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Human Body Shape Variation of Bangladeshi Young Men Aged 20 -25 Years

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Resumen

Introducción: Describir las variedades de la forma del cuerpo humano es, en un sentido general, esencial para numerosas aplicaciones que van desde la vitalidad hasta el diseño de elementos. Esta investigación tiene como objetivo desarrollar los tipos de formas del cuerpo humano de los hombres disponibles en Bangladesh**. Métodos:** Bangladesh tiene más de 5000 fábricas de ropa. Para crear un cliente fiel y una marca propia en Bangladesh, es muy importante tener una tabla de tallas específica para este país. Para desarrollar una tabla de tallas específica, el primero intenta detectar la variación de la forma del cuerpo. **Resultados:** En esta investigación, los autores tomaron el cuerpo humano de 500 hombres de diferentes regiones de Bangladesh para detectar la forma humana. La mayor parte de la edad del cuerpo está limitada a 20-25 años. Después de poner todos los datos resumidos en el gráfico X e Y, el autor trata de detectar los tipos de formas corporales disponibles en Bangladesh. **Conclusiones**: Los resultados finales de esta investigación ayudarán a desarrollar la tabla de tallas individualmente para diferentes tipos de cuerpo masculino.

Palabras Clave: Antropometría, Cuerpo Humano, Edad, Encuesta, Análisis.

Abstract

Introduction: Describing the varieties of the human body shape is in a general sense essential to numerous applications going from liveliness to item plan. This research is aimed to develop the types of men's human body shapes available in Bangladesh. **Methods:** Bangladesh has more than 5000 garment factories. To create a loyal customer and own brand in Bangladesh it is very much important to have a specific size chart for this country. To develop a specific size chart, the 1st attempts to detect the body shape variation. **Results:** In this research, the authors took 500 men's human body from different regions of Bangladesh to detect the human shape. Most of the body age is limit to 20-25 years old. After putting all the summarized data in the X and Y graph the author tries to detect the body shape types available in Bangladesh. Conclusion: The final results of this research will help to develop the size chart individually for different types of men's body.

Keywords: Anthropometry, Human Body, Age, Survey, Analysis.

Introducción

In our country, the readymade garments industry acts as a catalyst for our development. The "Made in Bangladesh" tag has also brought glory to the country, making it a prestigious brand across the globe. Bangladesh, which was once termed by cynics a "bottomless basket" has now become a "basket full of wonders." by maintaining 6% annual average GDP growth rate and has brought about remarkable social and human development. Many world-renowned buyers are working in Bangladesh. Those buyers and retailers came from the USA, UK, Japan, Australia, India, and other European countries to follow up their bulk orders by setting up a regional office. Nike, H&M, Polo, US Polo, Ralph Lauren, Salomon, Diesel, Lindex, Lululemon Athletica Inc, Walt-Mart, Levi's, GAP are the most popular international clothing buyer. But in Bangladesh, there are no specific garments size charts although there's a huge similarity in body shape across in South-Asian countries, especially

between Bangladesh, India, and Sri Lanka. A size chart is a document that reflects the measurements for your size range within our brand. Typically, a public size chart is characterized by 04 (Four) main measurements, bust, waist, hip, and height. Our internal size chart will have more specific measurements to compare your garment fit to. If we observed the body shape variation among 25-30 years men in Bangladesh and come up with a specific garments chart for Bangladesh, we can ensure a balanced and fitted garment for our people and can go for vast production. Through our work, we will try to focus on body shape variation among 25-30 years men in our country which will help to develop a size chart further so that we can create a huge market of our own and can introduce ourselves as a buyer and where the factories will go for vast production for the people of our country.

