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Author (s): Hina Rashid¹, Ayesha Saeed², and Muhammad Abiodullah¹


Affiliation (s): ¹University of the Punjab, Lahore, Pakistan
²Government Queen Mary College, Lahore, Pakistan

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Maternity Wear Preferences, Problems, and Expectations of Pregnant Women of Pakistan

Hina Rashid^{1*}, Ayesha Saeed², and Muhammad Abiodullah¹

¹University of the Punjab, Lahore, Pakistan

²Government Queen Mary College, Lahore, Pakistan

ABSTRACT Pregnant women tend to experience fast, non-linear anthropometric changes, especially in their chests, abdomen, and hips during the periods following gestation. Research has shown that physical changes get more prominent in the 2nd and 3rd trimester of pregnancy. However, the present Pakistani apparel market does not cater to the clothing needs of pregnant women who are compelled to choose plus-size garments to cater and camouflage their body changes. Interviews were conducted to understand and design the maternity garment requirements, problems, preferences, and expectations of Pakistani pregnant women. To obtain the desired in-depth information, open-ended questions were asked. The information collected was analyzed through qualitative analysis and themes were generated. The results reflected preference towards loose-fitted, breathable, and highly absorbent single layered garments which could cover their body silhouettes. The pregnant women disapproved highly embellished, fitted, and multilayered synthetic-based garments. However, they desired to wear stylish and innovative outfits, designed within the boundary of cultural and religious norms.

INDEX TERMS anthropometric changes, apparel market, body silhouettes, loose-fitted, Pakistani pregnant women

I. INTRODUCTION

Pregnancy is a life-altering phase for a girl who steps into motherhood, especially if it's happening for the first time. Pregnancy is the most crucial stage in women's life which lasts for 9 months. In pregnancy, women undergo extreme physical, emotional, and psychological changes [1–3]. Due to these radical body changes, their wardrobe needs to be updated frequently [4].

Pakistani women face many physiological, psychological, and social challenges during their pregnancy. Cultural bounds embedded in religious

*Corresponding Author: hinarashid03@gmail.com

beliefs and social restrictions regarding garments make this phase even more stressful, especially in social settings [5]. This problem persists since the times of post-partition up till now even when Pakistani women are capable of equally contributing in financial support of their homes and country.

Clothing, dresses, garments, apparels or attires worn for functional, social, and experiential (self-expression) purposes is defined as a covering of human body [6], [7]. Clothing contributes to the social inclusivity as it helps one to “fit in” with other groups so that one can interact easily. Uncomfortable clothing can take away the joy of living, especially for the pregnant women since their requirement for comfort, convenience, and wellbeing are greater than other groups of people [8]. From a psychological point of view, doctors agree that happiness and contentment result in uncomplicated pregnancy. Attractive and functional wardrobe is quite helpful as it may have a positive impact on the moods of pregnant women [9]. Attractive and appropriate dressing, smart maternity clothes, careful grooming, and well-suited make-up help pregnant women in maintaining their high self-esteem and morale [8].

Currently, Pakistani women are managing their homes, workplaces, and are also involved in multiple social activities along with strong experiential desires through their attire. Clothing is used as a powerful expression of personal identity, cultural balance, heritage and modern aspirations. Their apparel choices reflect a desire for empowerment, autonomy and confidence while also navigating societal roles and gender expectation. However, the apparel market does not provide many options for this beautiful phase of every woman, specifically according to our culture in order to make them comfortable in balancing work and home without feeling awkward in social gatherings. Many pregnant women restrict their mobility and social interactions due to low self-esteem caused by out of shape body proportions [10]. Whereas, others hide themselves behind their house walls, trying to cover their out of shape bodies due to weight gain which prominently occurs in the last two trimesters, resulting in developing feelings of body dissatisfaction [11]. Therefore, the current study aimed to explore various aspects in detail regarding the maternity garments problems of Pakistani pregnant women. The study primarily focused on the pregnant women of 2nd and 3rd trimester within the age of 18-40 years. Through the data, the researcher intended to understand the problems, preferences, and

expectations that a pregnant woman have regarding physical comfort, aesthetics, safety, ease of use, and long lasting maternity garments. These are the key constructs of ergonomics, related to fashion engineering and design [12].

II. LITERATURE REVIEW

The topics that were explored for theoretical basis of this study included physiological and psychological changes of pregnant women, problems in selection and utilization of maternity wear as well as characteristics of healthy maternity wear.

