		**19**
Other. Please specify		**20**

3. Please indicate which of the following somatology treatments /services may/could benefit a medical practice. You may only choose <u>one</u> option.

	Strongly Disagree **1**	**Disagree** **2**	**Neither Agree nor disagree** **3**	**Agree** **4**	**Strongly Agree** **5**

Advanced electrolysis					
Chemical Peels					
Camouflage make up					
Enzymatic peels					
Faradic low frequency muscle stimulation - body					
Galvanic therapy face(desin/ionto) Galvanic body					
Home-care protocol reinforcement					
Intense Pulsed Light (IPL)					
LED light therapy (phototherapy)					
Microcurrent (non-surgical face lift) Microcurrent body					
Microdermabrasion					
Manual lymph drainage/vacuum suction-face Manual lymph drainage/vacuum suction-body					
Mechanical body massage – G5					
Non-invasive lasers					
Permanent make up					
Permanent hair removal.					
Specialized facials (hydrating, anti-aging, deep cleansing)					
Sonophoresis					
Skincare education					
Other. Please specify					

4. Do you think the following treatments/services could be conducted under your supervision ?

	Strongly Disagree **1**	**Disagree** **2**	**Neither Agree nor disagree** **3**	**Agree** **4**	**Strongly Agree** **5**
Botulinum toxin					

Chemical Peels					
Dermal fillings					
Enzymatic peels					
Injectable collagen fillers					
Invasive lasers					
Mesotherapy					
Radiofrequency					
Sclerotherapy					
Tattoo removal					
Other. Please specify					

SECTION D: REFERRAL RELATIONSHIP

Mark your answer by making a cross (x) in the appropriate block

1. Do you refer patients to a somatologist

Yes		**1**
No		**2**

2. If yes, how often do you refer ?

Less than once a year		**1**
Once a year		**2**
Once in six months		**3**
Once every two months		**4**
Once a month		**5**
More than once a month		**6**
Weekly		**7**
Daily		**8**

3. If yes, please indicate which of the following somatology treatments/services would you refer a patient for. You may only choose <u>one</u> option.

	Strongly Disagree	**Disagree**	**Neither Agree nor disagree**	**Agree**	**Strongly Agree**
	1	**2**	**3**	**4**	**5**

Advanced electrolysis					
Chemical Peels					
Camouflage make up					
Enzymatic peels					
Faradic low frequency muscle stimulation - body					
Galvanic therapy face(desin/ionto) Galvanic body					
Home-care protocol reinforcement					
Intense Pulsed Light (IPL)					
LED light therapy (phototherapy)					
Microcurrent (non-surgical face lift) Microcurrent body					
Microdermabrasion					
Manual lymph drainage/vacuum suction-face Manual lymph drainage/vacuum suction-body					
Mechanical body massage – G5					
Non-invasive lasers					
Permanent make up					
Permanent hair removal.					
specialized facials (hydrating, anti-aging, deep cleansing)					
Sonophoresis					
Skincare education					
Other. Please specify					

4. If no, please select a reason/reasons

Not aware of somatologists scope of practice		**1**
Not aware of a somatologist role in a medical practice		**2**
Lack confidence in somatology		

profession		**3**
Not acquitted with a somatologist		**4**
Other. Please specify		5

5. Do you know if any of your patients have been referred to you by a somatologist ? If yes, please select the reasons for referral ?

	Yes 1	**No 2**
Allergies		
Acne		
Eczema		
Aging skin		
Bleeding disorders		
Bacterial infections		
Congested/oily skin		
Diffused redness/sensitive skin		
Dehydrated skin		
Dry skin		
Fungal infections		
Hyperpigmentation		
Keratosis		
Lentigens		
Nevus		
Photo aged skin		
Scarring		
Skin Cancer		
Skin lesions		
Viral infections		

6. If yes, please indicate the method/s of referral.

Word of mouth		**1**
Referral slips/letter		**2**
Telephone calls		**3**
Emails		**4**

