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J S M T JOURNAL OF SPORTS MEDICINE AND THERAPY
ISSN 2573-1726

Review Article

Exploring Dermatofunctional Perspectives beyond Aesthetics: An Integrative Literature Review

Tatiane Franco[1], Weslley Barbosa Sales[2]*, José Vinicius Bulhões da Silva[3], Djavan Gomes Leite[1] and Giovanna Pontes Pina Vidal[4]

[1]UNINASSAU (graduated in Physical Therapy from Centro Universitário Maurício de Nassau, João Pessoa, Paraíba, Brazil

[2]Federal University of Rio Grande do Norte, (PhD student in Physical Therapy at the Federal University of Rio Grande do Norte), Brazil

[3]Graduated in Physical Therapy from the University Center of João Pessoa (Unipê), João Pessoa, Paraíba, Brazil

[4]Uninassau (MSc in Biotechnology and Innovation in Health, from the Anhanguera University of São Paulo - UNIAN), João Pessoa, PB, Brazil

More Information

***Address for correspondence:**
Weslley Barbosa Sales, Federal University of Rio Grande do Norte, Natal (RN), Brazil,
Email: weslleysaless8@gmail.com

Submitted: May 24, 2024
Approved: June 20, 2024
Published: June 21, 2024

How to cite this article: Franco T, Sales WB, da Silva JVB, Leite DG, Vidal GPP. Exploring Dermatofunctional Perspectives beyond Aesthetics: An Integrative Literature Review. J Sports Med Ther. 2024; 9: 027-031.

DOI: 10.29328/journal.jsmt.1001078

ORCiDs

Sales WB: orcid.org/0000-0002-6553-6266

Franco T: orcid.org/0000-0003-0063-8357

da Silva JVB: orcid.org/0009-0006-2404-0754

Leite DG: orcid.org/0000-0002-3355-7978

Vidal GPP: orcid.org/0000-0003-1689-3328

Keywords: Physiotherapy; Aesthetics; Treatment

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Abstract

Introduction: Dermatofunctional Physiotherapy is an area of physiotherapeutic specialty that aims to promote, prevent, and treat integumentary injuries. However, this field of action is usually erroneously limited to aesthetic and cosmetic procedures. However, the scope of Physical Therapy goes beyond aesthetic procedures.

Objective: To identify the scope of dermatofunctional physiotherapy beyond aesthetics.

Methodology: This is an integrative literature review with the objective of summarizing and exploring the proposed theme. For this, the PRISMA guidelines were used, as well as the PICOT strategy for a better delineation of the research question and research theme.

Results and discussions: It was observed that the role of the physiotherapist in this field is directly related to aesthetics, which is one of the most prosperous segments within the health area, due to the great demand for aesthetic procedures. Among the main resources evidenced in this study, lymphatic drainage, electrothermophototherapeutic resources, myofascial release, and manual techniques were observed.

Final considerations: The area of physical therapy is not exclusively dedicated to the aesthetic environment, it was observed that this specialty acts strongly in the promotion, and prevention of rehabilitation of patients with metabolic, integumentary, and musculoskeletal alterations, in addition to promoting and preventing diseases related to obesity, scars, geloid edema, flaccidity, and other integumentary dysfunctions.

Introduction

Physiotherapy is an ancient science, that is related to the study, diagnosis, prevention, and treatment of the most varied kinetic-functional disorders of various organs and systems of the human body. Thus, the emergence of Physiotherapy can be evidenced by the numerous ancestors who aimed to use resources and techniques known today in physiotherapy, to try to mitigate the pain of numerous pathologies of the human body, essentially diseases related to the musculoskeletal system [1].

These techniques and approaches have evolved over the centuries, becoming more sophisticated, safer, evidence-based, and with their therapeutic goals well defined. This evolution is directly related to the expansion of scientific studies, which have generated support for the development of new techniques, approaches, and physical therapy resources that today have greater and better visibility in the field of physical therapy and health in general [1,2].

Within this scenario, Physical Therapy was born and consolidated at the end of the twentieth century, when the

world wars generated an exacerbated number of individuals with serious injuries, which made them unable to continue in the war. Having their functional capacity and quality of life impaired, these soldiers needed a rehabilitation approach to be reintegrated back into society, and thus have an active and functional life [2].

It is observed that Physical Therapy is a relatively new science, under construction and that is constantly evolving, always looking for better conducts and resources based on scientific evidence. In Brazil, Physical Therapy began at the Santa Casa de Misericórdia de São Paulo in 1929. But it was only at the end of 1951 that the first training course in Physiotherapy appeared, which was a technical level course lasting one year, on average [2,3].