A. PHYSIOLOGICAL CHANGES DURING PREGNANCY

Pregnancy is linked to special modifications that may have a detrimental impact on a pregnant woman's happiness with her body form [13]. Physiological changes occurring in women's breasts, abdomen, and torso affect their posture which restricts the usage of ordinary garments' designs. Due to this reason, designing a maternity outfit that not only caters to the physiological changings as well as the active lifestyle and social activities is needed [14]. Sohn and Bye [15] analyzed the changes in body shapes of pregnant women and how it affects the changes of maternity wear. The study analyzed body proportions using 3D scanners for each month and then patterns were adjusted with 3D digital pattern changes. Results showed that patterns did not increase proportionally with the body changes.

Pregnant women go through various physical and hormonal changings [10]. During the first three months of pregnancy, the body proportion remains the same, however, the waistline starts to rise and broaden gradually during the 2nd trimester [16]. However, the abdominal expansion varies according to the amniotic fluid as well as the position of the baby and breast size begins to expand in the second month [17]. Changes in posture can also be observed due to the enlargement of the abdomen. In pregnant women, sebaceous and sweat glands get more activated which cause excessive perspiration, resulting in frequent chilling. Therefore, it makes them more susceptible towards catching cold [18]. Pregnancy results in substantial increase in weight [10]. A woman gains roughly 13 kilograms amid pregnancy [15]. Skin color of various body parts also changes which is referred to as the mask of pregnancy [19].

B. PSYCHOLOGICAL CHANGES DURING PREGNANCY

Bjelica et al. [3] stated that the overall pregnancy is a difficult psychological phenomenon. In this phase, along with physiological changes, psychological as well as social functioning (expectations related to new role as a mother) starts occurring from the very beginning till the postpartum period. During their review, Bjelica, et al. [3] highlighted that every pregnant woman experiences psychological uncertainty, rapid mood swings from extreme tiredness to ecstasy, emotional upheaval, and anxiety disorders. Ho et al. [20] explored the garment requirements of pregnant women. The study revealed that during pregnancy, body changings and psychological changes directly affect their clothing choices on both practical and decorative levels.

DiPietro et al. [21] studied weight-related psychosocial behaviors and attitudes of pregnant women through a cross-sectional survey. In the respective study, problems pertaining to anxiety, social and emotional support, as well as stress were assessed from 28-38 week gestation period. Results revealed that women with weight restrictive behaviors during pregnancy were found to be more stressed, hassled, depressed, irritated, and with low self-esteem. Whereas, women with higher positive body image were found to be less self-conscious, less angry, and less depressed. Sohn and Bye [22] investigated maternity clothing practices in relation to the body images of 137 pregnant women in their 2nd and 3rd trimester. These women belonged to two cities of upper Midwest USA. The study determined that women were satisfied with their bodies and they use maternity garments for ease and comfort, however, not to conceal their bodies.

C. HISTORY OF MATERNITY GARMENTS

The research on maternity wear problems and their solutions started in the last century [23], yet the apparel industry didn't acknowledge pregnant women's needs or designing apparels for them. It pushed them to choose non-functional, uncomfortable/nonsuitable maternity garments to be worn. The very first maternity wear was designed in the early 1900's and it was just a cotton-based wraparound garment [24]. Peteu and Helvenston Gray [25] reported that women's apparel requirements were considered in 1890's. The researchers analyzed 1,126 US trademark office patents to find the objectives of a garment including why, when, how, and for whom, that

is, fashion, needs, usability purposes, and manufacturing processes. Moreover, its evolution was also analyzed according to the needs and desires of women's physiology with special concern for women health and maternity wear. The results stated by Peteu and Helvenston Gray [25] showed that the first ever maternity garment was presented and patented in 1907 in the US patent office (classified in Class 211). In that dress, waistband was expanded and it was re-adjustable to accommodate the growing fetus. However, the designing of maternity garment totally changed after the World War II due to the new roles of women in society. The new maternity garments were designed in such a manner that called the attention of the viewer to the abdomen, hips, and breasts.

The maternity garment designs were overall discreet until Grace Kelly, known as the princess Kelly, showed her pregnant belly rather than disguising it in a Christian Dior tailored maternity dress in 1956 which became the center of attention for the public [26]. However, for general public, the maternity wear remained discreet for few more decades, until recently when "Pregnant Look" fashion emerged not only for celebrities but also for general public. Nonetheless, the published information for the fit and size is limited which needs to be worked on.

