INTRODUCING A HIGH-TECH MASTECTOMY BRA TO SRI LANKAN MARKET

C.P.Vithanage , Uthpala Subodha

Department of Textile & Clothing Technology, University of Moratuwa, Moratuwa
padminiv@uom.lk

ABSTRACT

The breast cancer is the most common cancer in the world. Mastectomy bra is the recommended bra for the breast cancer affected patient after the surgery to meet her all psychological needs. The scope of the study was to identify the current market for mastectomy bra in Sri Lanka and discuss the importance of targeting it by applying the combination of eco and High-Tech concepts. Through questionnaire survey and interviews, the lingerie needs of breast cancer affected patient as well as the way of meeting them via a mastectomy bra which can be utilized the essence of ayurvedic treatments was identified. The requirements of the consumer, current market and the market gap were identified. Silver has the properties of breast cancer healing and the pure natural silver plated X-static yarn can be used instead of Silver. The study has proposed the X-static yarns to develop mastectomy bra to meet the consumer’s requirements in Sri Lankan market. Result shows that there is a good potential of developing fabric and bra cups using X-static yarn in Sri Lankan market to meet the post-surgery lingerie requirement.

Key words: Breast cancer, Silver, X-static Yarn, Mastectomy bra

1. INTRODUCTION

The breast cancer is the most frequent cancer in the Sri Lankan females among the all varieties of cancers. Even though Sri Lanka reported a lower risk of breast cancer compared to many developed countries, the rapid rise in incidence can be seen1,2.

Figure 1: Distribution of Common Cancers among Sri Lankan Females.
The affected patients are in serious need of change from their low psychological level. Hence the patients look for their treatments in both High-Tech and indigenous ayurvedic methods, according to their economic and social background. In both pre-surgery and post-surgery stages the patient requires different type of supporting bras. However, the post-surgery stage is the most critical and the bra should be fulfilled the patient’s psychological and physical needs, hence the post-surgery mastectomy bra has become a critical requirement for breast cancer affected patient after their surgery. The bra may be included silicon prosthesis, gel foam, fiberfill or foam pads in place of pocket and are intended for women who have lost one or both of their breasts.

As the Sri Lankan society is highly believed and depended on indigenous ayurvedic treatments for many diseases as well as for breast cancer treatments, it has a higher demand. Hence, an appropriate effective post-surgery mastectomy bra can combine with ayurvedic treatments to make it more useful and also to meet their psychological needs.

Even though Sri Lanka is a leading intimate’s supplier to USA and EU, the Sri Lankan intimate market is still requiring a proper effective mastectomy bra. There is no any branded mastectomy bra can be found in local market instead of basic cut and sew bra which is produced domestically.

The eco and High –Tech concepts as well as mastectomy bra concept are new to Sri Lankan market. The study is determined to meet the psychological needs of consumer by utilizing concept of indigenous aryurvedic treatments in intimates industry.

1.1 Silver And Its Properties Use In Medicine

Silver products have been used for their supposed beneficial effects for thousands of years, often for hygiene and more recently as antimicrobials. It has multi-function performance, permanent anti-microbial, thermally conductive, electrically conductive, fine micro deniers properties which can be used for medical science. Colloidal silver version has used as an alternative medicine treatment. Researchers now say that silver compounds are as effective at killing certain cancer cells as a leading chemotherapy drug, but with potentially far fewer side-effects.

1.2 X- Static Yarn

X-static is a yarn which made with layer of 99.9 percent pure silver. It is permanently bonded to the surface of required textile fiber. X-Static enhances products with permanent anti-odor and antimicrobial performance. It naturally inhibits the growth of bacteria in apparel and textiles. X-static has been used primarily as an industrial and medical product and servicing high-tech industries as well as for the defense requirements. It can be used in knits, woven and non-woven as either a filament or spun yarn.

![Cross Structure of X-Static yarn](http://www.muchbetteradventures.com)
1.3. Objectives

The objectives are to find out the available market for mastectomy bra in Sri Lanka and to identify the opportunities of meeting the psychological needs of breast cancer affected patient via mastectomy bra and to find the methods of combining silver with mastectomy bra on healing cancers.

2. METHODOLOGY

To explore the background of breast cancers and treatments relate to the cancer, interview sessions were conducted with doctors at National cancer institute (NCI), Ceylinco Health Service Limited(CHSL) and Ayurvedic doctors. Further research was done by a questionnaire which was sent to American Cancer Society Institute(ACSI).

Group discussions and interview sessions were held with experts in intimates business to identify the local intimates market and current market for mastectomy bra in Sri Lanka.

Professional personnel’s ideas regarding the suitability of X- static yarn for Mastectomy bra and methods of applying the concept for mastectomy bra manufacturing, were reviewed.

To identify the background of consumer and their requirements, direct interviews and discussions with breast cancer affected patients were carried out and participated to the patients counseling program at Cancer Counseling Department in National Cancer Institute.

