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Functional Apparel for Workers in Food Service Enterprises

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Abstract

The major purpose of this study was to develop functional apparel for workers in food service enterprises. Specifically, the study identified the features included in the functional apparel produced functional apparel and assessed the comfort and suitability of functional apparel. Research and development design were used. The study was in three phases. Three sets of the population were involved in the study. The Data were analyzed using mean. Findings include: 11 features necessary for producing functional apparel of three categories (small, medium and large). The develop set of apparel were comfortable and suitable to workers. Based on the findings, recommendations were a judged.

Key words: Apparel; Food; Service; Workers; Industry

Introduction

F**o**od service is the act of presenting food as attractively as possible to the eater. Food can be served in various ways such as counter or bar or table service which is a form of service in restaurants. In table service food is served, served to the customer's table by waiters and waitresses also known as servers. Mohini, (2008) noted that food service involved plans, preparation and serving of food. The importance of food makes meal preparation and service a very important enterprise. Food service enterprises can provide meals for individuals within and outside their homes. Such enterprises include restaurants, hotels, cafeteria, etc. Individuals and families can also place orders for meals from the enterprises. Such meals can also be delivered to homes, offices, social gathering, including parties such as birthday party.

Anyakoha and Eluwa, (2010), stated that meal preparation and service involve different operations or

tasks which include cooking of assorted meals (dishes), dishing out and serving of foods, setting of table (both formal and informal), clearing and washing up. In order to carry out these activities, workers in food service or meal service enterprises require special apparel that will enhance their operations. Such special apparel designed to facilitate the tasks to be carried out is called functional apparel. Such apparel needs to be developed based on the tasks carried out in the entire procedures of meal preparation and service.

Functional apparel is of great importance in many ways. Brown (1999) explains that functional apparel protects the wearer from injury due to absorbing, inhaling or coming into contact with hazardous materials. Functional apparel helps to protect the wearer's own clothing from biological agents, aerosols or chemical splashes and spills vapour. Functional apparel is usually equipped with large pockets, which are easily accessible for hand towels used by the workers.

Workers in food service need functional apparel to protect their personal clothing from various types of spills while preparing ingredients, cooking, serving and washing up. Furthermore, Weber (1990) pointed that special clothing or functional apparel and accessories are also often worn for sanitation reasons. Hence clothing accessories like caps, scarf's are also required for workers in food service in order to prevent contamination of the products by germs. Hair should be covered while handling foods. The specific activities carried out in the food service enterprises determine the style features to be built into the clothing.

The activities to be involved in food service include cooking of various dishes, dishing out and serving of foods, setting of table (both formal and informal), clearing and washing up. They also perform activities like raising up their hands to the shelf to bring out the menu books as well as quick movement in order to attend to customers. These activities demand that functional clothing which facilitates the activities be worn. Functional apparel should have certain properties or features which make the clothing comfortable to wear and suitable to the operations involved in the activities of food service. Brown (1993) identified some comfort indicators as easy to manage fasteners, big button, large armholes and open slit at the back. Large neck openings which will make it easy to put on or off are also important.

Functional apparel for workers in food service should provide enough room at the shoulders as it is to be worn over normal clothes. It should have large armholes and long sleeves. It should also have large thigh pockets which would be used to keep hand towels for cleaning of the hands and tables. The functional clothing for workers in food service should also have narrow pocket at the left hand of the breast area, this should be used to put pen. The pen can easily be given to customers for the selection of their menu from the menu books. The

functional clothing should also include clothing accessories like cap, scarf which aimed at preventing entrance of the hair into the food.

Garment development process consist several steps identification of the need of the wearer, drafting the patterns and construction of the garments. To do these, a prototype garment should be produced, tested and corrected to meet the desired specifications of a design. Igbo and Iloeje(2003), stated that basic or block pattern is adapted to make the required functional apparel pattern; hence block pattern is a foundation pattern from which adaptation is made.

Workers in food service are faced with the problem of their garment been soiled with various types of spills while preparing ingredients, cooking and washing up. In view of this, there is need that the functional apparel should be developed by workers in food service which should serve as a protection for their normal clothing, hence the study.

Purpose of the Study

The major purpose of the study was to develop functional apparel for workers in food service enterprises in tertiary institutions of Anambra State.

Specifically, the study

1 . determined the necessary features to be included in the functional apparel.
2 . take body measurement.
3. draft functional apparel.
4. make functional apparel.
5. assess the comfort and suitability of the functional apparel for workers in food service enterprises.