D. CHARACTERISTICS OF HEALTHY MATERNITY WEAR

Shamsaei et al. [14] studied the basic criteria and requirement to design healthy maternity garment. The research provided in-depth knowledge for maternity wear designs concluding that the garment must have three essential characteristics, that is, comfort, adaptability, and style that should reduce the protrusion of expanding body. Olufunke [27] determined the functional apparel design requirements of expecting mothers in Lagos state through a questionnaire survey. The results revealed that among the silhouette choices, gathers at yoke were preferred, furthermore lightweight and hindrance-free garments with adjustable waist and broad necklines were favored. The pregnant women also showed likeness towards smart, stylish, yet attractive designs.

E. MATERNITY WEAR SELECTION

During pregnancy, maternity clothes not only meet the physical changes, however, it also draws attention to the importance of fabric usage that should not be harmful for the health of mother and the baby. Sarkar and Rasel [9], on the other hand, emphasized that pregnant women prefer

healthy and comfortable garments but not the expensive ones. They not only demand comfortable and useful garments, however, with the advent of fashion awareness they are also concerned about stylish and attractive outlooks during their pregnancy.

F. PROBLEMS, EXPECTATIONS, AND DESIRABLE FEATURES OF MATERNITY GARMENTS

Faust et al. [28] highlighted that maternity wear requirements of Asian women start as early as 2nd trimester in which radical physical changes get prominent. Kılıç et al. [29] conducted a research on clothing problems faced by a pregnant woman through a survey in Izmir. Their study determined that maternity garments were considered as a necessity after 5th month, however, pregnant women found dresses as their favorite garments during the time period. Nonetheless, “Fit” of pants at waist was the basic concern found among the majority. Buluş and Şahinoğlu [30] explored the problems, preferences, and expectations of 247 expectant women living in Ankara using a questionnaire. Results showed that the available maternity garments were too expensive and ill-fit with poor fabric usage to invest in. Krisjanous et al. [31] [31] highlighted other problems for halal maternity wear through a survey of online apparel websites. Their study found that garments available on western websites do not follow the muslim pregnant women’s requirements, rather they design for the lot, not considering the weather conditions and anthropometric measurements of pregnant women. These websites only cater by offering plus size garments.

Park and Lee [32] explored important and desirable features of maternity wear found by the pregnant women in London. The results showed that working women don’t want to purchase maternity clothes due to high prices for this short period. Secondly, they highlighted their concern regarding the style and quality since there were not enough designs to be worn at workplaces or at special occasions. Their survey results also showed that women desire wearable maternity designs that change along with the pregnant women’s body changes.

G. SUMMARY OF REVIEWED LITERATURE

It is important to foresee the physical and psychological changes when a maternity wear is to be selected by a mother to be. The pregnant women needs to be careful in terms of size and style of maternity garment which can provide her comfort and ease her problems both physically and

psychologically. There are other factors, such as color, fabric type, style, embellishments, and textures, as well as size that may also effect the selection of maternity wear. Sohn [33] studied various pattern adaptations for maternity wear and how it is accepted according to the body changes during pregnancy. Aishatu [34] determined important factors that should be considered in the manufacturing and selection of maternity garments.

H. SIGNIFICANCE

Pregnant women in Pakistan are facing multiple problems regarding maternity wear. This is because apparel market does not cater to their needs, nor understands their physical and psychological problems. Moreover, there is a lack of adequate research on the development of sizes and pattern adaptations for this sector. Therefore, to fill this gap of Pakistani apparel market and concerning pregnant women consumers, this study was designed to understand and address the problems of expectant mothers in terms of maternity wear, their preferences, and expectations associated with the garments. The study also intended to explore how physical changes in pregnant women change their psyche and requirements, their likeness and acceptance of style, as well as fabric and textures in garments. Resultantly, it can make them more productive and comfortable during this phase at home as well as in social gatherings. Therefore, this study is crucially important for pregnant women, designers, and stake holders. Pregnancy can be made more enjoyable for the expectant mothers in Pakistan if they get to choose among various readily available designs which caters to their needs and requirements, ultimately helping them to be more productive at home and at workplace. Designers can design good outfits for expectant mothers with the help of this research after understanding the in-depth knowledge provided in terms of their garment problems, preferences, and expectations. Similarly, stake holders can invest money in the manufacturing of these garments that would not only be beneficial for them, however, for the economic growth of Pakistan as well.

