Research Paper
Impact Factor: 4.164
Refereed Journal

IJMDRR
E- ISSN –2395-1885
ISSN -2395-1877

SUITABILITY OF DESIGNED FUNCTIONAL GARMENTS FOR VISUALLY IMPAIRED

Shweta Tuteja* **Veena Nigam****
**Assistant Professor, Department of Textile Science, Clothing & Fashion Studies, J.D. Birla Institute, Kolkata.*
***Professor, Juhari Devi Girls College, Kanpur.*

Abstract
Comfortable, appropriate and self-help garments are the blessing to the disabled child as these are helpful to make them confident and independent. The present study was conducted on sixty (Visually Impaired/Blind) respondents including both male and female of age group 10-20 years selected through purposive sampling technique, who had only clothing related problems. The main objective of this study was to identify different physical deformities, study the existing clothing practices, problems and preferences and to assess the acceptability of the specially designed functional garments. Twenty sketches were made with the incorporation of functional features and after evaluation of the sketches, six garments were fabricated.

Velcro tape, zipper, elasticized gathers, pleats, press buttons, patch, elasticized casing, embroidered braille characters were incorporated as the functional features in the garments. Assessment of the functional garments was done based on the acceptability scale and these garments were found to be highly acceptable by the respondents.

Keywords: Visual Impairment, Functional Clothing, Donning, Doffing.

1. Introduction

Clothing has been recognized as a primary need of mankind throughout the globe. It is a form of non-verbal communication that conveys emotions and expected behavior. Clothing may not make the person but it does much to explain his and her personality. It plays a significant role in individual's life at all stages as it provides the means of self expression and can be a source of pleasure or of anxiety and a way to reflect wealth and prestige.[4] Clothing plays an important role not only for a normal individual but in the life of a disabled individual too. Disabled people belong to a special category, which require both genuine care and social sensitivity. [6]

Clothing may conceal the stigma of a physical handicap. Clothing is important for these people for two reasons, one being that functional clothing designed and constructed according to the physical handicaps reduces dependence on others for dressing and undressing. The other being that socially accepted clothing reduces perceptional deviance and promotes positive interaction to aid the social and personal adjustment of the individual. [3]

Classification of disabled as per Census of India, 2011 states that nearly half total disabled are having seeing disabilities (48.5 per cent) followed by movement disabilities (27.5 per cent). Ten per cent of total disabled are mentally disabled. [1]

Suitable clothing can be used to enhance the well being of an individual and minimize their dressing problems. [5] So, specially designed clothes with incorporation of self help features like large armhole, change in crotch length, easy to manipulate fasteners, etc were needed. This type of clothing gives a feeling of self confidence and comfort. [2] Keeping in view the fact, the present study was undertaken to design suitable functional garments with self help features for persons with physical limitations which caters to their specific clothing needs.

2. Methodology

Descriptive cum experimental research design was used to identify different physical deformities, clothing practices, problems and needs followed by designing, construction and assessment of self help garments. The study was conducted on a sample size of 60 respondents including both male and female of age group 10-20 years, selected through purposive sampling technique. Care was taken to select only those who had clothing related problems.

Out of the total sample of 60 respondents, six respondents (three male and female each) were retained as experimental group to give representation of the population. The case study method was used to get in- depth knowledge of the selected respondents regarding the problems faced by respondents while donning, doffing and performing various other activities.

The data was analyzed by frequency, percentage, weighted score, mean and rank methods. A total of 20 garment designs (10 each for males & females) were sketched keeping in mind the suggestions given by their care takers, observations and extent of clothing problem of the respondents. The sketches included easy to manipulate fasteners, position of fasteners,

incorporation of design features, depth of armhole and crotch, neck size, opening in the garment, ease of don and doff, identification marks, use of Braille characters.

Sketched designs were shown to a panel of 30 Judges. Six most preferred designs by the judges were selected for construction. Constructed functional clothing was subjected to wear trial and views of the respondents and their care takers were taken regarding acceptance of the specially designed garments. Suitability of each feature of a garment was taken on a three point rating of unsatisfactory, satisfactory and highly satisfactory.[4] Depending on the number of features in a garment these ratings were assigned scores and the total score obtained by each garment is converted into acceptability ratings.

3. Results

From the present investigation it was found that majority of the respondents (33.3 per cent) fall in the age group of 13 – 15 years and 16 – 18 years each, whereas 16.7 per cent of respondents were in age group 10 – 12 and 19 – 20 years respectively. Among total (60) respondents, 60 per cent (36) were males whereas 40 per cent (24) were females.

3.1. Type of Associated Disability

It was reported that majority of respondents i.e. 54 (90 per cent) had no associated disability whereas only 6 respondents had associated disability (mental retardation & orthopedically handicapped).