Methodology

***Design of the study*:** Research and development (R&D) design were used for the study. It was carried out in three phases. Phase 1 was the determination of specific features to be incorporated in the functional apparel based on the operations carried out in the food service enterprises. Phase 2 was the development of basic patterns for the workers in food service enterprises based on the features and phase 3 was the testing of functional apparel for comfort and suitability.

Population for the Study: Population used in phases 1 and 3 of the study were made up of 36 lecturers in Home Economics, Home and Rural Economics and Fashion Design and Clothing Technology of the tertiary institutions of Anambra state of Nigeria. The populations were used in phase 1 of the study to validate the list of features that will be incorporated in the functional apparel. The populations were also used in phase 3 to assess the comfort and suitability of the completed functional apparel. The populations in phase 2 were made up of 140 workers in food service enterprises in tertiary institutions of Anambra state.

***Sample for the study*:** Two samples were drawn from the study. The sampled size was 6 lecturers for phases 1 and 3 .Three Tertiary institutions that offer Home Economics and its related in Anambra

state were sampled out of five. Two lecturers from the respective schools were randomly selected from each of the sampled institutions, making a total of six lecturers out of thirty-six in all the institutions. These sampled lecturers were used in phases 1 and 3 of the study for determining the features that were incorporated in the functional apparel and assessing the finished functional apparel**.**

For the phase 2 sample sizes of 30 workers in food service enterprises were used for the study, ten workers from each of the sampled institutions were drawn.

***Instrument for Data Collection*:** Two instruments were used for data collection

Instrument for data collection in phase 1: instrument to determine features that included in the functional apparel. The instrument A was developed after a review of literature to determine the features such as large neck openings, large armholes and so on.

Instrument for phase 2: The Basic Measurement Guide (BMG) developed in line with the guide by Igbo and Ioeje (2003) were subjected to face validation by three experts. The lecturers validated the instrument in terms of suitability of terms and the necessary corrections were made and used in producing the final version of the instrument.

Instrument for data collection in phase 3: The instrument was developed in phase 3 for assessing the features of the constructed functional apparel .The evaluated instrument was adopted. The instrument has a five point Likert scale with responses relating to the comfort of each part of the functional apparel The mean of satisfactory score for each variable were specified.

Methods of Data Collection Techniques: Data was collected in three phases. The first phase involved data collection of the instrument from the lecturers. It were administered and also retrieved.

The second phase involved the determination of the basic body measurement of the workers. It involved the preparation of models; such models were requested to remove additional garments such as cardigans, belts, adornments which could possible interfere with the measurements. Workers were classified into small, medium and large sized and their measurements were taken.

The third phase involved assessing the constructed garments by the judges to determine its comfort and suitability for workers in food service enterprise.

Table 1: Features needed for inclusion in functional apparel for workers in food service enterprises

S/N	Features necessary for functional apparel	Include	Do not include	% include	Decision
1	Open front with buttons	5	1	83	Include
2	Big buttons	6	Nil	100	Include
3	Front large zipper	Nil	6	0	Do not include
4	Large armhole	4	2	67	Include
5	Back Hip Pockets	Nil	6	0	Do not include
6	Large front Hip pocket to contain towels for cleaning hands and tables	6	Nil	100	Include
7	Large neckline	5	1	83	Include
8	Narrow breast pocket on the left	5	1	83	Include
9	Long sleeves	4	2	67	Include
10	Short sleeve	2	4	33	Do not include
11	Knee length coat	2	4	33	Do not include
12	Above knee length coat	Nil	6	0	Do not include
13	Length of coat should be slightly below the knee	5	1	83	Include
14	Coat should be loosely fitted	6	Nil	100	Include
15	Coat should be fitted	Nil	6	0	Do not include
16	Open slit at the back	5	1	83	Include
17	Open slit of the side	2	4	33	Do not include
18	Coat with collar	5	1	83	Include
19	Coat without collar	2	4	33	Do not include
20	Cap to cover the hair	6	Nil	100	Include

Table 1 shows the features that were include in the functional clothing. Eleven (11) out of twenty (20) features are rated by the respondents to be included while eight were rated as not to be included. Any item that has 55% or higher were regarded as being accepted by the judges for inclusion while items that scored less than 55% were regarded as not to be included.