3. RESULTS AND DISCUSSION

The breast cancer has developed in considerable higher rate comparing to other cancer types in recent past. As the mastectomy bra is to target the breast cancer affected patients, the forecasted numbers are much important. For the next ten years of time, the percentage of target patients will be increased in considerably higher rate, approximately 350 cases for thousand cancer cases.

Table 1: Breast Cancers among Sri Lankan Females

<table>
<thead>
<tr>
<th>Year</th>
<th>Age Group - Incidence (per 100,000)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Age Group</td>
</tr>
<tr>
<td>1985</td>
<td>65 - 69</td>
</tr>
<tr>
<td>1990</td>
<td>45 – 49</td>
</tr>
<tr>
<td>1995</td>
<td>45 – 49</td>
</tr>
</tbody>
</table>

According to questionnaire and interview analysis, majority of Sri Lankan breast cancer affected patients prefer Ayurvedic treatments at Post- surgery stage.
Figure 3: Patients’ selection of treatment in pre and post-surgery stages in Sri Lanka

The results of the questionnaire survey which was done with doctors, patients and industrial experts to identify the main concerns regarding mastectomy bra was listed below (Table 2). The main concerns are functional needs, Psychological needs and comfort while the highest concern is for patient’s psychological needs. Figure 4 represents the opinions of relevant personnel’s in developing mastectomy bra.

Table 2. Concerns for developing Mastectomy bra for the local market

<table>
<thead>
<tr>
<th>Expectation of Mastectomy Bra</th>
<th>Patients’ opinion%</th>
<th>Industrial Experts’ Opinion %</th>
<th>Doctors’ Opinion %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Functional</td>
<td>21</td>
<td>24</td>
<td>20</td>
</tr>
<tr>
<td>Psychological</td>
<td>25</td>
<td>28</td>
<td>34</td>
</tr>
<tr>
<td>Design</td>
<td>12</td>
<td>15</td>
<td>07</td>
</tr>
<tr>
<td>Basic</td>
<td>22</td>
<td>10</td>
<td>14</td>
</tr>
<tr>
<td>Comfort</td>
<td>20</td>
<td>23</td>
<td>25</td>
</tr>
</tbody>
</table>
According to the questionnaire survey results, it shows that the demand for natural products are increased in higher rate, as well as demand for High-Tech is followed. As the eco concept is new and its combination with High-Tech has considerably higher demand.

Figure 4: Opinions of relevant personnel’s in developing mastectomy bra for local market

Figure 5: Demand for High-Tech and Eco (Green) Intimates in Sri Lanka
3.1 Market Gap

The market gap for the mastectomy bra in local lingerie market is considerably high. Questionnaire survey that was conducted with four leading local lingerie manufacturing companies shows that there is a huge market gap for mastectomy bra. However, company D has the capability of achieving the mastectomy bra market.

![Diagram](image)

*Figure 6: Market gap for mastectomy bra in Sri Lanka*

Researchers have found that silver compounds are as effective at killing certain cancer cells as a leading chemotherapy drug. X-Static yarn is the best alteration for silver application in intimates industry. It is developed by using 100% natural silver and it has the required properties such as anti-odor, antimicrobial, natural moisture transport, regulates temperature and anti-static for mastectomy bra development.

X-Static yarn can be used to form a fabric in both weaving and knitting processes. However, the most effective way of utilizing the properties of X-Static yarn is knitting because X-Static yarn can be feed for back side of the fabric to touch the body. Figure 7 shows the process of developing mastectomy bra using X-static yarns and Figure 8 shows a X-Static fabric Sample.
Figure 7: Process of developing mastectomy bra using X-static yarns

Figure 8: X-Static fabric Sample

(Source: http://www.sandbox8.com/2010/02/14/sunice-2010-golf-collection/)
4. Conclusion

Breast cancer is the most common cancer in Sri Lanka as well as in the world. In the post-surgery stage, the patient’s psychological and physical needs should be fulfilled by the bra, hence the post-surgery mastectomy bra which is used by breast cancer affected patient after their surgery, has become a critical requirement. Silver has properties of healing breast cancers and it is being used by ayurvedic treatments. X-static yarn can be used instead of silver metal and it can be used for High-Tech and eco concepts. The knowledge on eco and High-Tech concepts are considerably low in local market but it has a great potential of introducing it via intimate products as value adding. In Sri Lankan market, knowledge about mastectomy bra is very poor and there is no any lingerie manufacturer that has launched a mastectomy bra production in local market. Hence, vast market gap and product gap for mastectomy bra in Sri Lankan market is available.

There are some limitations in introducing mastectomy bra to local market, such as knowledge about intimate products as well as eco and High-Tech products are considerably low among Sri Lankan females. The use of eco and High-Tech processes are much advanced and also need high capital investment.

References


5. Bond, A. (2012), Silver bullet for cancer: Metal can kill some tumours better than chemotherapy with fewer side effects Accessed from; http://www.dailymail.co.uk/health/article-2095610/Silver-