

## JOB SATISFACTION AND MUSCULOSKELETAL DISORDERS AMONG BUTCHERS IN DHAKA CITY, BANGLADESH

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### ABSTRACT

The meat-cutting trade is a big part of Muslim-majority Bangladesh. Not much attention has been given to the musculoskeletal disorder and job content of butchers. There are approximately seven to eight thousand trained butchers who are skilled in the two big cities Bangladeshi cities of Dhaka and Chittagong. Five thousand of them are half-trained and two to three thousand butchers are just starting the profession. There are around thirty-five thousand seasonal butchers who otherwise work as night guards, rickshaw pullers, day laborers, etc. The outcome of musculoskeletal disorder and job content was assessed, with the exposures of the participant to the psychosocial work-related factors adjusted for socio-economic conditions in this cross-sectional study with data from 124 butchers using the Job Content Questionnaire and Nordic Musculoskeletal Disorder Questionnaire. The data was analyzed using SPSS version 25. The independent factors are musculoskeletal disorders and job content which is dependent on the psychosocial job-related factors, adjusted for socio-economic conditions. 60%, 61%, 62%, and 51% butcher visited doctors for wrist problems, back pain, shoulder pain, and neck pain respectively. 31% were satisfied by recognition from peers. 61% were satisfied with job security though 63% does not want their son to join the profession. 45% stated that they do not have access to primary healthcare as facilities are quite far. The study showed that as the butchers have to sit all day, the most affected part of their bodies is the upper part. They seem content with the job as due to their low level of education, they do not have alternatives to go to. Findings will help in developing materials for having a more satisfied individual in the profession. Tailor-made directions for ergonomically designed workplaces can be developed. Educating these individuals may help them choose alternatives in case of discontentment.

**Keywords:** butchers, psychosocial factors, musculoskeletal disorders, job content.

### 1.0 INTRODUCTION

The best time for butchers in Bangladesh is during the Muslim religious festival of Eid-ul-Adha focusing on sacrificing animals. Butchering brings the highest amount of money when compared to other businesses during the three days of Eid-ul-Azha, the second biggest Muslim festival.

There are approximately 50,000 skilled and semi-skilled seasonal butchers according to the meat traders in Dhaka, who do brisk business by skinning and processing sacrificial cattle

including cows, and buffalo during the three days of EidulAdha. The job of a butcher is not an easy one. Dressing meat is not an easy job and the occasion requires fast and proper cleaning of the meat. This opportunity creates a window of higher charging of money. The range of money that can be earned is BDT 10,000 to more than BDT 50,000 depending on the skills from seasonal, semi-skilled to skilled. They are in charge of preparing 5-8 cattle each for three days. According to RobiulAlam, secretary general of the Bangladesh Meat Merchant Association, there are around 7,000-8,000 skilled and trained butchers in the two big cities, Dhaka and Chittagong of Bangladesh. Of them, 5,000 are half-trained butchers and 2,000-3,000 are beginners. Besides, there are around 35,000 low-paid workers like night guards, rickshaw pullers, and day laborers who work as seasonal butchers. (Unb, 2017)

There is no organization for butchers in Bangladesh according to a butcher interviewed. This interviewee also has doubts about the sustainability of this profession, so is saving money to open a garment or meat packaging factory as the occupation is hard to continue as a person ages. There is an association for meat shop owners but this association focuses solely on the interest of the owners. An organization that focuses on the benefits of the butchers should fix rates to dress an animal with set rates for professionals and seasonal workers. (Hossain I, 2016)

In a Nigerian study, it was seen how butchers face occupational hazards and health problems in Nigeria due to contact with live carcasses, blood, and body fluid. (Omokhodeon and Adebayo, 2013)

Hundi (money laundering) is the full black market. The import and export of cattle from Bangladeshi neighbor, India is not totally legal. A letter of credit is obtained by the businessman, and USD gets transferred from Bangladesh while cattle come in exchange. (Khan, 2016)

Lots of skill is required to become a good butcher. The development of the butchers is related to the development of the nation. (Khanal and Poudel, 2017) It is hard to domesticate the cattle. Tk 30-35 crore (1 crore= 10 million) of skin gets wasted every year which can be used by the leather industry. Cattle by-products can be exported abroad. Capsule covers are made from bones, soaps are made of fat, and the internal system of the cow is sold in the range of USD 12-14. Most bones are exported to Japan. Cattle blood goes to make catfish feed.