Despite being a profession with a wide area of expertise, the specialties of Physiotherapy recognized by Coffito are Acupuncture (Coffito Resolution No. 60, 97 and 219); Cardiorespiratory (Coffito Resolution No. 188); Neuro Functional (Coffito Resolution No. 189); Chiropractic and Osteopathy (Coffito Resolution No. 220); Functional Orthopedic Trauma (Coffito Resolution No. 260); Sports (Coffito Resolution No. 337); Occupational Physiotherapy (Coffito Resolution No. 351); Dermato-functional (Coffito Resolution No. 362); Public Health (Coffito Resolution No. 363); Onco-functional (Coffito Resolution No. 364); Urogyneco-functional (Coffito Resolution No. 365) and Women's Health (Coffito Resolution No. 372) [4].

Within this vast field of physical therapy, the area of dermatofunctional was recognized in 2009 and was regulated by Resolution 394 of 2011. In turn, this area grew, established itself, and stimulated the development of several research, so that this area of Physical Therapy was consolidated through its importance in the rehabilitation processes of several patients with integumentary injuries, which reflects on the importance and growing appreciation of the area [3,4].

Dermatofunctional physiotherapy was not such a well-known area as it was, however, this growth arose essentially through the creation of the active Brazilian Association of Dermatofunctional Physiotherapy (ABRAFIDEF) in 2005, becoming an important historical milestone in Physiotherapy. There has been an important growth in the rates of obsolescence and procedural renewal shared by the fields of aesthetics, cosmetics, stomatology, vascular disorders, and burns, among others that interface directly with Dermatofunctional [4].

In view of the above, the following research question arose: what are the areas covered by dermatofunctional physiotherapy in addition to aesthetics described in the literature? Therefore, the objective of this study is to identify, in the scientific literary findings, all the areas covered by dermatofunctional Physical Therapy.

Method

This study was characterized as an integrative literature review, with a descriptive and qualitative approach, which will take place through the survey of scientific articles that were related to the objective of the study [5].

This review was carried out in January 2024, and for the consolidation of this research, the following methodological steps were chosen: identification of the research theme and question; sampling selection; categorization of the selected studies; definition of the information extracted from the reviewed publications; evaluation of the selected studies; interpretation of results; and presentation of the results of the research.

A survey was carried out according to the above-mentioned searches in the SciELO, PubMed, and LILACS databases. After inclusion and exclusion criteria, the articles were selected for the study sample. Data collection took place in the above-mentioned databases, where the words indexed in the Health Sciences Descriptors (DeCS) "*Aesthetics/Esthetics*", "*Treatment*" and "*Physiotherapy/Physical Therapy Specialty*" were used, as well as the Boolean descriptor "*AND*" was applied to cross-reference the above-mentioned descriptors.

Articles related to the proposed theme, published between 2011 and 2021, available in full, without language restrictions, were included; as well as theses, dissertations, and monographs. Exclusion criteria were: literature review articles, articles or abstracts that had been published in conference proceedings; as well as letters from editors and preprints. After applying the inclusion and exclusion criteria and evaluating the abstracts, the studies that met the criteria were selected, organized, tabulated, and discussed. The research followed the protocols and guidelines of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) [6], as well as the PICO (Population, Intervention, Comparison, Outcome) strategy [7].

Within the process of data analysis, Bardin Laurence's content was used, and this analysis was divided into 3 stages: research of the material and organization according to subthemes; exploration of the data, and later the synthesis of the most important aspects of the text; evidence and description of the most important information [8].

Results and discussions

From the selected descriptors, 156 articles were found, but with the application of the inclusion and exclusion criteria, 147 were eliminated. Thus, there were 09 articles consistent with the theme of the study, that complied with the pre-established criteria for analysis and discussion of the results (Chart 1).

Within a general context, it is observed that in many cases the community has a limited view of the scope of Physical Therapy, limiting it only to the services provided to patients who have functional and cognitive dysfunctions, or in other cases, associated only with massage therapy and the treatment

Chart 1: Data collection instrument and results (n = 9).