III. MATERIALS AND METHODS

The current study was based on a qualitative research design to get in-depth knowledge from 2nd and 3rd trimester pregnant women of Pakistan regarding maternity garments. Purposive sampling technique was employed to collect data by approaching the private and government hospitals of Lahore.

Interviews were conducted and the data gathered was analyzed through thematic analysis.

The principle guidelines for reporting of this research were taken from (COREQ) Consolidated Criteria for reporting Qualitative Research [35]. Qualitative descriptive approach was used in this study, since this approach helps to better understand the experiences of participants [36].

A. DESIGN

A qualitative design approach, using open-ended questions, was used in interview sessions to gain insights into women's problems, preferences, and expectations regarding maternity wear during pregnancy. Data was collected from the public and private hospitals of Lahore. To explore the problems, preferences, and expectations of the expectant mothers, interview questions were asked based on the principles of ergonomics related to fashion engineering and design [12]. Participants were also asked about their demographics. Interview time ranged from 20-40 minutes.

B. PARTICIPANTS

A total of 19 participants from 2nd and 3rd trimesters were selected for interviews from the gynea sections of private and government hospitals of Lahore. Women with mixed demographics were included, that is, both working and nonworking pregnant women. Varied socioeconomic levels and education were interviewed. Consent was taken before hand. Only willing participants were included in the study. Women with any physical or mental problems were excluded.

C. MEASURES

The interviewed participants filled a short demographic questionnaire. An open-ended interview guide was used following the ergonomic characteristics of fashion engineering and design. These characteristics include physical comfort, aesthetics, safety, ease of use and performance, and current literature (consult Table 1 for full interview guideline).

The transcripts of 19 interviews conducted for this study were analyzed thematically. It involved interpreting the data through a systematic procedure of coding to identify themes and patterns. Since the main objective of the study was to understand pregnant women's problems, preferences, and expectations regarding maternity clothing, thematic content analysis was considered appropriate. The author first went through

the individual transcripts to gain an understanding of the overall experiences of pregnancy and clothing issues. After re-reading the transcripts, specific themes were identified. These themes were then aligned into categories to represent similar experiences. The key content of the emerging themes, as well as the relationships between themes and patterns within individual transcripts, were explored. Finally, these themes were identified through that process.

TABLE I
OPEN ENDED INTERVIEW GUIDE

	What problems do you face regarding comfort, aesthetics, safety, use, and performance of maternity wear? زچگی کے لباس کے آرام، جمالیات، حفاظت، استعمال میں آسانی اور کارکردگی کے حوالے سے آپ کو کن مسائل کا سامنا ہے؟
1.	آرام: Comfort جمالیات: Aesthetics حفاظت: Safety استعمال میں آسانی: Ease of Use کارکردگی: Performance
	What are your preferences regarding comfort, aesthetics, safety, ease of use and performance of maternity wear? آرام، زچگی کے لباس کے آرام، جمالیات، حفاظت، استعمال میں آسانی اور کارکردگی کے حوالے سے آپ کی ترجیحات کیا ہیں؟
2.	آرام: Comfort جمالیات: Aesthetics حفاظت: Safety استعمال میں آسانی: Ease of Use کارکردگی: Performance
	What expectations do you have from a maternity wear regarding comfort, aesthetics, safety, ease of use and performance? آرام، جمالیات، حفاظت، استعمال میں آسانی اور کارکردگی کے حوالے سے آپ زچگی کے لباس سے کیا توقع رکھتے ہیں؟
3.	آرام: Comfort جمالیات: Aesthetics حفاظت: Safety استعمال میں آسانی: Ease of Use کارکردگی: Performance

IV. RESULTS

A. MATERNITY WEAR PROBLEMS EXPERIENCED BY PREGNANT FEMALES

Pregnant women often face challenges finding comfortable, stylish and well fitting maternity apparels like limited sizing, high cost and non appropriate fabric. Additionally many struggles with a lack of versatile options that can transition through pregnancy and postpartum. These challenges can impact body image and overall confidence during pregnancy.

1).GARMENT TIGHTNESS AND UNAVAILABILITY OF READY TO WEAR MATERNITY CLOTHING

Pregnancy tends to make the garments unfit and tight around the waist, hips, and breasts of women due to weight gain during their 2nd and 3rd trimesters as reported by all the sample participants. The wardrobe of pregnant women needs to be changed, however, no ready to wear maternity garments are available to cater their needs. Therefore, either they are forced to buy plus size garments or have to get them stitched which do not carry any element of style and are costly as well. Thirteen (13) women highlighted that their trousers tightened from their waists, however, two of them said that they are ok with the size.