The Flow of the Research

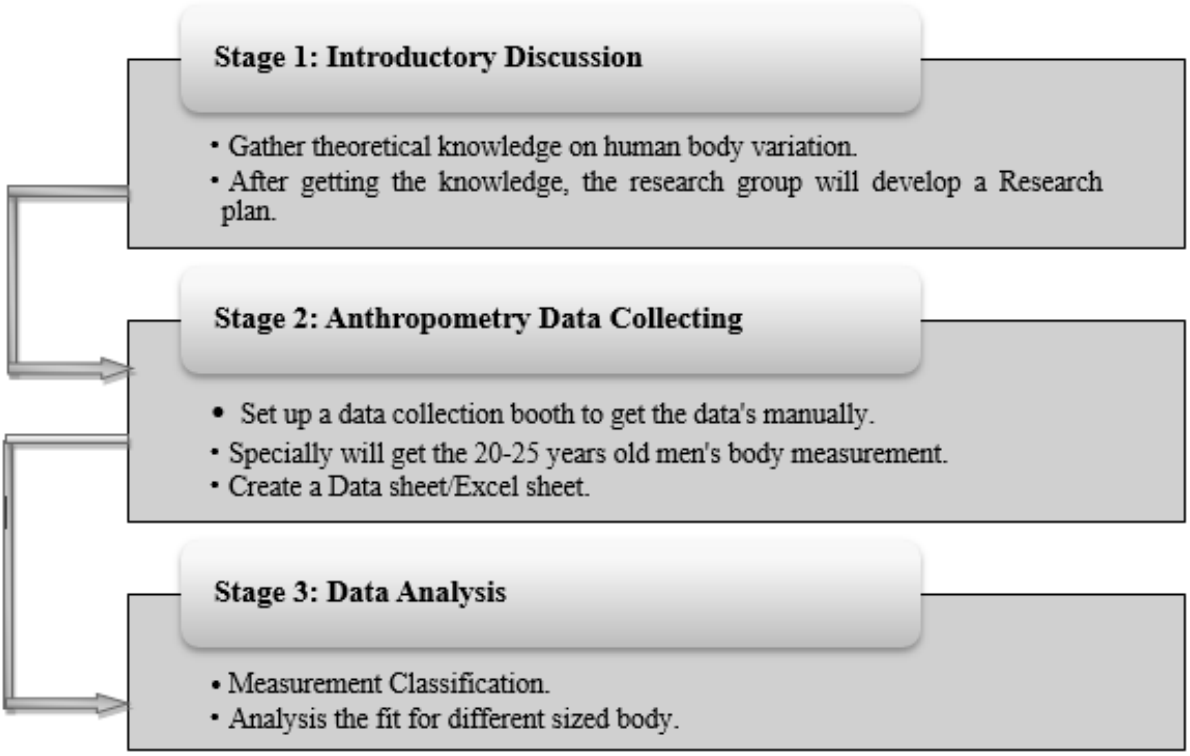

Figure 1. Flowchart express the working process

Material and Methods

To perform the study sample model and data analysis were performed.

Cluster Analysis

Participants of this study were students, who were randomly selected at the Bangladesh University of Business and Technology (BUBT), Mirpur, Dhaka, Bangladesh. The 500 male students whereas ages ranging from 20-25 years were conducted by taking full body anthropometric measurements. They are from Dhaka, Chittagong, Khulna, Barishal, Rajshahi, Sylhet, Mymensingh, and Rangpur divisions of Bangladesh. A survey containing 25 individual body anthropometric measurements was prepared to collect data from these areas. The measurements were measured using a measuring tape, weight balance/Scale, and height measurement scale. The process of taking measurement data was accurate and reliable.

Data Collection

Data has been collected at the premises of the Bangladesh University of Business and Technology (BUBT) by setting up a “Data Collection Booth” for 2 weeks.

In the collection booth, the research team has collected the following Anthropometrical data.

1. Height
2. Weight
3. Chest
4. Waist
5. Neck
6. Sleeve Length
7. Shirt Length
8. Shoulder Span
9. Hip

The team encouraged male students between the ages of 20 to 25 years to provide data after discussing the aim and objective of the research project.

Data Analysis

500 male students with an age range of 20 to 25 years from different divisions of Bangladesh were measured. Body shape variation was done by dividing the data into different criteria as follows:

62 – 63 inches in category 1

64 – 65 inches in category 2,

66 – 67 inches in category 3,

68 – 69 inches in category 4,

70 – 71 inches in category 5

72 and more inches in category 6.

In this way, we have distributed the 500 data into 6 categories according to height. Each category again divided into four categories separately according to their bust where we noticed that there are some criteria where are no students can be found and there are some categories where the number of students is more. We average the body measurements for each category separately and try to develop a chart.

Results

Table 1. Number of samples for different Height

Height (inch) ▪ 62" – 63" Height1 ▪ 64" – 65" Height2 ▪ 66" – 67" Height3 ▪ 68" – 69" Height4 ▪ 70" – 71" Height5 ▪ 72+" Height 6	**Age (yr)**	**Total number of Subjects**
Height 1	20-25	36
Height 2		137
Height 3		171
Height 4		111
Height 5		37
Height 6		8

Heights are divided into six criteria (e.g., Height 1, Height 2, Height 3, Height 4, Height 5, and Height 6) where the maximum 171 samples is falling within the "Height 3" and the minimum falls within the "Height 6" criteria.

Table 2. Number of subjects in different Divisions.

Division	Number of subjects
Dhaka	68
Rajshahi	71
Sylhet	56
Khulna	156
Barishal	111
Rangpur	38

The samples collected are heterogeneous categories where the sample of category “Khulna” is predominant