Title	Author(s)/year	Objective	Methodology	Results
Effects of galvanic current in the treatment of atrophic striae	Mondo; Rosas. [16]	Analyze the effects of galvanic current on stretch marks.	Observational and descriptive study	The use of galvanic current did not significantly influence the appearance of striae in this sample.
Analysis of the effects of therapeutic ultrasound and electrolipophoresis on changes resulting from geloid fibroedema.	Machado, et al. [13]	To evaluate the effects of therapeutic ultrasound (TUS) and electrolipophoresis in the treatment of changes resulting from geloid fibroedema.	Prospective randomized clinical trial	Treatments showed improvement in the visual aspect of Geloid Fibroedema and in personal satisfaction, but did not change measurements perimetric, adipometry, and bioimpedance.
Dermatofunctional treatment for wrinkles with the use of chemical blender and electrolifting	Diógenes, et al. [17]	Compare the treatment for wrinkles with the use of a chemical blender, electrolifting, and the association of these compounds and identify phototypes, skin types, and wrinkles.	Descriptive, interventionist, and comparative study	There was a decrease in the number and depth of wrinkles, being most evident in the group of associated resources.
Physical therapy protocol for the postoperative period of abdominoplasty	Silva, et al. [14]	To investigate the physical therapy protocol for patients undergoing abdominoplasty.	This is a descriptive study of the data collection type	Based on the data found in the medical records and the possible complications, a treatment protocol is suggested for the postoperative period of abdominoplasty, which follows the healing phases of biological tissues.
Importance of physical therapy in the rehabilitation of burn patients.	Santana, Brito e Costa. [10]	To analyze the importance of physical therapy in the rehabilitation of patients with burns, through the application of an evaluation protocol before and after physical therapy.	Intervention and field study, with a qualitative and quantitative nature	The clinical parameters compared, Before and after physical therapy, they showed significant predictive value for all variables, confirming the importance of this service in rehabilitation.
Decongestive physical therapy in post-mastectomy upper limb lymphedema: a retrospective study.	Tacani, et al. [11]	To evaluate the effects of decongestive physical therapy on upper limb lymphedema in postoperative breast cancer patients, through retrospective analysis of medical records.	Retrospective study	Reduction in lymphedema and other symptoms such as pain and alteration of sensitivity by means of decongestive physical therapy in the population evaluated.
Analysis of the resources used in the treatment of skin flaccidity by physical therapists in Brazil	Macário. [15]	Generate knowledge regarding the resources used by physiotherapists in the treatment of skin flaccidity.	Exploratory and descriptive study	Radiofrequency is an effective and safe method, but the greatest difficulty encountered by the professionals was the lack of compliance by the patients and the guidelines in the home treatment.
Association of high frequency, low-level laser and microcurrents in the treatment of pressure ulcers.	Schuh, et al. [12]	To demonstrate the effects of the association of three electrotherapy resources, high frequency, microcurrent, and laser in the treatment of tissue repair in pressure ulcers.	Case report	The association of resources electrotherapeutic used, high frequency, laser and microcurrent showed satisfactory results in the Treatment of pressure injury.
Effects of dermatofunctional physiotherapy resources on weight loss and cardiovascular risk markers in obese patients.	Araújo, et al. [9]	To analyze the effects of dermatofunctional physiotherapy resources on weight loss and cardiovascular risk markers.	Comparative, interventionist, prospective quantitative Research.	It was found that the group with endocrinological treatment associated with dermatofunctional techniques obtained better results than with endocrinological follow-up alone, suggesting the importance of dermatofunctional physiotherapy on weight loss and cardiovascular risk markers.

of patients or accidents [9]. However, this knowledge should not be perpetuated, since the idea of the profession is mistaken. because Graduation in Physical Therapy is one of the courses in the area of Health that have the most professional coverage, and within this scenario, the area of dermatofunctional physical therapy stands out [10,11].

Dermatofunctional is a specialization of Physical Therapy that directs its action essentially to the integumentary arrangement, that is: it involves several complex aspects of the largest organ of the human body, the skin, and its appendages. Thus, Dermatofunctional Physical Therapy has its professional scope related to the treatment of aesthetic dysfunctions, as well as to the promotion of functionality, thus ensuring a significant improvement in the patient's quality of life, well-being, and health [12].

Thus, the scope of Dermatofunctional Physical Therapy is related to the evaluation, kinetic-functional diagnosis, treatment, follow-up, and especially in the prevention of dysfunctions and kinetic-functional and aesthetic imbalances resulting from pathologies, traumas, surgical interventions, and/or postoperative injuries, which have repercussions on the integrity of human functionality, which is the scope of physical therapy performance [13].

Among the vast performance of the dermatofunctional physiotherapist, the main activities of this professional are related to the rehabilitation of patients with mastectomy, burns, and post-traumatic scars, as well as in the pre and postoperative period of plastic surgeries. In addition, it can also dedicate itself to performing invasive and non-invasive aesthetic procedures, highlighting: Flaccidity, scars, stretch marks, and localized fat; Gholoid fibroedema (cellulitis); Skin aging and in the treatment of pressure ulcers [10-13].

