



# A Short Review Study on Women Intimate Apparel: A Perspective on Sports Bra

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## Abstract

The development of women's perception of their health and quality of life nowadays is becoming more powerful. Women wear intimate apparel on a frequent basis, such as bras, panties, pantyhose and corsets, girdles etc. and they also wear clothing on need basis (e.g., maternity clothing). Women's intimate apparel should have health benefits in general. In this article, a specialized intimate apparel viz. the sports bra for women is reviewed through the literature to raise the knowledge of women in particular.

**keywords:** Intimate Apparel; Women Clothing; Sports Bra

## Introduction

In everyday life, intimate apparel is essential, offering safety, comfort and support between the body and outerwear to strengthen the physical appearance of body contours [1]. It is an indispensable division of apparel sections; it is also at the center of the list of clothing demands of any individual [2]. Most intimate wear is often synonymous with lingerie or underwear and refers to discreet or inconspicuous garments worn near the skin. It is the most significant layer of clothing as it works as the second skin of humans due to direct skin contact [3]. However, women have already been conscious of the comfort aspect of their intimate apparel, with the increased level due to better women's position in society. This creates an intimate environment for a woman, which has its own environment within the larger environment of our surroundings and is carried everywhere by the individual [4]. Clothing is increasingly being designed to meet specific needs such as personal protection safety, leisure, or health through the use of various technologies [4]. They need suit the human body and be flexible to its motions for apparel [5]. A significant requirement of clothing materials for women is to better fit their body contour. In addition, women's intimate apparel exercises the artistic expression of glamour, passion, eroticism, intimacy, exoticism, a sense of luxury and even a general sense of humor. Bras, panties, pantyhose, corsets, girdles, and maternity clothing are traditional intimate apparels for women. However, thanks to online marketing, women

are becoming increasingly familiar with a wide range of attractive intimate wear. The demand for these attires has been accelerated by a growing number of working women, shifting fashion trends and greatly increased media presence through advertising. The sports bra is one of the hottest items among the varying genres of intimate women's wear. Traditionally, sports bras have been structured by impact [6]. Breast support is crucial for women engaging in exercise, and this feature is perceived by consumers as the major feature of a sports bra [7]. However, it is attempted to make a short review on a specialized intimate apparels namely sports bra in this paper.

## Short Review on Sports Bra

Owing to a lack of muscles and bones, the female breast has little anatomical support. During activities, excessive movement produces large forces on the breasts that result in Cooper ligaments being stretched, discomfort, pain, and disgrace and/or leading the breasts to sag [8]. Many women, particularly larger breasted women, experience breast discomfort while exercising, leading some to avoid exercise altogether [9]. When women are in motion, the vertical displacement of the breast is substantially greater than in other directions [10]. Well-fitting and supportive bras have been recognized to be an effective way to alleviate breast pain or discomfort induced by exercise [11]. Sports bras are functional

garments tailored to reduce repetitive movements of breasts during physical activity [12]. During exercise, wearing a sports bra is more effective than wearing a fashion bra in minimizing breast movement and associated breast pain and discomfort [11]. In order to mitigate breast pain during physical workouts, a good sports bra not only restricts breast movement, but also regulates body heat and moisture with good permeability [4]. In fact, these types of bras are not only built for optimum functionality; they are cultural elements, fashion objects. It is usually related to body confidence for women. At the same time, sports bras have shifted from being worn for a limited period of time to being taken most of the day [12]. However, due to the popularity of sports and the improvement of the perception of bodybuilding, the demand for sports bra is growing [13]. Even after certain surgical procedures, sports bra is recommended for healing and comforts [14]. In addition, the Internet's accessibility and entertainment has attracted a number of women customers who are likely to afford sports bras [10]. Sports bras have two basic design styles:

- a) Compression and
- b) Encapsulation bras [15].

