



# Anthropometry in Bangladesh Limitation, Possibilities and Future

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## Abstract

Anthropometry is very essential survey for any country. Bangladesh has huge amount of garments factories. We have above 0.23 million people. Maximum of the people wear export garments. We haven't any specific body size chart to determine any body shape. The main aim of this study to find out and summarize the information about anthropometry analysis conducted in Bangladesh. This study will summarize the information about which age, area is included in previous research. After summarizing those data, the author tries to find out the limitation of those research. This study will also propose the possibilities and future of Bangladeshi anthropometry analysis. This study will help for further and improve the next research.

**Keywords:** Anthropometry; Bangladesh; Size chart; age; survey

## Introduction

The word "anthropometry" is gotten from the Greek word "anthropo" meaning "human" and the Greek word "metron" meaning "measure" [1]. Anthropometry is the study of estimating the human body & its parts [2]. The adult persons are the main productive source of any country. In Bangladesh adults are mostly working people & they mostly work in the industrial section. But in Bangladesh there is no appropriate anthropometry data for adult persons. Anthropometry is the key factor of workplace design. Anthropometric data is very essential for product design, machine design & other applications. So, the study was important to conduct for ergonomics intervention. Anthropometry is very commonly used as a tool to estimate the nutritional status of populations, and to monitor the growth and health of individuals. There are three most frequently anthropometric indices used such as, weight-for-height, height-for-age, and weight-for-age. The weight for height is an indicator of the present state of nutrition and height for age is an indicator of past nutrition [3]. The anthropometric assessment of a population should help in identifying groups at risk of poor functional outcomes (morbidity and mortality), and who needs further evaluation or intervention. The anthropometric study was conducted to compare with other populations to assess the

severity. So, that anthropometry has been an extremely useful tool for determining the nutritional status of both individuals and populations. Studies have been in our country the anthropometric data is very limited [4]. In Bangladesh, we have maximum 0.2 billion people. Most of the people of this country wear export garments only. Very few amounts of people wear tailoring garments. We have not any specific size chart to determine the body shape. In figure 1 shows the body types of Bangladeshi men for clear understanding (Figure 1). That's why the Bangladesh cannot create any own market for their people. Few of the brands like Aroong, Sada Kalo etc are trying to set their own product in their show room. But most of the people are not satisfied about their product conform, size etc. that's why the author thinks that furthermore research needed in this very important fields [5]. For conducting and helping the researcher this study has conducted. Some specific objectives of this study have summarized in bellow:

- a) To sum up, the past research identified this field.
- b) To find out the limitation of previous research.
- c) To propose the possibilities and future for further study.



Figure 1: Body shape types of Bangladeshi men.

## Material And Method

The information has collected from different journals, website, and research web site for collecting the information to analyze.

## Results

Table 1: Summary table of different research conducted in this area.

| Serial No | Research title  | Authors                             | Journal with details   | Key findings   |
|-----------|---|-------------------------------------|--|--|
| 1         | Development of anthropometric data for Bangladeshi male population                | Mohammad M. Khadem, Md Anisul Islam | International journal of industrial engineering, V#44, issue 3, 2014                             | <ol style="list-style-type: none"> <li>1. Find out the setting height after anthropometry survey.</li> <li>2. Find out the mean BMI.</li> <li>3. Design ergonomics product for workstation.</li> </ol>   |
| 2         | Anthropometric Estimation of Bangladesh is living in three different are          | Md. Murad, v                        | This thesis is submitted in CRP para-medical degree (2014)                                       | This research found that male body dimension means are higher than the female body dimensions measurements mean except sitting elbow length, Chest depth, Hip breadth, sitting, Head length and Head breadth [1].  |
| 3         | Static Anthropometric Characteristics of Bangladeshi Vehicle Driver: A Case Study | PK Halder, and E Sarker             | Scientifica (Cairo). 2016; 2016: 1329612. Published online 2016 Aug 7. doi: 10.1155/2016/1329612 | This examination observed that the mean height and sitting tallness erect of Bangladeshi drivers are 1645 mm and 843 mm, separately. The mean weight list (BMI) of the drivers is 26.09 kg/m <sup>2</sup> , which shows that the drivers are overweight. The mean height of Bangladeshi driver is 17 mm more limited than the driver of Korea and 115 mm more limited than the driver of Iran [2]. |