In view of the above, Silva [14] states that surgical procedures are a very common practice in the aesthetic environment. However, there are risks of complications and aggravations, such as infections, bruising, fat embolism, cutaneous hyperpigmentation, and fibrosis. To mitigate or prevent these manifestations, Dermatofunctional Physiotherapy uses different resources, such as stretching and lymphatic drainage.

In addition to surgeries for aesthetic purposes, there are emergency surgical interventions, such as breast cancer, whose neoplasm is the second most routinely diagnosed type of cancer in the world and the leading cause of cancer deaths in the female population in Brazil. That said, despite the great scientific knowledge that exists, many patients develop lymphedema in the upper limbs. In this sense, the role of Physical Therapy in this context is evidenced, since lymphedema affects the patient's quality of life due to the physical, psychic, and social changes resulting from this condition [14].

Also in this scenario, it is observed that physiotherapy has a strong role in the area of burns. Santana, Brito, and Costa [10] state that burns can promote significant deformities, physical limitations, and biopsychosocial decline that completely affects patients and their families. Therefore, the performance of dermatofunctional physiotherapy is essential, since it is extremely important to reduce the traumatic consequences generated by the injury.

In addition, it is important to work on listening, since in the rehabilitation of these patients, rehabilitation is not only due to the functional aspect but also to the psychological and emotional support that the therapist exerts on the individual [9]. Thus, the main aspects of physical therapy rehabilitation are to promote the reduction of pain and pain; to maintain the patients' range of motion (ROM); and to prevent complications resulting from contractures, and respiratory complications, in addition to stimulating autonomy and functional independence.

That said, other hospital complications may require physiotherapy services, such as pressure ulcers, where physiotherapy is of paramount importance, both in the prevention and treatment of these injuries, which are mainly due to high-frequency, laser, and microcurrent resources. From a global perspective, obesity is one of the main risk factors for illness and health problems worldwide. This condition is now present in several developing countries and is undoubtedly one of the main concerns of health authorities [15].

Overweight and obesity are intrinsically correlated with increased morbidity and mortality. Obesity and increased waist circumference overload the heart, increasing the risk of heart dysfunction and stroke. This burden can be mitigated with changes in lifestyle habits, cognitive-behavioral techniques, pharmacotherapy, bariatric surgery, and dermatofunctional physiotherapy.

In this context, dermatofunctional physiotherapy helps to reduce risk factors, in addition to measures in obese patients, in the pre and postoperative periods, using techniques and resources that have a positive impact on the patient's health [14,15].

Physiotherapy has been acquiring more and more space and expanding its field of activities. The physiotherapist, through physical resources, can act on the various changes in aesthetic patterns such as obesity, acne, and hypertrophic scars, among others. Of these changes, we can highlight stretch marks, which are characterized by an atrophy of the skin, due to the rupture of the elastic fibers present in the second layer of the skin, called the dermis. These skin tears form parallel lesions, appearing mainly on the thighs, buttocks, abdomen, breasts, and trunk back [16].

That said, the study by Machado [13] demonstrates that body disharmony syndrome (CDS) includes the presence of geloid fibroedema (FEG), localized adiposity, increased total body fat and muscle flaccidity, which are often associated, while these aesthetic disorders represent a threat to the emotional integrity of the individual, and a variety of therapies are proposed for their treatment.

Finally, it is observed that the aging process is complex, and involves multiple factors that can alter the structure and functioning of the organs. In the integumentary system, for example, there are varied and numerous modifications, such as expression marks. In this field, the physiotherapist stands out, whose treatment aims to restore the elasticity of the skin. Among the resources for this purpose, electrotherapy and kinesiotherapy are essential for this purpose [15,17].

Conclusion

Based on the above, this integrative literature review achieved its objective of identifying the scope of dermatofunctional Physiotherapy in addition to aesthetics. It was observed that the physiotherapist's role in this field is directly related to aesthetics, which is one of the most prosperous segments within the health area, due to the great demand for aesthetic procedures.

Among the main resources highlighted in this study, lymphatic drainage, electrothermophototherapeutic resources, myofascial release, and manual techniques were observed. However, this area of activity of physiotherapy is not exclusively dedicated to the aesthetic environment, it was also observed that this specialty acts strongly in the promotion and prevention of rehabilitation of patients with metabolic, integumentary, and osteomyoarticular alterations, in addition to promoting and preventing diseases related to obesity,

scars, geloid edema, flaccidity, and other integumentary dysfunctions. Finally, this study aims to stimulate the scientific development of new research in the aesthetic area, as well as promote the empowerment of professionals who work in this area.

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