

## ‘Choli’: Re-Design and Engineering Functional Belly Dancing Costume

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Belly dance apparel design was chosen to fulfil a design course project requirement. Belly dancing has become a very popular way to relieve stress, build relationships, and to perform some fun physical activity in the U. S. (Allred, 2014). The population of belly dancing is massive and growing (Allred, 2014). There are a variety of belly dance classifications including Egyptian, Cabaret, and Turkish. American Tribal-Style was chosen because its target market was mainly based in the U. S. The garments for the activity are readily available online, but selections are limited, and functionality is poor.

American Tribal-Style originated in 1987 when Carolena Nericcio-Bohlman, a belly dancer, decided to break away from other styles and create a new alternative genre that embraced modern values: American Tribal-Style (About ATS®). Carolena set the standard as a mish-mash of other folkloric and traditional styles. The bottom half of the dancer includes: pantaloons (folkloric style), one to two large 25-yard skirts (gypsy traditions), and a decorative belt (Turkish and Egyptian genres). The top half of the dancer consists of a choli and a decorative coin bra. The choli is a basic cropped top ending below the bustline with short sleeves, plunging neckline, and open back and originated from Indian belly dance. The coin bra that sits atop the choli originates from Egyptian, Cabaret, and Flamenco belly dance.

The objectives of the design project were to develop a line of belly dancing clothing and to improve the functionality and comfort of design of clothing for dancers. To meet the objectives of the design project, LaBat & Sokolowski’s (1999) a three-stage design process was used as a conceptual framework. The three-stage design process consists of problem definition and research, creative exploration, and implementation.

An important step in solving the wear problems was to understand the use of the choli. The designer observed a gathering of belly dancers as they rehearsed, learned, and performed with each other (a “hafla”). After conducting interviews with 5-6 women of an average age of 45 who participate in American Tribal-Style belly dance, two problems both dealing with a main garment piece colloquially called a “choli” were identified. The first problem was the standard string-tie back: a back-closure method tying two thin strings together at center back- one across the wearer’s back, and one directly across the 7<sup>th</sup> cervical vertebra on the back of the neck. The complaint was that the high stress the upper tie placed on the 7<sup>th</sup> cervical vertebra from bearing the brunt of the breast weight in the garment’s front caused immense headaches after just a short period of wear time. The second problem from the interviews focused on a lack of breast support as well as the tendency to reveal the nipple’s shape through the one layer of pad-less fabric.

Current cholis have a very standard shape and build. One layer of knit velour (with or without spandex in the content) or the use of a cotton/spandex blended jersey fabric are the general choices for a choli’s material; both are quite thin and reveal the shape of the nipple

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through the fabric. These fabrics can stretch to accommodate the size of the bust, but do not provide any kind of stabilization horizontally or vertically. Apart from my personal design of a supportive choli design, no choli on the market offers any kind of built-in support.

The first design goal was to focus on redistributing the weight of the breasts while still maintaining the open-back look characteristic of American Tribal-Style cholis. The simplest way to prevent the nipple from being seen was to insert a pair of thin tricot-covered bra cups. This stemmed into the idea to also support the breasts by attaching adjustable bra straps to each cup, anchored in the side-back of the choli. In practice, the results were sub-optimal. The molded bra cups could not withstand the tension of the adjustable bra straps pulling directly upwards, so the cups buckled in half lengthwise and squished the breasts unattractively. Without a center front anchor, the breasts were able to freely move laterally from the centerline of the body, not much of a supportive improvement.

The next step came in developing an inner bra cup that could fully cup the breast without changing shape from tension (see Photo 2). It became apparent that an inflexible material paired with a sewn foam cup was needed. Thus, standard 2mm craft was selected. With the previously drafted moulage, the shape of the foam cups was created using dart manipulation method. Doubling the 2mm craft foam, the seams were abutted and secured by a zig-zag stitch. To control the moisture, each bra cup was lined with a 100% polyester wicking fabric. Lastly, I needed to incorporate something to control the lateral movement of the breasts by creating a cradle and short band that secured at the choli's side seams. At last, this new form of built-in bra inside the choli was strong enough to withstand the pull of adjustable straps while still having the form and strength around the breast to fully support it.

Aiming to solve the issue of headaches and neck pain caused by the back ties, I designed the back of the cholis to distribute the front breast weight over a greater surface area on the back neck rather than the previous design of one point of contact holding all weight (see Photo 1). I also lowered the back neck drop to exclude the 7<sup>th</sup> cervical vertebra, eliminating the direct pressure on a bone.

The four prototypes of the new choli design with both adjustable breast support and better distribution of back-neck tension were put through wear testing. Four women wore the cholis while they danced. One of them exclaimed, "I can tell that I'll be able to dance longer because I finally won't have a headache!" Another dancer commented on the choli's comfort adding, "I love how if I need more support depending on the day, I can just adjust the straps tighter to fit or looser." Many even found they did not have to bother with the coin bra over the top of the choli as there were no issues with nipple exposure or support- something unheard of in the belly dancing community.

The design and development process certainly required more problem-solving skills than originally assumed. By observing first-hand how the choli is worn and used, I had an invaluable look into how the functionality of the choli heavily affects the comfort of the dancer. I employed a trial-and-error method of exploring what solutions did not work, and what did eventually work. Although the final design could still benefit from further development, this new design for a supportive choli is the first of its kind to provide any internal breast support and/or relief from

pressure headaches. Not only cholis could use an update with fit and user comfort in mind; many other belly dance garments have their own faults. For instance, most belts are cut as straight pieces with no contouring, causing belts to be too high in the front, too low in the back, and gap greatly at center back. If there were more time for me to develop further pieces, belts would certainly be a priority alongside continuing to improve cholis.

Photo 1.



Photo 2.



### References

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