

ORIGINAL ARTICLE

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ALVES, Vanessa Fontana. WOLFF, Márcia Regina Annuseck. The Colotop function in the prevention and treatment of lap wrinkles. Revista Científica Multidisciplinar Núcleo do Conhecimento. Year 05, Ed. 09, Vol. 09, pp. 177-201. September 2020. ISSN: 2448-0959, Access Link: <https://www.nucleodoconhecimento.com.br/health/colotop-function>, DOI: 10.32749/nucleodoconhecimento.com.br/health/colotop-function

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SUMMARY

The literature presents a lot of information about the aging of the face, but almost nothing about the aging of the lap, not even about innovative products to combat this reality that affects women. The aim of this study is precisely to show why the skin ages, the relevance of the care to be taken by women to prevent the aging of the skin of the cervix and the role of the colotop textile product in preventing and combating sleep wrinkles. This study includes

research conducted by the company during the testing period (pre-launch of the product), as well as customer satisfaction survey conducted two years after the product in question is on sale in the market. As it is an innovative product, the study also heard the opinions of dermatologists. It is concluded that, if it is impossible to prevent aging of the skin, it is feasible to seek good practices in healthy habits, care, products and treatments that prevent or scare this aging, keeping the skin of the cervix young for longer.

Keywords: Skin, lap, wrinkles, aging, *Sleep lines*.

1. INTRODUCTION

The skin is extremely important to the human body. Also called the dermis or cutis, it covers virtually the entire body. It is a vital organ, the largest of the human body, responsible for 16% of our body weight. Among the fundamental roles played by the skin are temperature regulation, control of blood flow, protection against external agents and sensory functions such as heat, cold, touch, pressure and pain. The Brazilian Society of Dermatology (2020) defines the organ as one that:

our entire body, protecting against external aggression. It is a great 'protective cover' against fungi, bacteria, chemicals, physicists and even environmental factors such as the sun. This protective barrier comes from the cells of the epidermis and dermis, secretion of sebum and sweat, forming a special cover, as a protective mantle.

It is not difficult to notice, therefore, the importance of the skin as a vital organ for the human being. Caring for the skin is as valuable as caring for organs such as the heart, brain or kidneys. It is necessary to treat preventively so that the skin remains in good condition and fulfills its functions. There are several factors that interfere with skin dryness, as much as the organ itself strives against excessive dehydration. External agents such as the sun, wind, dry air, sudden changes in temperature, hot water, among others, contribute to the water evaporate more easily, making the skin less hydrated. This dehydration causes opaque, rough, without elasticity. The skin becomes more fragile, descama and suffers irritations with ease.

The aging of the skin happens naturally and gradually. It is the so-called intrinsic aging, which ends up being intensified by factors related to people's lifestyle so such as food, alcohol and tobacco consumption, lack of adequate water consumption, as well as to environmental (external) factors to which the skin is constantly exposed, such as the sun, wind and pollution, for example. The most visible changes in skin aging include wrinkles, sagging and blemishes. That is, skin aging is influenced not only by genetics, but also by environmental and behavioral factors. These changes happen progressively in the body throughout life. Because of these changes, there is a loss of the functions of the organs of the human body, among them, the skin. (RIBEIRO, 2010).

2. THEORETICAL FOUNDATION

This study seeks to point out the cause of wrinkles on the skin of the cervix, its reasons and possible care that the woman should take to avoid the aging of this important region of the body that is intrinsically linked to the appearance, sensuality and feminine beauty. This article also shows how innovative products such as Colotop bring even greater diversity in treatments that seek to keep the lap young and beautiful.

2.1 WRINKLES

Wrinkles are the result of structural changes that occur in specific areas of the subcutaneous and dermis (KEDE; PONTES, 2009) and can be classified as superficial and deep. Superficial wrinkles are visible only in repetitive moments, when we are smiling or frowning, for example, while deep wrinkles can be perceived even when the skin is at rest. Over time, it is natural that there is a decline in the production of skin elements such as collagen, elastin and hyaluronic acid. They are important for the structure of the skin and, when present, minimize the chances of wrinkles appearing early. However, from the age of 30, the decrease in the production of these components by the human body is a natural and real factor.

The decrease in connective tissue functions means that the fat layers under the skin cannot remain stable, because the degeneration of elastic fibers combined with the lower speed of tissue oxygenation change causes dehydration, resulting in a skin with wrinkles and sagging

(GUIRRO; GUIRRO, 2004). Extrinsic aging of the skin still brings other changes, such as hyperchromy (excessive cellular pigmentation, pathological state in which red blood cells are excessively or irregularly crowned), whose appearance is mainly related to hormonal factors such as endocrine disorders, use of contraceptives, stress and others. Associated with these factors, there is inadequate and exaggerated exposure to the sun, without adequate protection, as a factor of spots on the skin. Scotti and Velasco (2003) point out that after 30 years there is a fall of melanocytes, a fact that makes the skin less protected from ultraviolet rays.

With aging, the skin tends to become thin, in some places wrinkled, dry and occasionally scaly. Collagen fibers of the dermis become thicker and elastic fibers lose part of their elasticity and there is a gradual decrease in the fat deposited in the subcutaneous tissue. (GUIRRO; GUIRRO, 1996, p. 164).

Studies show that the areas of the body that suffer the most from this situation are, of course, those that are more exposed to time, such as the face, lap and hands. They are parts of the body that are more on display, usually discovered by clothes. No for nothing, either, that they are the areas that most concern women. After all, aging skin denounces age when it doesn't make a woman look even older than she really is.

2.2 SLEEP WRINKLES

Skin of the face and lap still suffer from another threat: sleep lines. They are creases (marks) that are produced during the act of sleep and that, over time, become lasting wrinkles. Most people do not imagine that the simple act of lying down to sleep, natural and extremely necessary for health, contains in it, implicitly, the fact that generates wrinkles. For the face, sleeping by pressing the skin on the pillow forms visible marks upon awakening, as indicated by several scientific studies, including the one published by the Aesthetic Surgery Journal, republished in Brazil by the Brazilian Society of Plastic Surgery, regional São Paulo. In the case of the lap, the situation is even more serious. Women, when lying in lateral decubitus, project the weight of one breast onto the other, causing easily noticed creases in the morning, which over time – and the repetition of the act – eventually turn into permanent wrinkles. When they lie face down, they produce the same effect by pressing the breasts

against the mattress.

Orthopedists and cardiologists advise that sleeping on the side is the best position, as it favors the alignment of the spine and neck, improves the heartbeat and blood circulation. If sleeping on the side brings all these benefits to the body, this position has its harm on our skin, because it produces wrinkles, mainly in the regions of the lap and face. On the face, due to the pressure of this against the pillow and on the lap due to the pressure caused from one breast on the other, in the case of women, and these on the mattress. For the skin, the ideal would be to sleep on the belly up, a fact of difficult consummation, since we changed position several times during the night.

Image 1: Correct laying posture at bedtime



Source: Google Images

Sleep studies originally published in the Aesthetic Surgery Journal and republished by the Brazilian Society of Plastic Surgery, regional São Paulo, show that a normal person, regardless of how he lays down to sleep, turns on average 20 times at night. Our initial sleep position is a conscious decision, but we change position at night unconsciously. This means that at various times during sleep, the person will be in an unfavorable position, producing the undesirable sleep lines. When lying on the side, the person ends up throwing his arm and body weight on top of his lap and face. Placing a pillow to support the arm (see image), helps prevent more wrinkles from being produced in the most visible places on the body. However, this alone does not solve the problem of the lap. This has been a concern of all those seeking a solution to the problem.