Table 2: The mean of **Body measurements in three size categories (small, medium, and large)**

S/N	Measurement areas	Mean(XS)	Mean(XM)	Mean(XL)
1	Bust	101.4	114.1	121.4
2	Waist	98.5	108.5	114.0
3	Hip	102.3	117.0	124.
4	Half length	44.2	44.3	47.5
5	Shoulder	44.6	48.6	50.4
6	Full length	61.5	64.4	68.7
7	Skirt length	62.0	66.4	69.3

8	Neck circumference	38.2	42.1	46.0
9	Sleeve	54.0	56.1	56.5
10	Wrist	28.6	31.9	34.0
11	Height	102..3	109.0	116.4

Table 2 shows the means of the body measurements obtained for three categories of workers (small, medium and large) sized. For each part of the body, the table shows the mean for each institution used in the study. The mean body measurements for workers in food services enterprises in three size categories were established as indicated in Table 2 above and these means

S/N	**Comfort indicators**	**Small size**	**Medium size**	**Large size**	Total	**Overall mean**	Remark
	main body of coat						
1	Front neck width	3.2	3.0	2.8	9.0	3.0	Satisfactory
2	Front neck depth	3.0	2.8	2.9	8.7	2.9	Satisfactory
3	Shoulder seam length	3.2	2.5	2.7	8.4	2.8	Satisfactory
4	Shoulder slope	3.2	2.8	2.8	8.8	2.9	Satisfactory
5	Front chest width	3.0	2.5	2.5	8.0	2.7	Satisfactory
6	Bust line ease	3.1	3.1	2.8	9.0	3.0	Satisfactory
7	Ease across shoulder blades in back	3.2	2.6	2.5	8.3	2.8	Satisfactory
8	Hemline	3.1	3.2	2.8	9.1	3.0	Satisfactory
B	**front opening**						
9	Size of buttons	2.5	3.0	3.0	8.5	2.8	Satisfactory
10	Button placement	2.5	3.2	3.0	8.7	2.9	Satisfactory
11	Pocket size	3.1	3.2	3.1	9.4	3.1	Satisfactory
C	**back opening**						
12	Adequate overlap at the back	3.1	3.1	3.1	9.2	3.1	Satisfactory
D	**Sleeve**						
13	Armhole depth	3.2	2.5	2.5	8.2	2.7	Satisfactory
14	Even distribution of ease	3.2	2.5	2.5	8.2	2.7	Satisfactory
15	Ease at biceps	3.2	3.0	2.7	8.9	3.0	Satisfactory
16	Ease at wrist	3.2	3.2	2.8	9.2	3.1	Satisfactory
17	Sleeve cap	3.1	3.2	3.0	9.3	3.1	Satisfactory
E	**Collar**						
18	Position of neckline	2.7	2.9	2.8	8.4	2.8	Satisfactory
19	Neckline seam	3.0	3.0	3.2	9.2	3.1	Satisfactory
20	Outer seam	3.2	3.2	3.0	9.4	3.1	Satisfactory
	Total	61.0	58.5	56.4	175.9	58.6	
	Mean	3.1	2.9	2.8	8.8	2.9	

Table 3 shows the assessment of the functional apparel by the judges. The judges found all the parts of the functional apparel to be satisfactory. The table presents the mean assessment of judges of the various parts of the functional apparel. As all values lie between 2.5 and 3.5, they are all considered to be satisfactory. The overall means that lie on 3.0 and which may be regarded as most satisfactory are front neck width (3.0), Bust line ease (3.0), Hemline (3.0), ease at biceps 3.0.

Evidence from table 3 leads to the conclusion that judges found the functional apparel comfortable to wear. This was because the mean score for all the three size categories is 2.9 which the interval of 2.5 to 3.5 that donates satisfactory or comfortable

Discussion of Findings

Functional clothing protects the wearer from injury due to absorbing, inhaling, or coming into contact with hazardous materials (Brown, 1999). Special protective clothing is required for safety. Functional clothing should be selected based on the nature of the hazardous agents.

Functional clothing: Mask, overall, aprons, gloves caps and respirators. The functional clothing developed in this study will be used by workers in food service enterprises in tertiary institutions of Anambra state. It should be used and maintained in a sanitary and reliable condition and shall be cleaned regularly to avoid contamination (Nisbett, 1992).

The first research question related to the features that were included in functional clothing. Functional clothing should provide room at the shoulders especially when it has to be worm over normal clothes. It should have large armholes, long sleeves, narrow breast pocket left, cap to cover the hair as well as large front hip pockets for hand towels for cleaning hands and tables (brown, 1993). Other features include big buttons; it should be loosely fitted, larger neckline, overlap at the back. Front opening garments that are easier to put on and off are some of the important features.