The price of meat is double what it can be sold for. The secretary-general has been in this trade for 11 years (training) of age for 53 years. He stated that skills should be given to meat laborers. BDT 60- 70 crore worth of meat can be exported. Five states of India-West Bengal, Assam, Tripura, Mizoram, and Nagaland bring up cows to sell to Bangladesh. The money is set at BDT 145,000 per cow. when money is given for 10 cows to come in, but instead more cows are brought in, a shooting occurs at the border due to discrepancy. The discrepancy or money laundering is around BDT 60 crore.

Police can only confiscate meat if the meat is diseased. Organizations like Bengal Meat are exporters of meat. When a butcher enters the trade, they first need to learn about wastage removal at an early age. Many people have a track of working in the profession for 50-60 years. There are lots of Biharis who are stranded Pakistanis in Bangladesh after the

Liberation War in 1971. They are present in this occupation in huge numbers. In Bangladesh, 1 crore people depend on this trade and associated jobs. (Dey, 2019)

### **1.1 Meat Industry in Bangladesh**

The Department of Livestock Services reports that as of February 2018, 40% of meat is produced by poultry, 12% by sheep and goats, and 48% of meat are produced by cattle (cow and buffalo). Bangladesh is currently producing 121.74 grams of meat per person, the department reported, compared to a daily demand of 120 grams. India's livestock farmers are benefiting from restrictions on cow imports. In order to help the nation, attain meat self-sufficiency for the first time, many young people established farms. The government reports that Bangladesh produces 121.74 grams of meat per person daily compared to a daily demand of 120 grams of meat per person. Breeds with higher yields, higher profit margins, and lots of job opportunities are introduced. Farmers were inspired by the poultry revolution and the enormous demand for meat. Thousands of young people invested in livestock as a result of India's ban on exporting cattle to Bangladesh. Many folks continued to go without meat every day. "There is no doubt that production has improved significantly, but we are still in deficit. The government's assertion is not supported by science and is based on speculation. (MM, 2018).

The butchers in Bangladesh play a huge part in the meat industry, very much required in the country due to its huge Muslim population. No study has been conducted till now except for some baseline studies on this occupation. The study is required to see the content of the job and musculoskeletal disorders which affect this occupation. This study will help in health awareness programs for butchers and also help in the sustainability of this occupation.

## **2.0 MATERIALS AND METHODS**

### **2.1 Study Design**

The design of the study is cross-sectional. In this study, the job content and musculoskeletal disorders among Butchers in Dhaka City, Bangladesh were seen.

A cross-sectional study's inclusion and exclusion criteria are simply used to choose the participants. All of the males employed at the chosen bazars were included in this study. Men who did not want to participate were given the option of exclusion. Following the selection of participants for the study, their exposure and results were evaluated. The sample size was determined using OpenEpi, and the odds ratio for a heavier workload was drawn from a prior study on Nepalese butchers. (Khanal and Poudel, 2017) There were 124 people in the sample.

### **2.2 Sampling Procedure**

#### **2.2.1 Sampling Technique**

Multistage sampling was used as the sampling method. This kind of cluster sampling is intricate. It entails grouping the population into units known as clusters. The cluster is then sampled after one or more clusters are randomly selected. The many bazars in Dhaka city are the clusters in the current research. Utilizing every member in the chosen clusters might be

costly and pointless, thus doing so is not encouraged. Random samples are chosen from each cluster during multi-stage sampling. Building the clusters is the initial step. The second step is when all of the components are utilized in the clusters. This method is helpful when there isn't a comprehensive list of the population's members. (Sadoh, Fawole, Sadoh, Oladimeji, & Sotiloye, 2006)

Before choosing the final participants, there may be a number of levels of cluster selection utilized in various circumstances. Bazaars in Dhaka were segmented into "collection regions" for this study, and districts within these collection areas were chosen (Stage 1). After that, blocks were created inside the specified collection districts (areas). After that, the regions were selected from each cluster (Stage 2). Selection of butchers from each step was required for (Stage 3). Only participants from certain bazars were researched using cluster sampling, either in a single stage or many stages.