Image 2: Impact of one breast on the other when lying on the side



Source: The authors

3. THE INVENTION

In May 2017, Colotop Ltda, a genuinely Brazilian company, launched an invention with the aim of preventing and softening the wrinkles in the lap created by the sleeping position (sleep lines). It is a textile top, made of high quality fabric, which has, coupled, a breast separator (a kind of travesseirinho produced in high quality foam, known as 'NASA technology') that separates the breasts while the woman sleeps. In this way, with mechanical action, the top mitigates the impacts of the weight of one breast on the other and still

provides comfort for sleeping. The goal of the invention is a more beautiful, smooth, youthful-looking lap for longer. Of course, the use of the product (top) should be associated with other skin care, such as hydration, sun protection, collagen replacement, posture and, in cases of deeper wrinkles, specific dermatological treatments. However, Colotop is more than simply a product that prevents wrinkles in the lap. It is also indicated for women who have silicone prosthesis or for all women in their premenstrual period, moments when the breast becomes more sore. By relieving pressure from one breast on the other, the top eases pain and discomfort in the region.

Image 3: Reduction of the impact of breast overlap with the use of Colotop



Source: The authors

Colotop is a registered trademark and has the patented design with the INPI (National Institute of Industrial Property). The models were designed with comfort, practicality and aesthetic result in mind. It is not a bra, since they are uncomfortable to sleep. Colotop is a top, and as such stands out because the fabric itself helps in the functionality of holding the breasts so that they do not project against each other. The fabric, incidentally, has been tested and chosen quite judiciously to provide a soft and comfortable touch. Composed of polyamide and elastane, it fulfills the function by adjusting easily to the female body.

The cushion, which serves as a micropillow to be fitted between the breasts, is attached to the top itself and has adjustable straps, allowing better adaptation to the lap. All designed to give the best possible result. Colotop is the only top of its kind on the market, and one of the great differentials of the product is that this cushion made with viscoelastic foam (technology originally developed for NASA), which has the advantage of not making pressure contrary to the body, not squeezing blood vessels and facilitating circulation, is made to order for the tops. Size, density and memory are manufactured on request after studies to get to the perfect product. This is the reason colotop is a unique product, created to protect one of the most exposed regions of the female body, symbol of sensuality and joviality: the lap.

3.1 THE PROCESS

Inventing a product is no easy task. It's not enough to have the idea, you have to get it off the paper. After that, the path is still long for modeling tests, fabrics and, in the specific case of Colotop, even foam. The challenge was huge: to make a top to sleep, that had in functionality, comfort and practicality, its main appeal. Initial tests lasted 12 months. In this period, several prototypes were made, with variations of modeling, fabric and foam. Modeling and fabric were very important to generate a comfortable top while fulfilling the proposed purpose. The issue of foam, in particular, was even greater instigation. It could not be any foam, for she could throw over the proposal of comfort. "The breast is a sensitive organ and needs to be treated with affection by all of us," explains Márcia Annuseck Wolff, inventor of the product. For this reason, after several months of intense tests with foams from various suppliers, Colotop decided to order the product itself: a foam with size, density and return

memory specially produced to integrate Colotop, offering comfort and extreme quality to customers.

This care in studies to launch the product is what makes the top with Colotop breast separator so attractive, differentiated and sought after in the market of beauty, health and feminine well-being. Robert G. Cooper, professor at McMaster University and Pennsylvania State University and co-founder of Product Development Institute Inc. and Stage-Gate International, in their recommended book "Products That Work", teaches that products with unique advantages and with significant innovations define the launches that will be or will not be public success, fame and sale. "A differentiated product that provides unique advantages and an attractive value proposition is the number one pipeline to generate profitability in new products" (COOPER, 2013).

Cooper also points out that innovative products meet, in a superior way, the needs of consumers and offer unique characteristics and benefits that differentiate them from other brands in the market, besides having good cost-benefit ratio, that is, superior quality at an attractive and fair price.

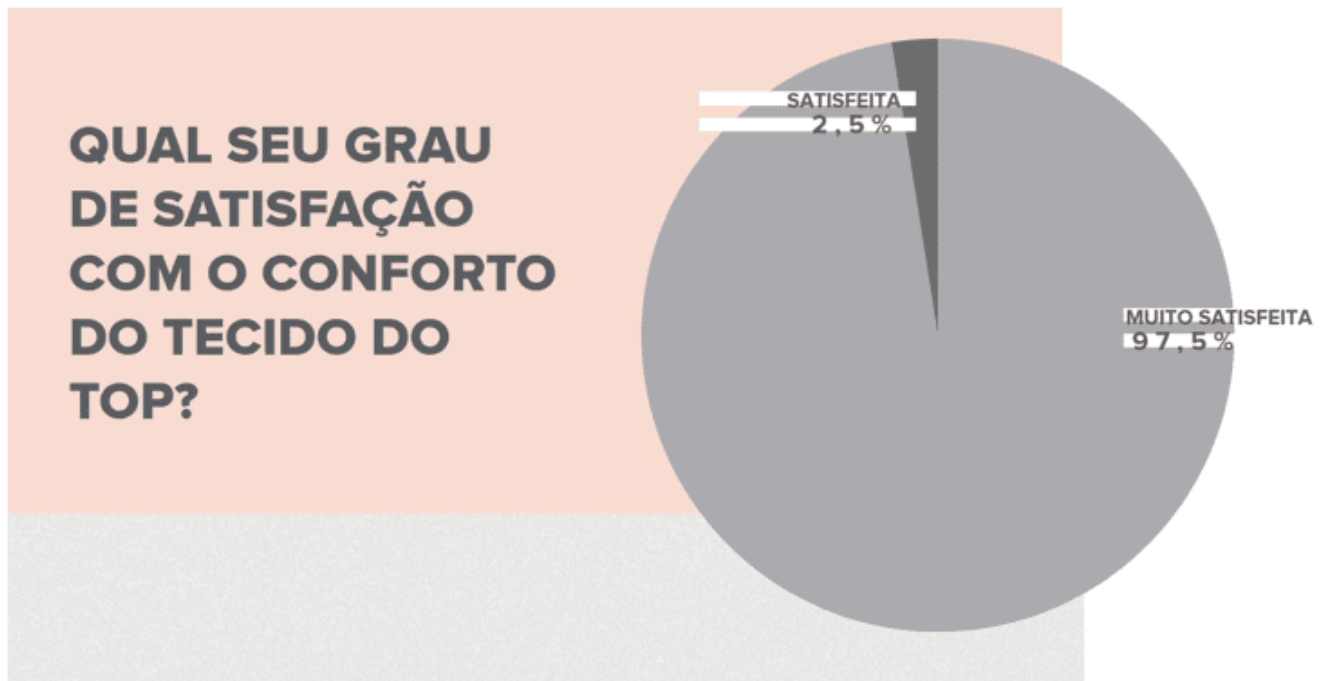
With the product ready, modeling, fabric and foam finally defined, it was necessary to test it. After all, the tests done over twelve months, with the various prototypes produced, some discarded and others improved, served only to reach the final product, before launching it on the market. The whole process was oriented to the demanding female market, focusing on understanding and meeting the needs and desire of these customers, aiming at the full satisfaction of those who buy it. The time for the final tests has come.