|   |   |   |   |  |
|---|---|---|---|--|
| 4 | Hand Anthropometry Survey for Bangladeshi Female Population   | Subrata Talapatra and Nourin Mohsin                   | Proceedings of the 11th Annual International Conference on Industrial Engineering and Operations Management Singapore, March 7-11, 2021 | design or provide new design of handmade tools, equipment, and machineries according to the hand anthropometry of the female people of our country to mitigate their troubles while using those for various activities [3].                        |
| 5 | Anthropometric Measurements of the hand length and their correlation with the Stature of Bengali adult Muslim females | Syeda Zamila Hasan Laila et al.                       | DOI: <a href="https://doi.org/10.3329/bja.v7i1.301">https://doi.org/10.3329/bja.v7i1.301</a>  | The current review showed a critical ( $p < 0.001$ ) positive connection between 's height and hand lengths [4].   |
| 6 | Anthropometric Measurement of External Ear and Correlation with Age in North Regional People of Bangladesh            | Asadujjaman, Md. Harum Or Rashid, Sohel Rana          | Bangladesh Journal of Medical Science Vol. 18 No. 02 April'19. Page: 206-210  | All ear dimensions were found larger in male than in women. The result also revealed that, dimensions of ear parameters increase proportionally with the increase of age, except male left-lobe breadth and female lobe breadth in both sides [5]. |
| 7 | Importance of Anthropometric Characteristics in Athletic Performance from   | Adhikari Anup,, Pervin Nahida, Romy Nazrul Islam, Ali | American Journal of Sports Science and Medicine 2.4 (2014): 123-127   | Anthropometric attributes as far as Somatotype of the Bangladeshi competitors were helpless contrast with Olympians and other global competitors however the physiological viewpoints as far as VO <sub>2</sub> max were more                      |

### Limitations

In this study, the authors have gathered only few articles research for investigating this part. At first, most of the research has conducted by the mechanical and industrial engineering department. Most of the researcher has explained about the ergonomics, product design, ergonomics, finding out the characteristics etc related to IPE and mechanical engineering. So, here there is no research has conducted related to garments design, fit and comfort. In apparel manufacturing section needs a huge anthropometric analysis to detect the body shape of the Bangladeshi people. Then need to relate to product development, design development, ensure fit and comfort that is the main asking matter in global fashion and textile research.

### Possibilities

At present there are about 4800 garment factories in the country and 75% of them are in Dhaka. The rest are in Chittagong and Khulna. These factories have employed 35 lacks people and 85% of them are illiterate rural women. About 77% of our export earning comes from this sector. After agriculture, this is the largest sector of earning of the country people. It has a huge contribution

to ease the unemployment problem of the country. Directly and indirectly more than one core people are engaged in this sector. In Bangladesh, there are minimum 0.23 million people. Most of the people of Bangladesh wear export garments and sometimes tailoring garments. We have not any specific human body size chart to specify the garments fit, comfort. There are few brands like Cat's Eye, Westecs, Artisti, Kay Kraft, Aarong, BanglarMela, Dorjibari, Lubnan, Artnesstccreate design for local market of Bangladesh. In figure 2 shows the different types of brand logo for clear understanding (Figure 2). They order maximum 5000 psc in total. If we segregate this amount against 50 shops. We found only 100 pcs per shop. It's a huge difference than big brand. There are different reasons behind the scenario. Deferent customer choice will be different. The choice of the customer depends on some factors. They are choice, trend, color, fabric, style, fit and balance. Among those factors fit and balance is the most important factor among those factors. But in most of the case they are not so much happy about the size, comfort of the garments. So, its high time to allocate or through a big national government budget for the human body survey to develop a data sheet. If we can develop this data sheet this will help the national inventor to be a national buyer. We have huge garments factories to produce our own garments.



Figure 2: Different types of fashion brand in Bangladesh.

## Future

The total economy of our country will be increased at magic wise. Ultimately, we will be pioneer of a slandered size chart and block pattern for Bangladesh, Sri Lanka, and Pakistan. This study also will ensure the size, pattern block, fit and balance of the ultimate male customer of subcontinent country.

## Conclusion and Recommendation

In a multi-cultural society such as Bangladesh, where the populace consists of various ethnic groups with differing body shapes, the findings of the study recommend to different sections to increase the anthropometry research in Bangladesh. The findings suggest that how to increase and how to conduct these experiences. The findings of the study further indicate the need

for a representative anthropometric survey of the Bangladeshi population.

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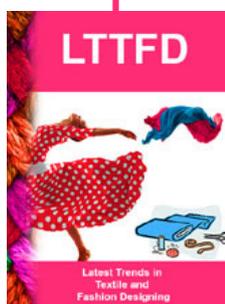
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