Total number of bazars → 5 bazars selected → 124 participants from 5 bazars

### 2.3 Study Instrument

Instead of concentrating on data collecting through interviews, observations, or content analysis, a standardized questionnaire was employed. The questionnaire's closed-ended questions yielded quantitative results that may be used to examine job content. The study is organized, and the findings were presented in an unbiased language.

A combination of two validated questions was utilized to create the data collection tool. The present state of workplace bullying and stress induced by psychological work-related aspects such job content, timetable, co-worker relationships, and home-work interaction is shown. This study also revealed the level of musculoskeletal disorders in butchers.

With a total of 27 items, the Job Content Questionnaire (Core QES-Quality of Employment Survey) (Karasek et al., 1998) focuses on addressing issues with regard to job content, workplace bullying, interpersonal relationships at work, and home-work interaction. JCQ, is a questionnaire used to analyze the psychosocial aspects of work. The tool is intended to assess social and psychological aspects of employment. The high-demand/low control/low-support model of job strain development is measured using the three most well-known scales: (a) decision latitude; (b) psychological demands; and (c) social support. First, the risk associated with stress is predicted by the demand/control model, followed by the active-passive behavioral correlates of occupations. The physical demands of the job and job insecurity are two additional characteristics of labor demands that are evaluated. Any scale may be used to analyze employment characteristics at the micro level, such as determining the relative risks of a person's exposure to various work environments in order to forecast the development of illnesses related to the job, such as depression, coronary heart disease, musculoskeletal disorders, and reproductive disorders. The measures have been utilized in such research because they enable testing of activation, worker motivation, and job satisfaction hypotheses. The conceptual foundation of the JCQ permits its use in social policy as a gauge of the caliber of the work produced.

The type and intensity of self-rated musculoskeletal complaints have been evaluated using the Nordic Musculoskeletal Questionnaire (MSQ) (Kuorinka et al. 1987). The questionnaire

comprises questions regarding the occurrence of musculoskeletal issues in the last week and the previous year in nine body regions (neck, shoulders, elbows, wrists/hands, upper back, lower back, hips/thighs, knees, and ankles/feet). Thus, it is possible to determine the weekly and yearly prevalences of MSD. In addition, the second set of inquiries seeks in-depth information regarding MSD issues affecting the neck, shoulders, and lower back. The data gathered in these areas include the total amount of time during the previous 12 months that the symptoms persisted if job or leisure activities were curtailed as a result, and other pertinent information and how much time was spent away from regular employment overall, and if a doctor or other healthcare provider was consulted.

#### **2.4 Translation of Instrument**

First, the instrument was translated. Two translators performed forward and reverse translations on July 11, 2019. One translator translated from English to Bengali in the forward direction, while another performed the opposite, translating from Bengali to English in the reverse direction. The confusing phrasing and weaker phrase choices in the translations were contrasted and criticized. After translation, BILS's Research Head reviewed the text. Face validity was completed after content checking. To prevent misunderstanding some phrases, misunderstanding some directions, and using the wrong terms, five to ten respondents were chosen to reply to the surveys. Following that, the questionnaire was distributed to the respondents. With regard to input, the researcher was consulted. To collect data, two enumerators provided by BILS were employed. Before the data was gathered by them, they received adequate training. For proper data gathering, the researcher was present.

#### **2.5 Study Area**

The study areas were shortlisted after consultation with the General Secretary of the Meat Merchant's Association, Bangladesh as Jhigatola Bazar, Meradia Bazar, KhalailMangshoBitan, Mirpur 11 and 12 Bazar.

#### **2.6 Data Collection**

With the use of a combined questionnaire from the Musculoskeletal Disorder Questionnaire and the Job Content Questionnaire, data was gathered. After translating both ways, administering the questionnaire, validating it, and collecting the data, the findings were then analyzed.

#### **2.7 Study Variables**

Musculoskeletal conditions and work content are the dependent variables. The independent variables are psychosocial job-related variables, such as job content, work schedule, workplace relationships, home-work interaction, bullying in the workplace, the socioeconomic characteristics, such as age, education, and marital status. To understand the comforts accessible for the work, questions are asked concerning access to basic healthcare as well as water, sanitation, and cleanliness.