3.2 PRE-LAUNCH RESEARCH

To this end, Colotop invited 40 women, who voluntarily were willing to test the top to be released. The group consisted of women between 30 and 60 years of age, some users who already applied more skin care to the lap, while others did not show as much concern about the subject. Soon, there were different states of lap so that the tests could have the widest possible spectrum. The proposal was to use the product for 30 consecutive days, every night, and follow the results. After this period, it was proposed to the group to stop using the top for

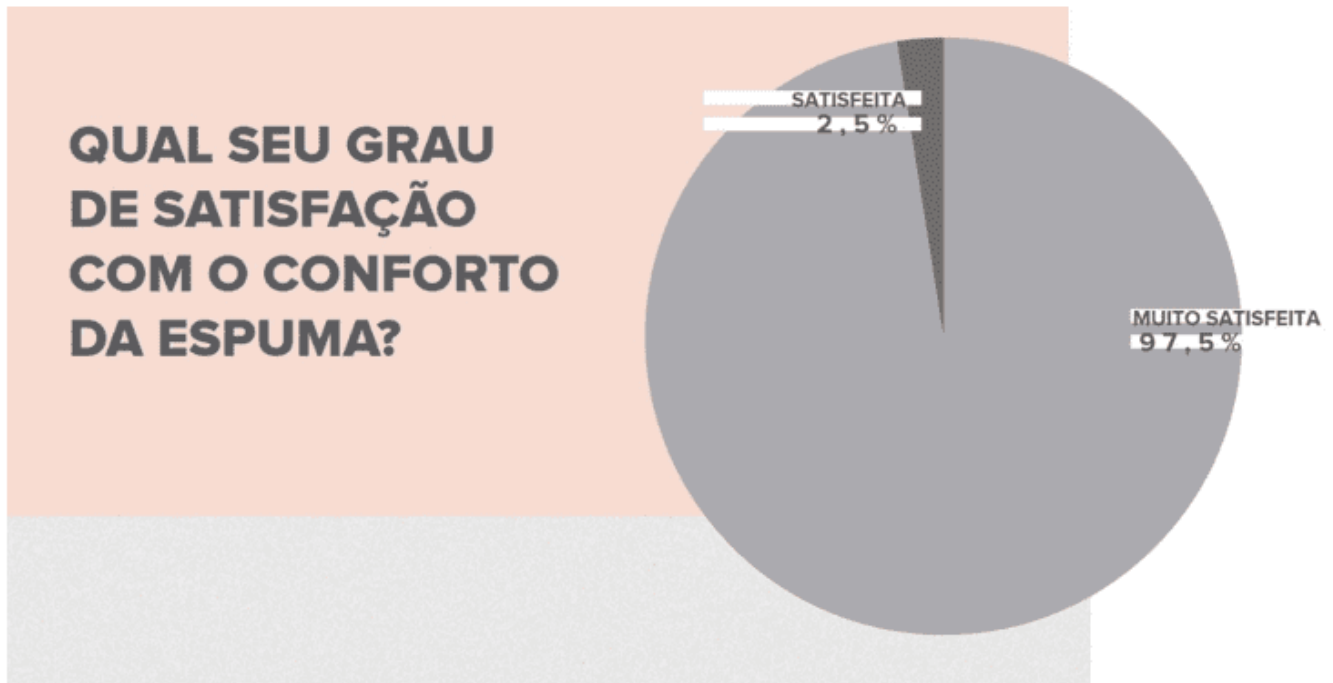
a few days and then reuse it. Below we present the detailed results of the survey.

Graph 1: What is your degree of satisfaction with the comfort of the top fabric?



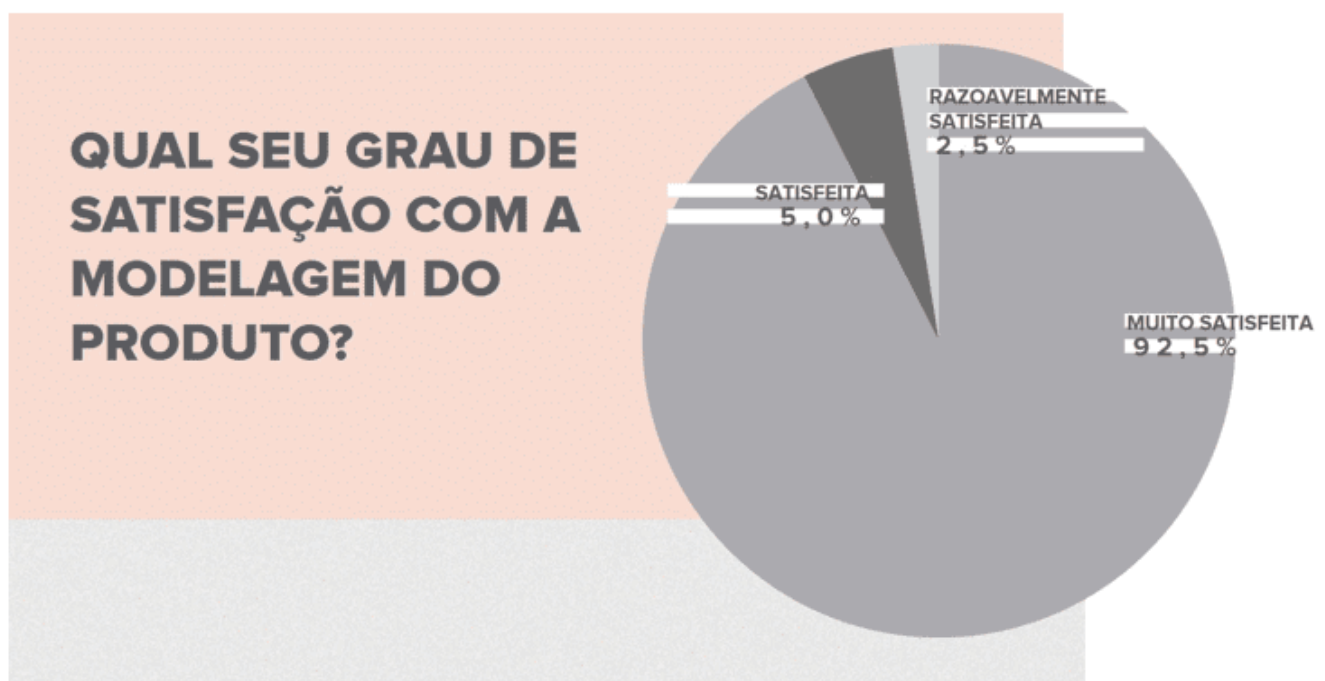
Source: The authors

Graph 2: What is your degree of satisfaction with the comfort of foam?