Business cards		**5**
SMS		**6**
Other		**7**

7. If you had the opportunity to employ a somatologist in your medical practice/setting would you ?

Yes		**1**
Not sure		**2**
No		**3**

Appendix G: Bivariate correlation

		Gender	e Group (yea	me Langua	wini is your	ob title? - S	do you wor	stitutions d	on that you	n existing r	otulinum to	nemical Pe	ouflage ma	ermal filling	zymatic pe	therapy (de	alvanic bo
Gender	Pearson C	1	.032	-.168*	-.064	.035	.000	.049	-.036	-.093	.169*	-.053	.046	-.063	.015	-.176*	.135
	Sig. (2-tailed)		.675	.028	.404	.645	.997	.524	.636	.225	.031	.508	.560	.426	.848	.026	.088
	N	171	171	171	171	171	171	171	171	171	162	160	160	162	160	160	160
Age Group	Pearson C	.032	1	-.100	.070	.021	.064	.219**	.051	-.251**	.069	.027	-.028	.284**	-.026	.021	.007
	Sig. (2-taile	.675		.193	.365	.780	.408	.004	.506	.001	.381	.738	.727	.000	.741	.790	.931
	N	171	171	171	171	171	171	171	171	171	162	160	160	162	160	160	160
Home Lan	Pearson C	-.168*	-.100	1	.116	.175*	.175*	-.203**	-.047	-.041	-.058	.108	.102	.017	-.023	.139	.067
	Sig. (2-taile	.028	.193		.131	.022	.022	.008	.545	.597	.462	.175	.198	.828	.769	.079	.397
	N	171	171	171	171	171	171	171	171	171	162	160	160	162	160	160	160
In which ar	Pearson C	-.064	.070	.116	1	.144	.119	.133	-.104	-.089	-.084	.143	.113	.073	-.116	.025	-.074
	Sig. (2-taile	.404	.365	.131		.060	.120	.083	.175	.249	.289	.072	.155	.354	.144	.755	.351
	N	171	171	171	171	171	171	171	171	171	162	160	160	162	160	160	160
What is you	Pearson C	.035	.021	.175*	.144	1	.337**	-.026	-.116	-.133	.075	.209**	-.009	-.023	-.039	-.124	.018
	Sig. (2-taile	.645	.780	.022	.060		.000	.731	.130	.082	.340	.008	.915	.768	.625	.118	.817
	N	171	171	171	171	171	171	171	171	171	162	160	160	162	160	160	160
In what type	Pearson C	.000	.064	.175*	.119	.337**	1	.021	.095	-.134	.092	-.044	-.123	.032	-.125	-.078	-.128
	Sig. (2-taile	.997	.408	.022	.120	.000		.783	.216	.081	.244	.578	.120	.687	.115	.328	.106
	N	171	171	171	171	171	171	171	171	171	162	160	160	162	160	160	160
In which on	Pearson C	.049	.219**	-.203**	.133	-.026	.021	1	-.008	.085	-.065	.024	.145	.049	-.060	-.046	-.077
	Sig. (2-taile	.524	.004	.008	.083	.731	.783		.915	.267	.410	.767	.068	.535	.452	.562	.335
	N	171	171	171	171	171	171	171	171	171	162	160	160	162	160	160	160
What is the	Pearson C	-.036	.051	-.047	-.104	-.116	.095	-.008	1	.038	.194*	-.028	-.150	.131	-.144	-.101	-.061
	Sig. (2-taile	.636	.506	.545	.175	.130	.216	.915		.623	.013	.727	.059	.096	.069	.203	.443
	N	171	171	171	171	171	171	171	171	171	162	160	160	162	160	160	160
Do you refe	Pearson C	-.093	-.251**	-.041	-.089	-.133	-.134	.085	.038	1	.068	-.041	-.123	.101	.119	.205**	.096
	Sig. (2-taile	.225	.001	.597	.249	.082	.081	.267	.623		.392	.603	.120	.200	.134	.009	.225
	N	171	171	171	171	171	171	171	171	171	162	160	160	162	160	160	160
Botulinum t	Pearson C	.169*	.069	-.058	-.084	.075	.092	-.065	.194*	.068	1	.049	-.254**	.574**	-.103	-.202*	-.099
	Sig. (2-taile	.031	.381	.462	.289	.340	.244	.410	.013	.392		.537	.001	.000	.196	.010	.212
	N	162	162	162	162	162	162	162	162	162	162	160	160	162	160	160	160
Chemical F	Pearson C	-.053	.027	.108	.143	.209**	-.044	.024	-.028	-.041	.049	1	.444**	-.028	.282**	.174*	.198*
	Sig. (2-taile	.508	.738	.175	.072	.008	.578	.767	.727	.603	.537		.000	.726	.000	.028	.012
	N	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160