2) ITCHINESS DUE TO EMBELLISHMENTS AND EMBROIDERY

A total of 6 participants highlighted the problem of itchiness during the last trimester due to tilla embroidery and other embellishments. Furthermore, 5 participants highlighted the problem of excessive perspiration in this phase which causes them discomfort to wear multilayered or synthetic fabric-based garments.

3) LONG DRESSES CAUSING SAFETY ISSUES

Most women participants expressed their concern to wear long length garments due to safety reasons. This is because long dresses can cause accidental falls which may have fatal effects for both the baby and the expectant mother.

4) DIFFICULTIES IN DRESSING AND UNDRRESSING

A total of 10 women expressed that dressing and undressing garments is a difficult task due to poor accessibility to zips and openings. Furthermore, 6 participants highlighted that with weight gain and posture changes, body

becomes unbalanced. Therefore, garments with zippers, knots, and tight-waisted trousers and jeans are difficult to pull up.

5) REUSABILITY OF GARMENTS

Among the women participants, 7 of them reflected their desire of usability of maternity garments after delivery. However, they do not find them fit and stylish to be worn afterwards. A total of 4 women participants expressed their disinterest to invest money in buying or designing stylish garments, especially for this short period of time.

B. MATERNITY WEAR PREFERENCES OF PREGNANT WOMEN

Pregnant women prefer comfort and opt for those maternity garments that accommodate their growing bodies without sacrificing style. Soft, non irritant and cotton based materials are preferred for their absorbancy and softness. Style preferences like elastic waistbands and adjustable fits provide practicality.

1) COMFORT PREFERENCES IN FABRIC TYPE, LAYERS, AND STYLES

The definition of comfort is different for every individual, however, pregnancy phase makes women more comfort conscious physically as well as psychosocially. A total of 17 among the 19 women participants showed their utmost desire to wear loose and comfortable clothes, specifically made from light weight material, mentioning cotton-based garments. Furthermore, 12 women said that they want to conceal their protruding belly in social gatherings and workplaces along with stylish appearance to make them feel confident. Moreover, 5 participants expressed their garment style preferences that do not attract the attention of people towards them. A total of 11 women mentioned their preference towards monolayered garment designs with one overall, either dupatta or shawl.

2) AESTHETIC AND EMBELLISHMENT PREFERENCES

The aesthetic standards of every woman are different from one another. A total of 4 women desired to wear lightly embroidered clothes, 6 preferred small floral prints, and 3 women expressed to have fancy buttons, while 8 desired to wear clothes with light embroidery at the border.

3) PREFERABLE SAFETY FEATURES IN MATERNITY GARMENTS

Safety is very important during pregnancy. Due to this reason, participants showed dislike towards garments touching floor and expressed their preference to wear knee-length garments, either frocks or kurtas with medium wide sleeves. Similarly, 12 participants mentioned their preference for trousers and other bifurcated garments.

4) EASE OF USE PREFERENCES IN MATERNITY WEAR

Among all the participants, same connotation for upper and lower garment preferences was interpreted, that is, they should be loose either it is the waist, bust, sleeve girth or arm scye region of upper garment or the waist of trousers or shalwars.

5) PERFORMANCE PREFERENCES

A total of 13 women showed positive inclination towards using pregnancy clothing afterwards, while 4 participants desired to discard them.

C. MATERNITY WEAR EXPECTATIONS OF PREGNANT WOMEN

Pregnant women expect maternity garments to be comfortable, supportive and stylish which offers ample room for their growing bump without looking awkward. They seek clothing which an adapt to their bodies , with soft material and elastic waistbands for ease in movement.

1) AVAILABILITY AND COMFORT EXPECTATIONS

Culture influences the clothing preferences of women belonging to any region, similar was the case with the interviewed participants. All the participants expected that the maternity wear should camouflage their body silhouette. Furthermore, 11 participants also desired the availability of ready to wear maternity clothing according to their body standards, social and physical needs rather than pushing them to select from plus-size pret sections of various brands.

2) AESTHETIC AND EMBELLISHMENT EXPECTATIONS

A total of 8 participants expressed their desire to wear light embellishments in the form of embroidery, buttons, and laces. While, 4 participants desired to wear summer prints and light weight fabric with adjustable waist of upper and bifurcated garments.