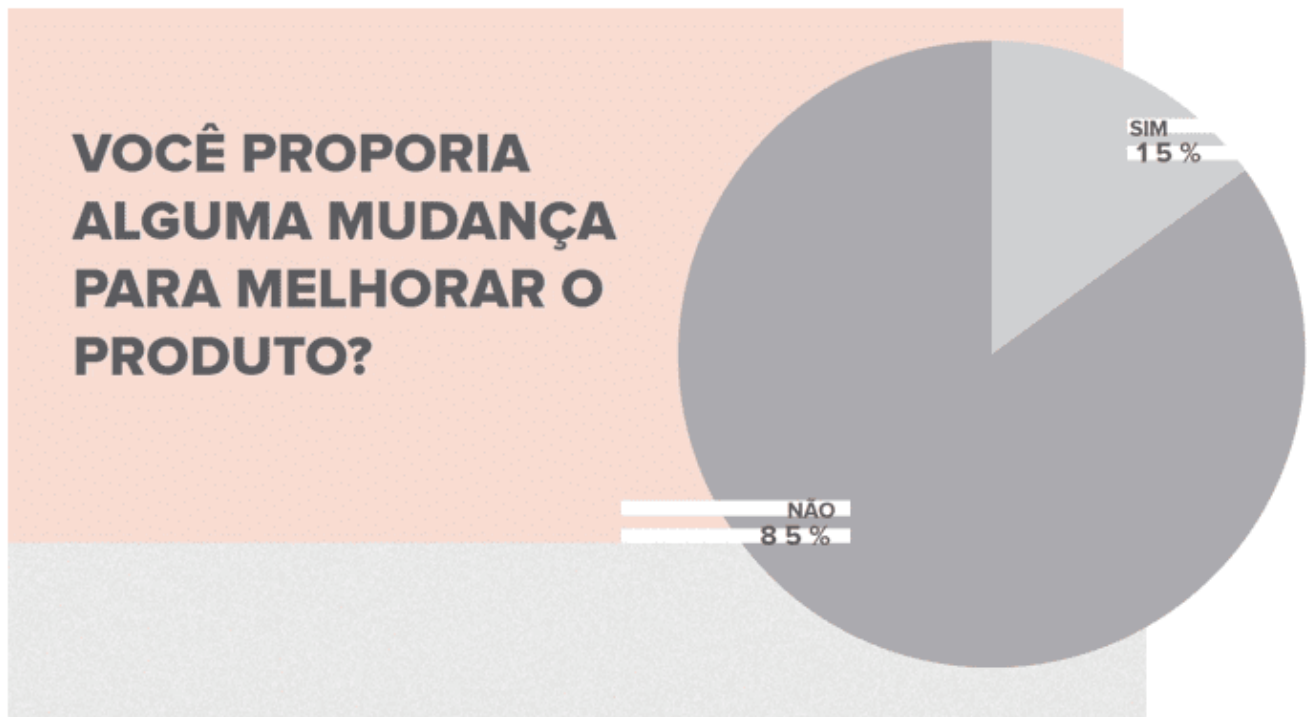
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Graph 3: What is your degree of satisfaction with product modeling?



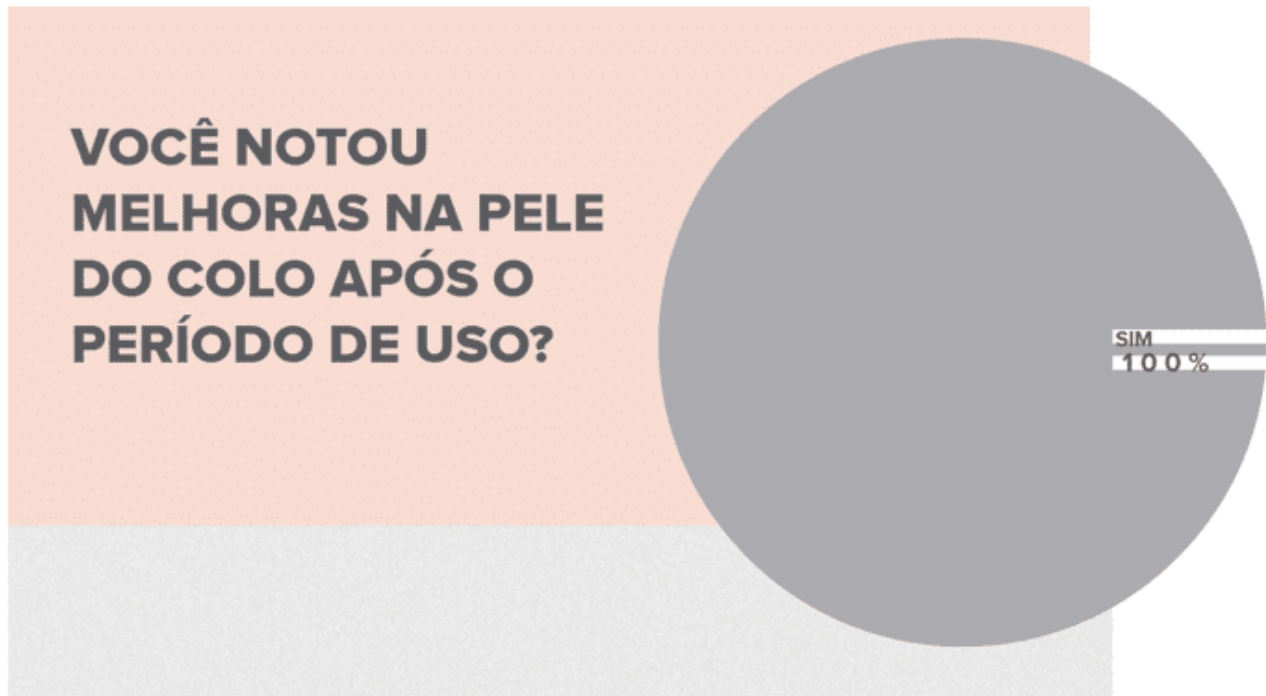
Source: The authors

Figure 4: Would you propose any changes to improve the product?



Source: The authors

Figure 5: Have you noticed improvements in the skin of the cervix after the period of use?



Source: The authors

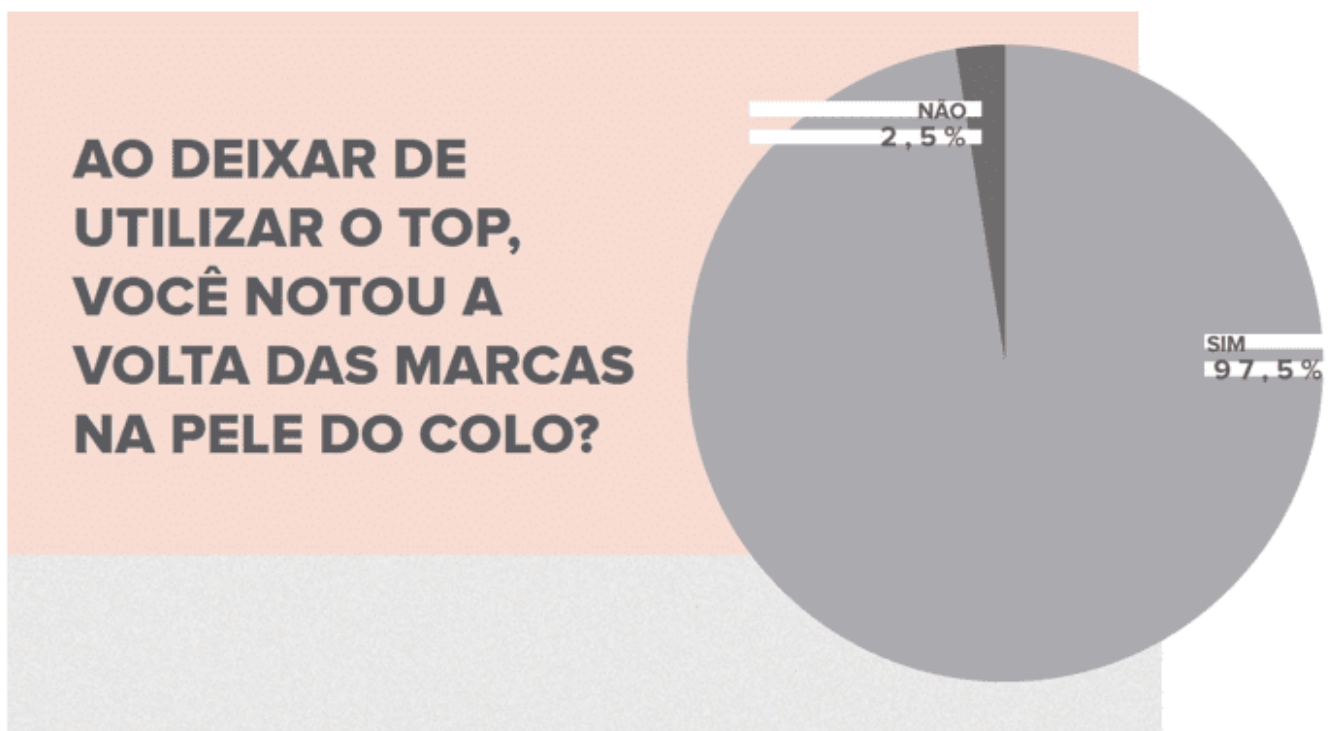
Figure 6: Would you buy this top if it were made available on the market?