Appendix H: Bivariate correlation

		Gender	e Group (yea	me Langua	wini is your	itle? - Medi	you work in	tions did yo	matologist	y employ a	nced electr	emical Pe	ouflage ma	zymatic pe	ency muscle	ce(desin/io
Gender	Pearson C	1	.153	.219	.458*	-.088	-.394	-.405	.343	.315	-.046	-.611**	.315	-.161	-.258	.070
	Sig. (2-tailed)		.508	.341	.037	.706	.077	.069	.128	.164	.843	.003	.164	.486	.258	.763
	N	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
Age Group	Pearson C	.153	1	.193	.356	.024	.193	-.777**	.224	.206	.140	-.153	.206	-.059	-.095	-.604**
	Sig. (2-taile	.508		.402	.114	.917	.402	.000	.330	.371	.544	.508	.371	.799	.683	.004
	N	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
Home Lang	Pearson C	.219	.193	1	.049	.034	.034	-.073	-.135	-.221	-.024	.394	-.221	-.380	.102	-.221
	Sig. (2-taile	.341	.402		.832	.882	.882	.753	.560	.337	.917	.077	.337	.089	.661	.337
	N	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
In which ar	Pearson C	.458*	.356	.049	1	-.066	-.295	-.658**	-.243	.053	-.275	-.458*	.053	.091	-.194	-.499*
	Sig. (2-taile	.037	.114	.832		.777	.194	.001	.289	.821	.227	.037	.821	.696	.400	.021
	N	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
What is you	Pearson C	-.088	.024	.034	-.066	1	.759**	.066	-.240	-.221	-.193	.088	-.221	.507*	.102	-.221
	Sig. (2-taile	.706	.917	.882	.777		.000	.775	.295	.337	.402	.706	.337	.019	.661	.337
	N	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
In what type	Pearson C	-.394	.193	.034	-.295	.759**	1	.206	-.240	-.221	-.024	.394	-.221	.507*	.102	-.221
	Sig. (2-taile	.077	.402	.882	.194	.000		.370	.295	.337	.917	.077	.337	.019	.661	.337
	N	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
In which on	Pearson C	-.405	-.777**	-.073	-.658**	.066	.206	1	-.247	-.227	-.025	.405	-.227	.065	.105	.517*
	Sig. (2-taile	.069	.000	.753	.001	.775	.370		.281	.323	.915	.069	.323	.779	.652	.016
	N	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
In your opir	Pearson C	.343	.224	-.135	-.243	-.240	-.240	-.247	1	.752**	.559**	-.343	.752**	-.119	-.501*	.416
	Sig. (2-taile	.128	.330	.560	.289	.295	.295	.281		.000	.008	.128	.000	.606	.021	.061
	N	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
Do you curr	Pearson C	.315	.206	-.221	.053	-.221	-.221	-.227	.752**	1	.514*	-.560**	.691**	.068	-.461*	.382
	Sig. (2-taile	.164	.371	.337	.821	.337	.337	.323	.000		.017	.008	.001	.771	.035	.087
	N	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
Advanced e	Pearson C	-.046	.140	-.024	-.275	-.193	-.024	-.025	.559**	.514*	1	-.168	.379	.085	.012	.514*
	Sig. (2-taile	.843	.544	.917	.227	.402	.917	.915	.008	.017		.466	.090	.714	.959	.017
	N	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
Chemical F	Pearson C	-.611**	-.153	.394	-.458*	.088	.394	.405	-.343	-.560**	-.168	1	-.315	-.121	.258	-.070
	Sig. (2-taile	.003	.508	.077	.037	.706	.077	.069	.128	.008	.466		.164	.602	.258	.763
	N	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21

APPENDIX I: Ethics approval