Compression bras simultaneously compress both breasts, keeping them tightly against the body, minimizing their movements but also flattening their shapes [12]. Generally, a compression bra has a higher neckline to reduce the breast's upward movement, and broader shoulder straps to disperse the pressure over the shoulders to larger back panels. The compression force acting on the breast can, however, also cause breast pain and distort the shape of the breast. In the other side, an encapsulation bra has a gore and two cups. The gore divides the two breasts, and the breasts are held in place by the cups, so the form of the breast is less distorted. The gore is not positioned too high, so there is less control of upward breast movement on an encapsulation bra than on a compression bra. A sling can, however, be put in an encapsulation bra at the side of the inner cup, which is considered to be more efficient in restricting lateral breast movement [8]. The highest static pressure portions of sports bra are the shoulder, side and back, and the dynamic pressure is greater than the static pressure [10]. Sports bras, available in encapsulation and compression forms, are designed during vigorous exercise to manage, support, and contain breast tissue, although many are also aimed at promoting the transport of moisture [9].

The efficacy of sports bras can be influenced by several variables, such as bra material, neckline height, shoulder strap style, and their physical and mechanical properties. Commercial sports bras primarily differ in the configuration of their bra cups, straps, and backs. Many of the sports bras' shoulder straps are broader than those used in regular bras to spread the breast mass over a larger back panel area. Usually, commercial sports bras include fibers of elastane, polyamide, or polyester. Knitted fabric is widely used on sports bras. The intermeshing loops of yarn containing spandex permit great extensibility and a high rate of recovery.

Multiway stretch ability is favored because sports bra fabrics must be able to expand greatly in both wale and course directions [8]. Seamless circular knitting technology and sew-free technologies have been implemented in the manufacture of intimate clothing and sports bra is also being developed with this technology. However, a typical commercial seamless sports bra (Figure 1) has following parts: under bust band, breast encapsulation via center front material rouching, racer back straps, and elastic binding at armholes and neckline edges [12]. For sports bras, there are five major back designs: crossover, racer back, vertical center, straight back, and U-back [8]. Racerback bras provide good support for medium- to high-impact activities and allow for a full range of motion [16] (Figure 1). During the wearing of a sports bra, some common problems occur, such as bra deformation, strap slipping, and skin trenching [10]. Bra chafing problem is termed when bra rubs against skin in unpleasant ways. However, a well-designed efficient sports bra meets the following criteria:



Figure 1: Champion C9 Seamless Sports Bra [12].

- a. Strong upward support.
- b. Restricted movement of the breasts relative to the body.
- c. Absorbent, nonallergenic, nonabrasive, and mostly non elastic materials.
- d. Well-covered fasteners on both sides to prevent abrasion of the skin.
- e. Wide and non-elastic straps that do not fall off the shoulders.
- f. No riding up of the bra over the breasts by a wide cradle or underwire and
- g. Pockets within the bra to allow padding to be inserted if necessary [8].

In general, there is a wide prospect of a sports bra industry. The high participation of women in sports is also fueling the

demand. The first commercially available sports bra was the "Free Swing Tennis Bra" introduced by Glamorise Foundations, Inc [14]. Currently, traditional brands such as Nike, Jockey, Adidas and so on provide branded sports bra. For instance, Shefit has patented a technology for a sports bra and claiming it as world's only custom adjustable sports bra [17]. As the demand for sports bras is still in growth process, there is a lot of research value in women who know or don't understand sports bras [10]. In order to ensure that women are aware about the importance of breast support and adequate bra fit during exercise, educational initiatives are needed [18]. For men with large breasts, sports bras are also produced to allow them to interact more comfortably in physical activity as well [14]. Nevertheless, to allow their breast tissue to develop naturally, younger girls should not regularly wear sports bras [8].

## Conclusion

The sports bra is customized intimate apparel for women while they are in motion, such as walking, running, etc. A good-fitting sports bra minimizes the movement of the breast, reduces potential bouncing, and does not distract them from pursuing their favorite activity. Therefore, women who do not recognize a sports bra as their desired intimate wear are supposed to wear a sports bra during exercise.

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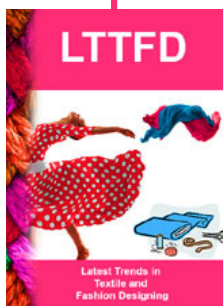
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