#### **2.8 Statistical Analysis**

For analysis, the Statistical Package for the Social Sciences (SPSS) version 25 was used to estimate frequencies and percentages. Utilizing specific score elements for each questionnaire, the raw data collected through the use of surveys were analyzed. It employed univariate, bivariate, and multivariate analysis.

Univariates with p-value  $\leq 0.05$  or were reported significant in other studies were further analyzed using multivariate stepwise binary logistic regression to determine the p-value and adjusted odds ratio. A p-value of  $\leq 0.05$  was considered as statistically significant. Data was analyzed using the Statistical Package for Social Sciences (SPSS) version 25.0.

We looked at prior research to determine the cut-off point for grading surveys. For instance, the Job Content Questionnaire defines the decision latitude as the sum of two subscales with equal weight. Decision authority is measured by three items and skill discretion by six factors (keep learning new things, can grow skills, job demands skills, task diversity, repetition, and the job requires inventiveness) (have the freedom to make decisions, choose how to perform work, and have a lot of say on the job). Five questions make up the second scale, which measures psychological occupational demands (excessive work, conflicting demands, and insufficient time to work, work fast, and work hard). The psychological demands vary from 12 to 48, the decision latitude from 24 to 96, and all questions are graded on a Likert scale from 1 to 4. (A slightly different method was employed in published articles from the Cornell Blood Pressure Study to determine the decision latitude scale score which did not multiply the score by two. As a result, the decision latitude score in articles from the Cornell study ranged from 12 to 48. (Smith, 1974)

## 2.9 Ethics approval of research

A crucial component of research is an ethical consideration. The basic line of demarcation between right and wrong may be found here. Ethics demonstrates what behavior is appropriate and inappropriate. For this endeavor, doing research on butchers required receiving ethical permission. This was made sure by BILS. The researcher upheld and safeguarded the research's integrity and caliber. Each participant signed a document requesting their informed permission. The researcher is required to protect the participants' privacy and anonymity. The absence of coercion or forced involvement was carefully monitored. The study was independently directed by a researcher.

## 3.0 RESULTS

Most of the respondents have their origin in the capital, Dhaka in the age range of 30-50 years old. They have not moved much in search of jobs. The origins have been divided by the division of Bangladesh. Few respondents stated that their origin is in India. It must be mentioned that many of the individuals in this occupation are Biharis who are stranded Pakistanis after the Liberation War of Bangladesh. Most of the respondents are married. Many respondents from Jhigatola Bazar have their spouses working as maids in the Middle East on working visas. These males look after the household and the children. There were very minor differences between the alone (49.5%) earning and others earning (50.5%) groups. Only 86% of the respondents want their sons to join the occupation, even though they seem content in the job. They feel that their sons can do better jobs if they are educated.

Approximately 62% of respondents stated that they do not have access to primary healthcare. Whenever they have a cut, they use gauge clothes as bandages. There was a suggestion for government to deploy Bangladesh Civil Service (BCS) doctors at pharmacies where they take services from. This is a good suggestion as many BCS doctors do not want to go to rural areas to serve.

Most of the respondents (61%) feel that they are very secure in their job as well as very satisfied (47%). This may be because they are not very educated and obtain this skill from a very young age. They do not have any knowledge otherwise. The highest number of respondents stated that they have been in this trade for more than ten, but less than twenty years. Most of the 124 butchers (around 45%) are very satisfied with their salary though they may not be optimally satisfied with the trade. Approximately, 72% of the butchers are moderately satisfied with their occupation. 69% of the respondents are neither satisfied nor dissatisfied with the recognition of the supervisor. Most of the respondents (70%) are satisfied with their interaction with peers. Most of the butchers (55%) have visited the doctor for neck problems and upper back problems in the last 12 months.