Table 3. Summarize the total measurements according to the height of the body

Height1	Chest	Weight	Neck	Sleeve Length	Shirt Length	Chest	Waist	Shoulder span	Hips
	(65-74)	0	0		0	0	0	0	0
	75-84)	54	36	69	63	79	79	42	89
	(85-94)	55	40	58	63	87	80	43	92
	95-120)	76	39	69	69	102	104	43	104
Height2	(65-74)	49	35	68	61	73	69	42	84
	(75-84)	56	37	63	66	80	77	41	87
	(85-94)	66	37	67	65	90	86	43	96
	(95-120)	76	40	72	68	99	45	45	102
Height3	(65-74)	48	35	72	66	72	74	49	80
	(75-84)	54	35	72	66	80	77	45	88
	(85-94)	67	37	71	67	89	85	45	96
	(95-120)	79	41	74	68	100	96	46	103
Height 4	(65-74)	53	31	76	70	70	75	45	82
	(75-84)	59	36	71	66	82	76	44	90
	(85-94)	69	37	72	67	89	82	45	96
	(95-120)	77	40	73	68	98	93	47	103
Height5	(65-74)	0	0	0	0	0	0	0	0
	(75-84)	54	34	71	65	79	81	43	89
	(85-94)	72	38	65	69	92	83	46	97
	(95-120)	83	41	76	70	102	87	49	104
Height6	(65-74)	0	0	0	0	0	0	0	0
	(75-84)	0	0	0	0	0	0	0	0
	(85-94)	60	32	82	69	86	79	44	90
	(95-120)	79	39	76	70	98	86	43	104

N.B: All measurements are taken in cm.

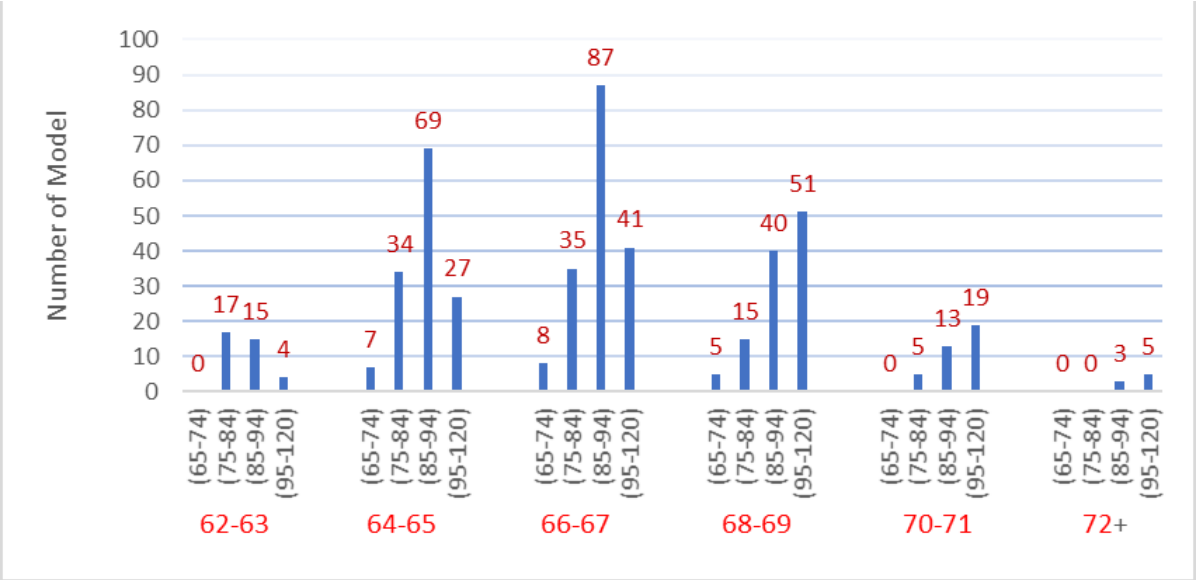

Figure 1. Human body shape variation chart aged between 20 to 25 years

Discussion

From the above study, it is observed that there is no sample in the 62-63-inch group whose busts fall between 65 -74 cm. On the other hand, there are 17 samples whose bust is 75-84 cm. (Table 1, Fig 1). Again, one can observe that when the height is 64-65 inch there are the highest number of samples (69 students) whose busts fall down between 85-94 cm and only 7 students is present in the group where their busts fall in between 65- 74 cm. When the height is 66-67 inches there are the highest number of samples (87 samples) whose busts fall down between 85-94 cm and only 8 students is present where their busts are between 65- 74 cm. When the height category is 68-69 inches, there are the highest number of samples (51 samples) whose busts fall down between 95-120 cm, and only 5 samples are present where their busts in between 65- 74 cm. When the height is 70-71 inches, there are 19 samples whose busts fall down between 95-120 cm and only 5 samples are present where their busts among 75- 84 cm. And there are no samples whose bust falls between 65 -74 cm. As the height increases, the number of samples decreases, Similarly, when the sample height is 72 inches, only 8 students' busts fall down between 95-120 cm. And there are no samples whose busts fall between 65 -74 cm and 75-84 cm. At the end, one can say that the samples of 66-67-inch heights are being observed more whereas the students of up to 72-inch heights are very less. On the other hand, the numbers of students whose busts are in between 85-94 cm are very high.

Conclusions

This is the primary study to detect the human body shape for a particular age for a small group of samples. In future studies, the research team has to take a minimum sample of 10,000 human bodies for the final conclusion to detect the actual variation and put these all types of data into US, EEC, India, and Sri Lanka size chart to compare all the data. This is the validation of those data. Finally, this research will make the impact of the size chart development in future that will be a new and innovation for textile industry of Bangladesh.

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Conflicts of Interest

The Author Has No Conflicts of Interest to Declare That They Are Relevant to The Content of this Article.

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