3.2. Problems Faced While Wearing a Garment

The respondents were asked about the problems faced by them while wearing a garment. It was found that 77.42 per cent of the respondents (48 respondents) had problem in matching upper and lower garments, followed by 19.35 per cent (12 respondents) had problem with the identification of right and wrong, whereas 3.22 per cent of the respondents (2 respondents) could not identify front and back.

3.3. Identification of Garments When Mixed with Others

According to table 1, out of 60 respondents, 10 respondents (16.67 per cent) can identify their clothes when mixed with others whereas 50 respondents (83.33 per cent) cannot identify their clothes when mixed with others.

The findings in table below shows that 64.1 per cent respondents needs help from others to identify their clothes when mixed with others while 30.76 per cent respondents identify them through feel and 5.13 per cent respondents identify through identification mark.

Table 1: Distribution of respondents on the basis of identification of garments when mixed with others

S. No	Variables	f	%
1.	**Identify garments when mixed**		
a.	Yes	10	16.67
b.	No	50	83.33
2.	**How they Identify garments ***		
a.	Help from others	50	64.10
b.	Through feel of the Garment	24	30.76
c.	Through Identification Mark on the Garment	4	5.13

*Multiple Responses

3.4. Satisfaction with the Existing Clothing

16.67 percent respondents were satisfied with the existing clothing while 83.33 percent respondents were not satisfied with existing clothing.

3.5. Willingness of Specially Designed Clothes with Self Help Features

An opinion was sought about the willingness for specially designed garments for visually impaired children. It was found that 83.33 per cent of respondents expressed their willingness to adopt specially designed garments whereas 16.67 per cent of the respondents did not show their willingness for modified garments.

The data presented in table 2 revealed that reasons for willingness of specially designed clothes were to provide more comfort, to make the child self dependent with self help features, to solve dressing problem with rank I, II and III respectively.

Reasons for unwillingness of specially designed clothes were lack of knowledge about specially designed garments (Rank I), followed by cost of the garment with rank II.

Table 2: Distribution of respondents on the basis of reasons for willingness & unwillingness for specially designed clothes with self help features

S. No	Variables	Weighted Score	$\bar{X}$	Rank
1.	**Reasons for Willingness of specially designed clothes***			
a.	To solve dressing problem	40	0.79	**III**
b.	To provide more comfort	104	1.37	**I**
c.	To make the child self dependent with self help features	72	0.95	**II**
d.	To make child socially acceptable	-	-	-
e.	To enhance the personality	-	-	-
2.	**Reasons for Unwillingness of specially designed clothes**	**N=18**		
a.	Garments will be costly	70	1.59	**II**
b.	Lack of knowledge about specially designed garments	120	2.73	**I**
c.	It may make the child socially unacceptable	-	-	-
d.	It may lead to the development of inferiority complex in the child	-	-	-
e.	Child may not accept	-	-	-

* Multiple Responses

3.6. Evaluation and Construction of Functional Garments

The weighted score of the twenty functional garments sketched for the visually impaired (male and female) respondents was calculated and the results are depicted in the figure 1. Three designs with maximum score for males were G_1, G_6 , G_4 and G_1, G_4 ,G_5 for females was selected for construction (Plate 1 a & b).