Source: The authors

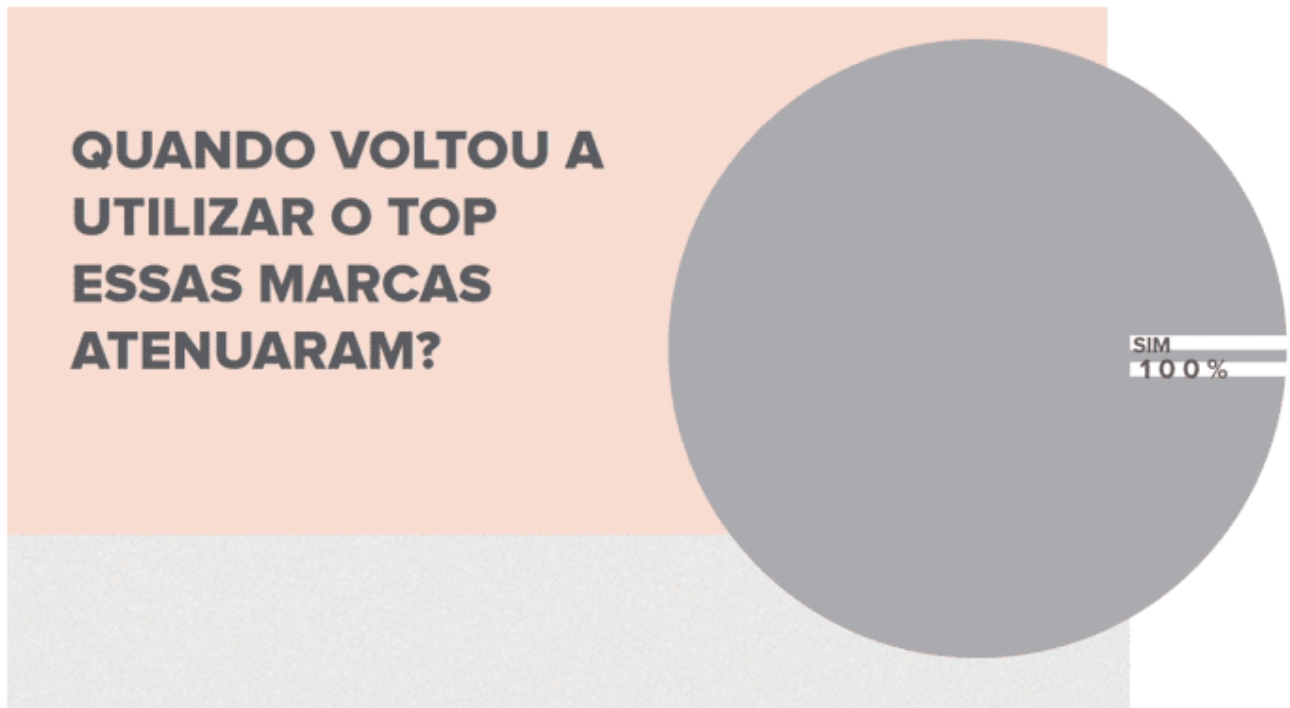
After the initial period of 30 days, the volunteers of this group were not using it for a period of less than one week, and then returned to use Colotop. This new experiment was responsible for the following questions and their results:

Graph 7: When you stop using the top, have you noticed the return of the marks on the skin of the lap?



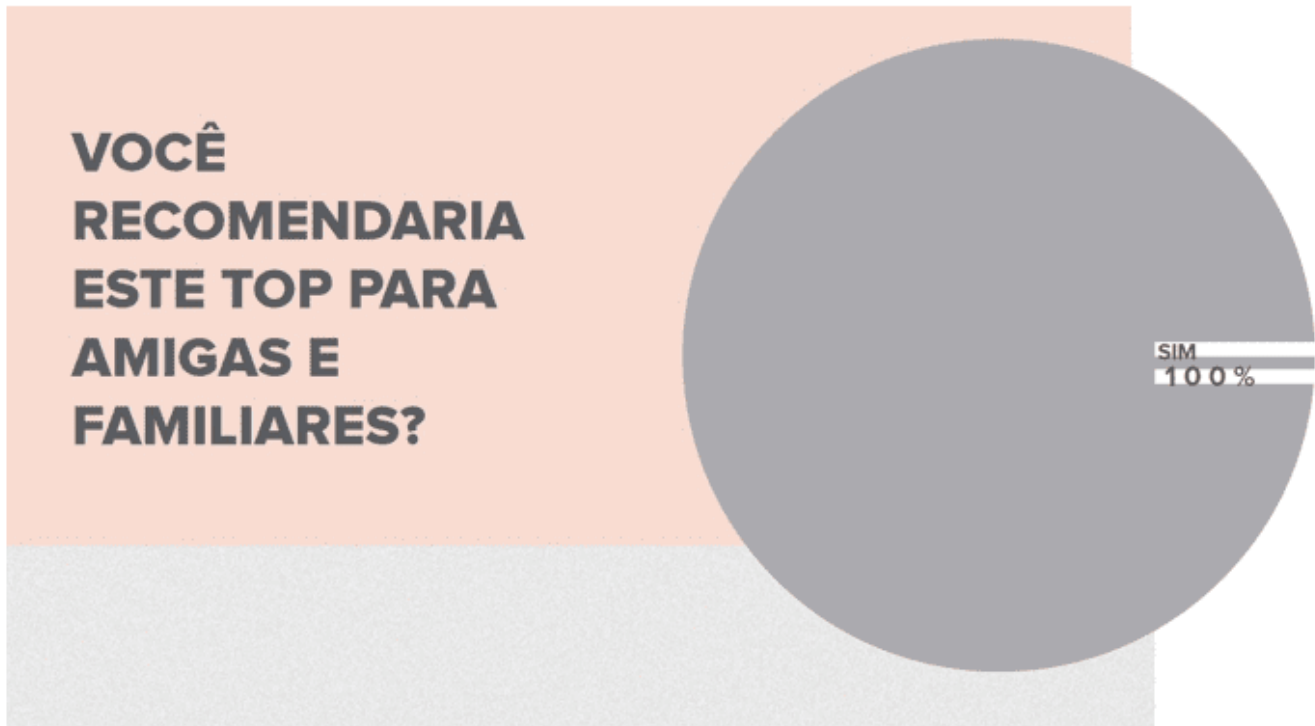
Source: The authors

Figure 8: When did you use the top again, did these brands mitigate?



Source: The authors

Figure 9: Do you recommend this top to friends and family?



Source: The authors

The results were extremely satisfactory. For all women, the top was comfortable, practical placement and adjustment of the handles. However, 15% of them suggested the replacement of the handle regulators, then metal accessory, with plastic parts, as a way to avoid any unnecessary pressure against the skin or allergies. Currently, these accessories are plastic, avoiding such discomfort. The fabric was unanimously approved by the group, as well as the comfort of the foam that is placed between the breasts. As for the purpose of the product, to avoid or soften wrinkles in the cervix, Colotop was approved by the group.