3) SAFETY AND EASE OF USE OF MATERNITY GARMENTS

A total of 7 participants expected that their maternity wardrobe should be stylish yet easy to carry and safe to wear with no floor length or big flares. Furthermore, cotton fabrics were the desired expectations. Moreover, 5 women participants expected to wear easy trousers and other bifurcated garments with wide hems and loose adjustable waists.

V. DISCUSSION

The current study aimed to provide a comprehensive insight into the problems experienced by pregnant women of Pakistan. The study explored physical, social, and psychological issues that they face in-terms of maternity garments. Moreover, this study also focused to obtain in-depth knowledge of pregnant women's desires and expectations pertaining to their garments.

The non-availability of maternity wear was highlighted in the apparel market of Pakistan. There is an urge among pregnant women to have functional yet modest maternity wardrobe according to the bounds set by the Islamic religion in order to make them feel comfortable in offices and other social gatherings. The study also concluded that women desired to camouflage their pregnant silhouettes since they are expected in Pakistani cultures and values embedding in Islamic religion as it was explored by Saeed [5]. The study concluded that Islamic religion plays a pivotal role in influencing the consumer behavior and social norms pertaining to the purchasing decisions. The research also highlighted that entrepreneurs cannot oversee the importance of religious values which Muslim consumers hold when designing, marketing and manufacturing apparels or specific fashion garment in the vicinity of a Muslim country.

The study also explored the desires and expectations of working pregnant women of Pakistan for a functional wardrobe that can be used in post-pregnancy period as well. Moreover, it can be a great profitable market for entrepreneurs to cover the gap and fulfill the needs of women.

Khushboo and Meenu [8] concluded the same while finding the functional clothes of lactating mothers and their preferences. Jaiswal [37] explored the maternity wear problems of Indian women and found some solutions. They concluded that garments should be designed to have ease at waist, bust, hips, and biceps to cater the problems of comfort, fitting, and sizing with the increasing anthropometric changes during pregnancy naming them as

“Smart Motherhood Wear”. The researcher proposed designing through-pattern styling features (like godet, gores, accommodating silhouette, appropriate trims, and placket placements), construction features (like smoking and pleats), pattern engineering (to achieve innovative designs), and typical fabric selections (fabrics which are forgiving in nature).

The current study also concluded that pregnant females find pants, trousers and other bifurcated garments waist problematic due to physical changes in body as it was concluded by Kılıç et al. [29] when finding the clothing problems of pregnant females of Izmir, furthermore his study also concluded that pregnant females need maternity clothing from 5th month of gestation. This research is one of its kinds in Pakistan that focused to understand and prioritize the consumers’ requirements pertaining to all their physical, social, and psychological needs that can provide a valuable knowledge for entrepreneurship. Florence and Chan [38] designed party dresses for expectant women after understanding their needs via interviews.

A. CONCLUSION

Pregnant women go through several physical changes during pregnancy including rapid weight gain, body silhouette changes, and posture change which develop both positive and negative feelings in them. Studies have observed that young expectant mothers are more anxious, stressed, fearful, and depressed due to all the changes taking place in their bodies. Moreover, they restrict themselves in their social activities and feel uncomfortable at their workplaces, especially when the existing apparel market is not understanding and fulfilling their clothing requirements and desires. Therefore, this study provides a valuable insight about the problems, preferences and expectations of Pakistani expectant mothers regarding maternity clothing. The study aimed to understand through the characteristics of ergonomics related to fashion engineering and Design including physical comfort, aesthetics, and safety, ease of use and long lasting performance of a maternity garments. The results concluded maternity wear problems of sizing, unavailability, comfort, ill-fit, irritant due to embroideries and embellishments, whereas preference and expectations were inclined towards loose, knee length, lightly embellished garments with adjustable waist and loose hems of bifurcated garments. The results also highlighted Pakistani pregnant women’s desires to wear loose-fitted, breathable, and highly absorbent single layered garments which could cover their body silhouettes. The pregnant women disapproved highly

embellished, fitted and multilayered synthetic based garments. However, they desire to wear stylish innovative designs, designed within the bounds of cultural and religious norms. The information generated through the research analysis can help designers and stakeholders in understanding and designing to fill the gap present in apparel market.

CONFLICT OF INTEREST

The authors of the manuscript have no financial or non-financial conflict of interest in the subject matter or materials discussed in this manuscript.

DATA AVAILABILITY STATEMENT

The data associated with this study will be provided by the corresponding author upon request.

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No funding has been received for this research.

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