The second research question concerned the essential body measurements and the means of body measurements in three size categories – small, medium and large. A good knowledge of body measurements are very important for drafting basic patterns and for constructing garments that would be comfortable on the body. Measurements are also very useful in determining the size an individual belong (Stringer, 1993). The parts that have been considered very essential and needed for pattern drafting and clothing construction are bust, waist and hip (Iloeje, 1995). Other measurements needed in addition are half length, shoulder, full length, skirt length, neck circumference, sleeve length (long) wrist and height.

There are two methods of ordering and assembling garments – the round method and flat method, to these methods of pattern drafting, Igbo and

Iloeje (2003) added modeling or draping method, knock-off design method, grading method and computer-aided design method. The researcher adopted the flat pattern method after (Igbo and Iloeje 2003). The preference for the flat pattern method was because of its simplicity in fitting and adaptability for mass production, while modeling method is time consuming and expensive since it involves the use of fabric. Flat pattern method is cheap and inexpensive and is faster than any other method of pattern drafting (Igbo and (Iloeje 2003). After drafting the basic blocks, it was necessary to make adjustments on the drafted pattern for each size category in order that the main measurements of the models may correspond with their personal proportions in order to ensure that the balances of the coats are retained. This is in line with Ezema (1996) as regards creating an illusion that may camouflage. However, more importantly, the patterns were first trued following the steps in (Igbo and Iloeje 2003). The basic methods of general alteration that were applied involved either reduction or enlargement of appropriate positions on the width required the division of the additional amount of material between back and front and equally between left and right sides of the garment. For example, to increase the bust and waist measurements by 5cm, an insertion of 1cm strip from shoulder to waist in each quarter of the bodies was necessary. The final points of alterations were made when the dresses were fitted. As already noted, the widest alterations were at the hips, waist and bust. Drafting adopts an engineering approach to pattern designing based on a set of body measurements. Okorie (2000) regards creativity and knowledge of measurements as imperative characteristics of garment designers. Draft patterns usually rely on basic pattern as foundation or master pattern. Ezema (1996) described structural design as different from decoration design.

Marshall *et al* (2000) defined fit as correspondence to form of a piece of clothing to one's body. To obtain a more realistic fit, manufacturers today fit their garments pattern on fit models that suit their ideals (Marshal *et al* 2000).

The researcher used the measurements obtained from the workers and the means to draft the functional clothing for workers in food service enterprises in tertiary institutions of Anambra state.

The third research question was concerned with how the constructed functional clothing on workers was validated by judges/experts in clothing. The mean ratings of the functional clothing by the judges/experts are approximately 2.9 with a range of 2.5 to 3.5. Some of the functional clothing could not score 100% in wearing comfort. This could be explained in terms of human imperfections in various dimensions. This could be attributed to measurements errors or perhaps minor errors or adjustment.

Another explanation for some of the dresses being slightly uncomfortable derives from the differences in the stance of the models between the measurements session and the trial fitting. Kenneth (1994) suggested that the weather and time of the day can changes people's stance and so causes changes in their body measurements.

Conclusion

The findings of this study have led to the following conclusions. It is possible to develop satisfactory functional clothing using features identified by judges in the area of clothing. A wide range of features were identified including size of buttons, pocket size, length of sleeve, size of neck, narrow breast pocket slit at the back and cap to cover the hair. One size of coat will not be comfortable for all the workers. Therefore, the coats were made in three categories of small, medium and large. This was found out to be comfortable and ensure that coat fitted the workers and were neither too big nor too small. It may be concluded that three sizes were comfortable to take care of all the workers. The flat pattern method is suitable for the development of basic blocks for the functional clothing. The use of mean body measurements for small, me0dium, and large sized persons ensured that the functional clothing made would be satisfactory for use.

Recommendations

1. The use of functional clothing for workers in food service enterprises in tertiary institutions in Anambra State should be made mandatory to ensure protection of their clothes from dirt and spills from oils and tomatoes purees.
2. The blocks developed can also be used for teaching pattern adaptation to students of clothing and textiles and fashion students where the blocks can be manipulated into wide variety of both garment styles. This is necessary to equip the students with the technical skills needed to successfully operate self-employment ventures in pattern development upon graduation.
3. Features of functional clothing as identified in the study should be considered while making functional clothing for workers in food service enterprises in tertiary institutions of Anambra state.

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