3.3 THE PRODUCT LAUNCH

At the time these final tests were proposed to the 40 volunteers invited, the product was not yet named. That's why the questions even spoke only in the top. The tests had a very specific focus: verify the acceptance of the product and, if necessary, adapt it to the desire of customers. After all, it is this acceptance that turns into admiration, esteem and respect for a product or brand. It was a careful process to be sure to launch an innovative product on the

market, but also that it would be desired.

Having a process that is market-oriented and customer-focused is of total importance to the success of the project, because understanding the needs and desire of customers will make you create something more appropriate, essential and that generates satisfaction with what you buy. (COOPER, 2013)

Passed the tests to which it was submitted, lacked to create a name for the invention. Colotop was chosen, because it communicates in several ways its message: a top for the lap so that the client has a top lap. The name of the product ended up also naming the name of the company. Thus, on May 10, 2017, the innovative product began to be marketed in the company's online store – www.colotop.com.br.

The start of the operation was promising. Samples were sent to more than 100 health professionals (dermatologists, mastologists, plastic surgeons, biomedical and beauticians), who tested and approved the product. Since then, many other of these professionals, including beauticians, have known and now indicate Colotop for their patients, for the most varied purposes, from the prevention and softening of wrinkles in the cervix, to relieve pain in the breasts, or after silicone or simastia implantation surgeries. Check out the testimony of some health professionals:

“We need to act with this main objective of wrinkle prevention and Colotop is there for this. We will use to keep the lap always beautiful” – Dr. Brennda Valença (CRM/RN 7571).

“Colotop optimizes the results of my patients who are undergoing treatment in the lap region, and who care about the health and appearance of this area that can not be forgotten, after all it is the continuation of the face and we women love a neckline” – Dr. Gabriela Vasconcelos (CRM/RJ 775355).

“I would like to congratulate you on the product. I am a dermatologist and decided to test the top after seeing a message on Instagram from a colleague Dermato de BH. I'm loving and really avoids the lines that already appeared when I woke up” – Dr. Nicole Ramalho Lustosa (CRM/MG 62199).

“Sleeping on the side can generate wrinkles in the lap area. I love associating Colotop for

patients who are performing the treatment protocol for rejuvenation of the cervix. This association always generates excellent results” – Dr. Stephanie Araújo (CRM/SP 145159).

“The region of the cervix is always in evidence and therefore cannot be forgotten in the care routine. Treatment options for this area are more limited so prevention is essential. Colotop is a good cost-effective option that adds to the care prescribed in the office. I use and love it!” – Dr. Maria Eliza Levandoski (CRM/PR 29262).

“One orientation I always do for patients in my office is about neck and lap care. Sometimes we take so much care of the face, that the lap denounces all age. I always associate COLOTOP with home care and clinic procedures. The results are fantastic! I wear it and I love it too. An incredible cost benefit, both for prevention and treatment” – Dr. Iara Resende (CRM/SP 165867).

“Colotop is an amazing product that, in addition to preventing future wrinkles and minimizing existing wrinkles, is comfortable and fits very easily in the body” – Dr. Angela Fusinato (Biomedical).

“Colotop is the best care you can take with your lap. It is comfortable, beautiful and effective against wrinkles. Use, love and super recommend” – Paula Bertuzzi (Professor of Aesthetics).

“Colotop is a very important ally in my day to day, I indicate to all my colleagues in the area of aesthetics. We often think about taking care of the skin of the face forgetting the lap, but he denounces our age. It is very important to pay attention in the region and with Colotop it was easy. I love and indicate” – Suelen Garbin (Beautician and Cosmetologist).

3.4 COLOTOP TODAY

If the beginning was promising, today Colotop presents itself in the market as the only product of its kind in the form of top with proven comfort and quality, and praised by the vast majority of its customers. So much so that the buyback rate is around 40%. Of the total sales, 30% are medical indications, and the product is often included in the prescription given to patients. In 2019 the brand obtained a national registration and in 2020 the INPI granted the patent to the technical design of Colotop.

Image 4: Colotop Design Patent Seal



Source: The authors

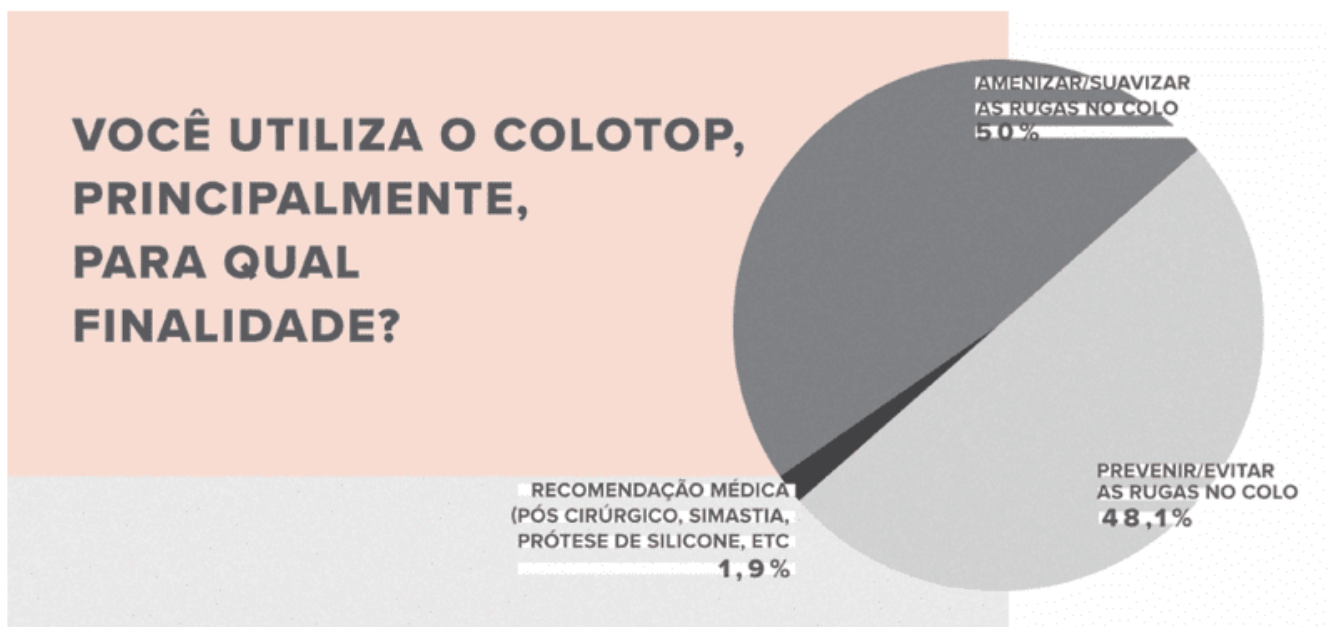
In 2018, the company conducted a satisfaction survey with the objective of gaining product acceptance among real customers. The survey, conducted by yon comunicação, was carried out online with 54 of the thousands of customers who acquired Colotop in the first two years of activities.

Graph10: How long have you been using Colotop?