VIMG$_1$ **VIMG$_6$** **VIMG$_4$**

Plate 1aP: Selected Sketched Designs for Visually Impaired (Male) Respondents

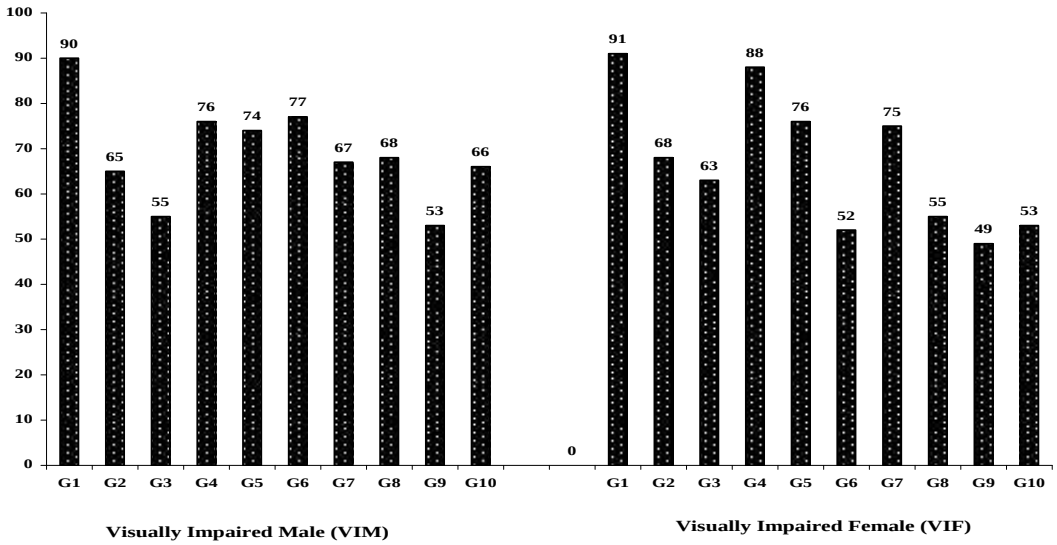

Figure 1: Evaluation of Sketched Designs for Visually Impaired Respondents

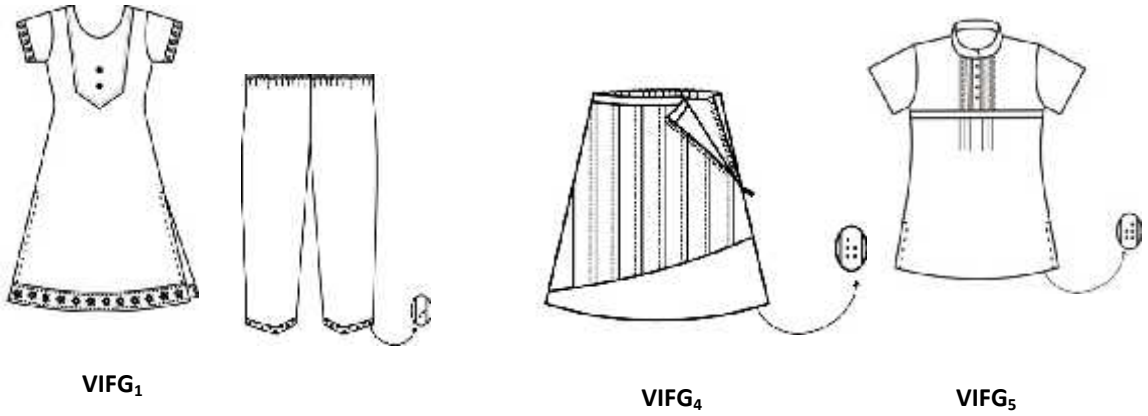

Plate 1b: Selected Sketched Designs for Visually Impaired (Female) Respondents

3.7. Acceptability Assessment of Constructed Functional Garments

The respondents were given garments to wear for 10 days. A panel of 10 judges assessed the stitched functional garments. A suitability index was formed to assess the acceptability of the garments by the investigator. Each feature in the garment was scored and the total score was obtained through which the acceptability of the garments was assessed.

Garments constructed for both male and female visually impaired respondents were highly acceptable (Table 3). Garments constructed for male respondents, $VIMG_1$, $VIMG_6$ and $VIMG_4$ scored 75, 75 and 70 respectively (Plate 2a).

Female garments constructed (Plate 2b) were also highly acceptable with score of 80 ($VIFG_4$ and $VIFG_5$) and 75 ($VIFG_1$).

Table 3: Assessment of Acceptability of Constructed Functional Garments for Visually Impaired Respondents

Garment Code	Functional Features	Score for each feature	Total Score	Acceptability
$VIMG_1$	• Yoke with raised effect • Braille characters through embroidery for identification	30 45	75	Highly Acceptable
$VIMG_6$	• Yoke at lower portion with binding • Braille characters through embroidery for identification	30 45	75	Highly Acceptable

$VIMG_4$	•Textured fabric •Binding on the centre front placket •Braille characters through embroidery for identification	20 20 30	70	Highly Acceptable
$VIFG_1$	•Patch in front with button •Lace on kameez and salwar hem •Braille characters through embroidery for identification	20 20 30	70	Highly Acceptable
$VIFG_4$	•Pin tucks in front yoke •Elasticised casing and zipper •Braille characters through embroidery for identification	30 20 30	80	Highly Acceptable
$VIFG_5$	•Pin tucks in front yoke •Large press buttons •Braille characters through embroidery for identification	30 20 30	80	Highly Acceptable

Plate 2a: Constructed Functional Garments for Visually Impaired (Male) Respondents

Plate 2b Constructed Functional Garments for Visually Impaired (Female)

References

1. Bhanushali, K. (n.d.). Dimensions of disability in India. In Disability India Network. Retrieved May 18, 2007 from http://www.disabilityindia.org/djartjan06A.cfm.
2. Ganguly, D. (1997). Adapted clothes make dressing up easy for the disabled, Times of India, October, 21.
3. Miller, F.G. (1982). Clothing and Physical impairment: Joint effect on personal perception. Home Eco. Res. J., 10, 3: 265-70.
4. Nisbet, D.J. & Johnson, K.K.P. 1992. Clothing fashionability and students with a disability: Impressions of social and mental competencies. Clothing & Textile Research Journal. 11, 1: 39-44.
5. Paul, S. & Mishra, S. (2001). Clothing practices and problems of orthopaedically handicapped children and designing according to their disability. In: Seminar-cum-workshop on Functional Clothing and Social Integration of the Handicapped. C.C.S. Haryana Agricultural University, Hisar, India. pp. 7-10.
6. Suran, B.G. & Rizzo, J.V. (1979). Special Children: an Integrative Approach. Scott, Foresman. p. 532.