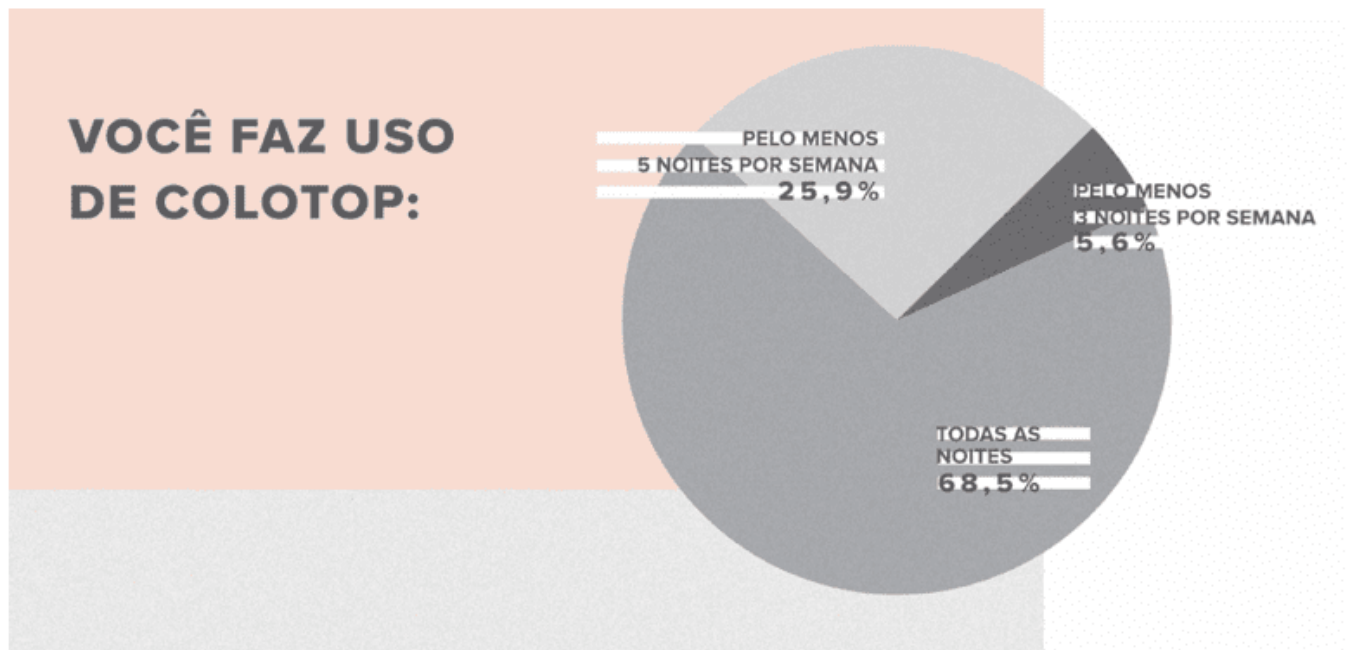
Source: The authors

Figure11: Do you primarily use Colotop for what purpose?



Source: The authors

Graph 12: You make use of Colotop.



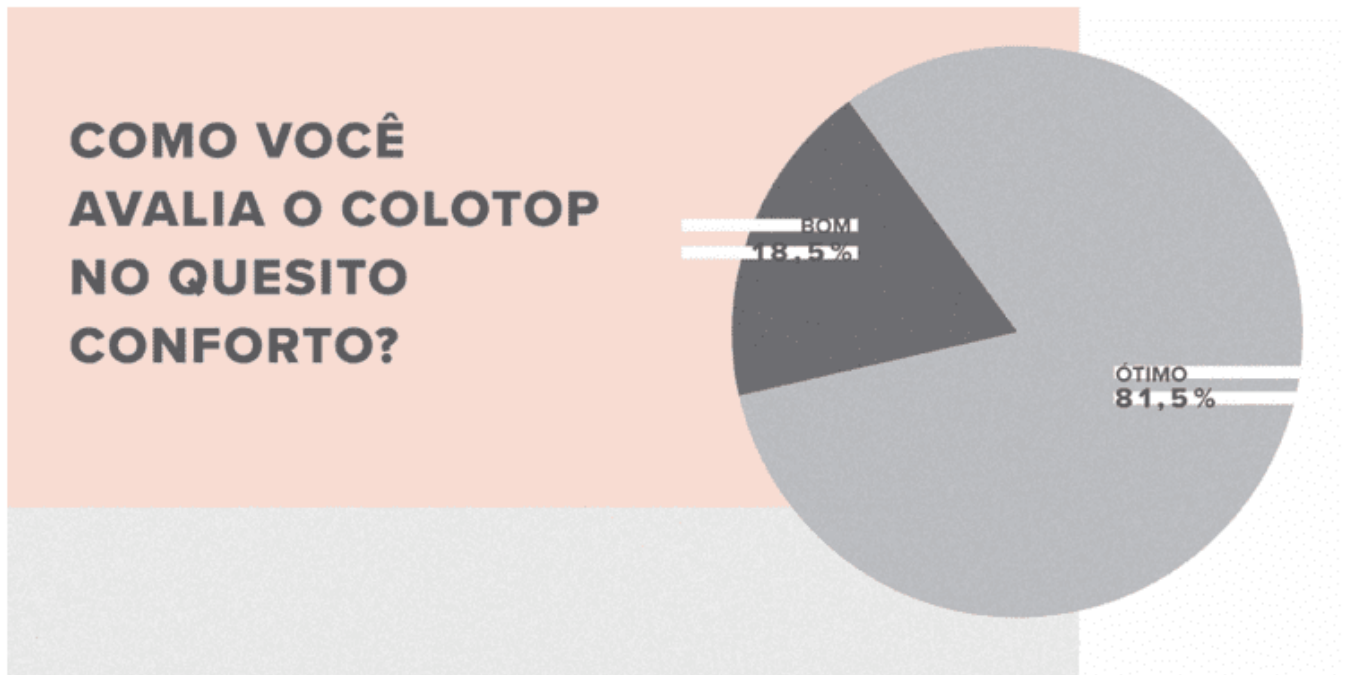
Source: The authors

Figure13: With respect to your goal, you consider being.



Source: The authors

Figure14: How do you evaluate Colotop in comfort?



Source: The authors

Graphic 15: Would you recommend Colotop to your friends and acquaintances?



Source: The authors

Concern about customer satisfaction remains colotop's flagship of operations. In addition to the initial products in white, black and chocolate colors, the company also launched Colotop Cropped in the gray color blends and colotop zip in black color. In October, it usually launches colotop in pink (special edition October Rose) and in seasons such as winter and summer usually appear seasonal special colors. The company announces the news on its social networks (@usecolotop), with preference for Instagram.

Produced in Blumenau, Santa Catarina, a city known for its quality in everything it does and for the strong textile pole of established and historical brands such as Hering, Karsten, Artex and Teka, among others, the innovative Colotop has won its place close to the heart and lap of tasteful Brazilian women, who take care of the skin. The success went beyond the Brazilian borders and Colotop was acquired by clients from countries in Europe and the United States of America. With trademark, patented industrial design and patent-pending invention, in early 2020 Colotop officially entered the North American market.

3.5 BEFORE AND AFTER, OF CUSTOMERS

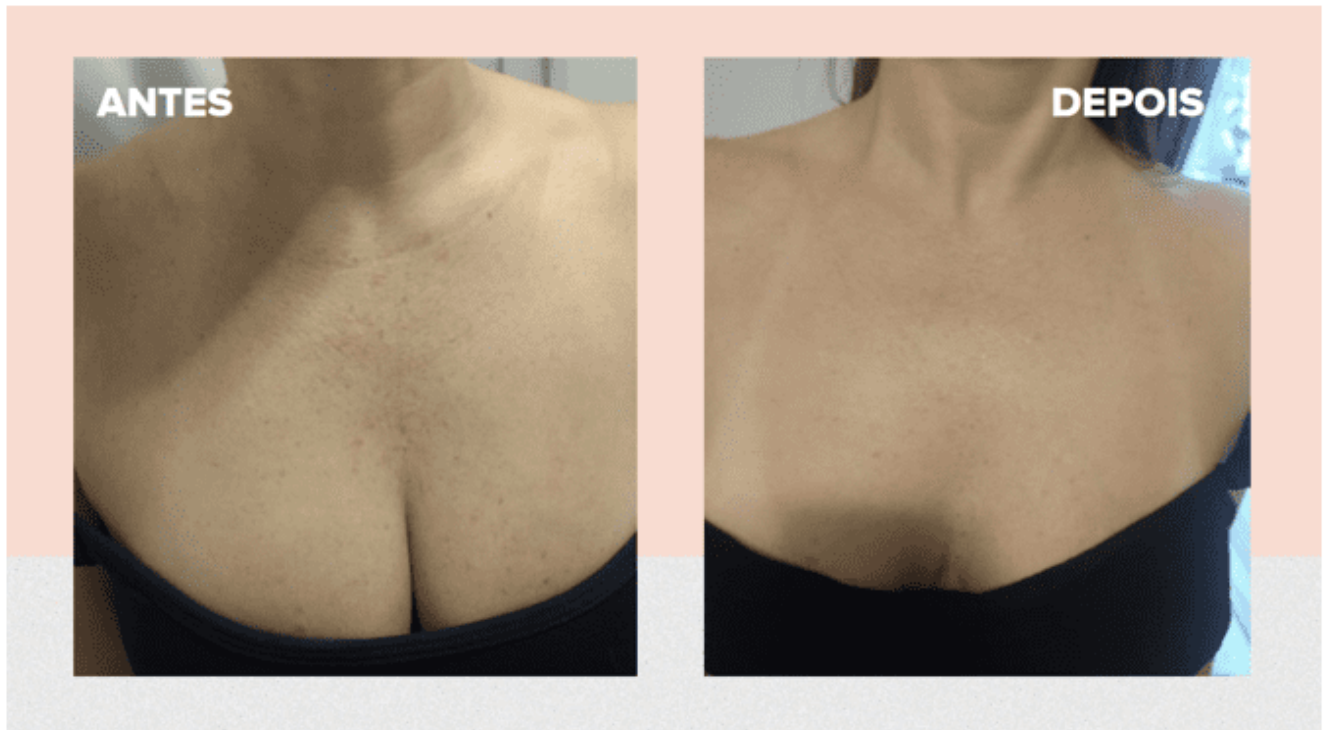
To reinforce the benefits of Colotop, we bring below some images showing the before and after of customers of the most varied age groups, with real results.

Image 5: Before and After – Woman – 31 years old



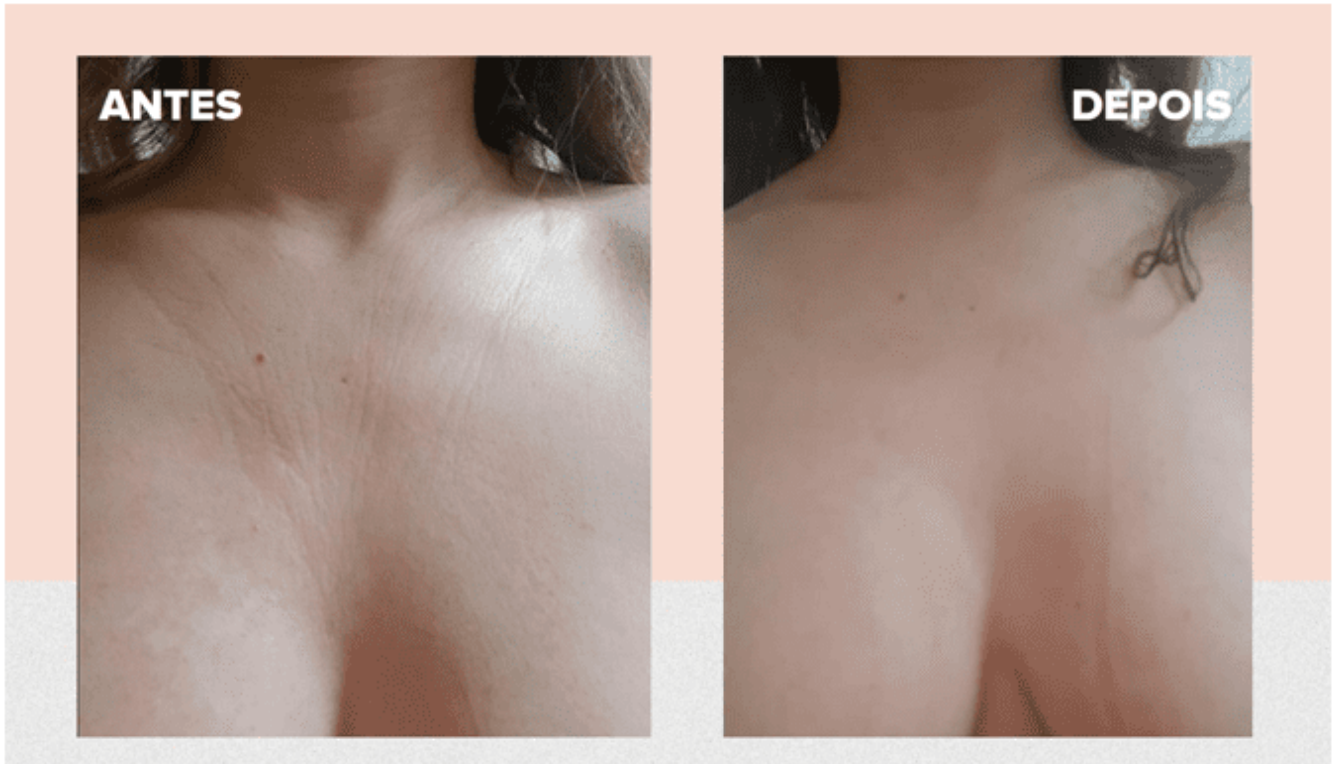
Source: The authors

Image 6: Before and After – Woman – 32 years old



Source: The authors

Image 7: Before and After – Woman – 37 years old



Source: The authors

Image 8: Before and After – Woman – 43 years old



Source: The authors

Image 9: Before and After – Woman – 53 years old



Source: The authors

Image 10: Before and After – Woman – 63 years old



Source: The authors

Image 11: Before and After – Woman – 35 years old



Source: The authors

4. CONCLUSION

This study does not close the issue of care and treatments for the skin of the cervix, an extremely wide field that may contain novelties, from time to time, including the colotop product itself, the main reason of this research, because it is shown as an original case, national creation and the main inventive ness of recent years in the fight against the wrinkles of the lap. However, this article seeks to bring to public knowledge the importance of colo skin care, most often relegated to a background, especially when compared to female care with the skin of the face, and the unfailing and unwanted wrinkles that are also the result of

lack of care for the dermis.

In it, it was explicit that face, neck and lap form a ruthless trio for feminine beauty, especially because they are parts of the body that are naturally more exposed. It also discusses the reasons for the appearance of wrinkles and deepens the issue of sleep lines, the marks that form during sleep. And it is exactly to combat the wrinkles of sleep that appeared the product Colotop. This work makes an x-ray of said product, seeks to deepen the initiative and the objective of the company to create it, shows the process that included pre-release tests, the opinion of dermatologists, as well as a satisfaction survey, showing that Colotop translates into the main novelty for combating lap wrinkles, both in prevention and to mitigate them, as long as associated with other daily care. It is concluded that the product meets the needs of feminine aesthetic beauty, a fact that makes it important in the life of this consumer public.

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Sent: July, 2020.

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