**Table 1. Association of access to primary healthcare to lower back pain**

<i>Regression Statistics</i>	
Multiple R	0.319069
R Square	0.101805
Adjusted R Square	0.082279
Standard Error	0.473436
Observations	48

  

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	1.16864	1.16864	5.213842	0.027075
Residual	46	10.31053	0.224142		
Total	47	11.47917			

  

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.684211	0.076802	8.908817	1.4E-11	0.529617	0.838804	0.529617	0.838804
X Variable 1	-0.38421	0.168264	-2.28338	0.027075	-0.72291	-0.04551	-0.72291	-0.04551

**Table 2. Association of service tenure and pain in neck**

<i>Regression Statistics</i>	
Multiple R	0.2845
R Square	0.0809
Adjusted R Square	0.0680
Standard Error	0.2455

Observations 73.0000

## ANOVA

	df	SS	MS	F	Significance
					F
Regression	1	0.3769	0.3769	6.2510	0.0147
Residual	71	4.2807	0.0603		
Total	72	4.6575			

	Coefficients	Standard	t Stat	P-value	Lower	Upper	Lower	Upper
		Error			95%	95%	95.0%	95.0%
Intercept	-0.0313	0.0492	-0.6370	0.5262	-0.1294	0.0668	-0.1294	0.0668
X Variable 1	0.0058	0.0023	2.5002	0.0147	0.0012	0.0105	0.0012	0.0105

Regression, it shows that the p-value (0.02) is less than 0.05 so there is a strong association between greater access to primary healthcare and lower back pain.

Regression, it shows that the p-value (0.0147) is less than 0.05 so there is a strong association between service tenure and pain in the neck. When the butchers have worked over a long period of time, they are prone to have higher neck pain.

#### 4.0 DISCUSSION

The butchers want certificates to be recognized as working in a proper profession. They do have sufferings and diseases. They do not have any pension scheme. There was one butcher who does not take part in meat cutting anymore and just gets rid of the skin. There have been incidences where the butcher has been working at a Maldives resort as a cleaner. The salaries have not increased even if the cost of commodities has increased. They do not have any aid from the owner. There was a shop, Khalil Mangsho Bitan (Khalil Meat Shop) which follows business ethics and management organogram with a proper manager looking after the butchers and also, proper accountants, just in charge of accounts. They also have proper PPE like using boots and gloves in the meat cutting section. Many butchers stated that they have a side business of renting out shops. They feel that Allah looks after them in case of lower money earned. Training is required for leather cutting. There was one butcher whose father is a cattle businessman. As they have to cut meat for a long stretch of time, many suffer from urine infections for not able to go to the washroom whenever required. They sometimes face blood problems due to this issue as well. They lie down when body aches. Many suffer from skin disease in the rainy season due to the mixture of blood and water in the slaughterhouse. With 8 hours duty, 15000 BDT salary is demanded like in super shops. Fixed working hours demanded and fixed salaries provide a good work-life balance. Master B3 treatment which radiates here is available for butchers. These individuals go to the hospital/pharmacy for treatment. No holiday is preferred due to no pay on no work day.

There is some father-son duos in the trade. When there is work at night, they get paid BDT 200 per night. The butchers just have the skill of meat cutting, so they feel that the work is safe. They want a fixed salary and a fixed time. Some sell muri at night. Sneezing and



coughing due to weather is an issues. They feel happy with work and feel there is no need for education. They do not have any insurance but feel empowered as feel skilled in their jobs. They do not have any set time for work. They want recognition as meat workers from International Labour Organisation and working in a set profession. They have lots of migrant Biharis and rural butchers. There are no female workers among butchers.

#### **4.1 Public health significance**

A productive employee will benefit his family, his employer, and society as a whole. If a worker is healthy, there will be less need for health care, both personally and at the job. The employee will be able to play the mother more effectively. Future generations will be better led by a better family member. The outcomes will demonstrate if the butchers are performing at their best. The study's findings can assist policymakers to determine if interventions are necessary to increase butchers' productivity. The intervention strategy can be put into action after informing the appropriate parties. In this way, the butchers' health can be enhanced. The study's conclusions may be addressed, and intervention strategies can be investigated in light of them. The results may help the industry's workers become more effective.

#### **4.2 Limitations**

Since this study employed participants' responses to questionnaires to gather information, information bias has developed, making it impossible to represent the whole population of each business. In order to lessen this, the researcher personally contacted respondents in addition to the enumerators.

In order to collect as much primary data as possible in the allotted period, a cross-sectional study design has been adopted. The design of this study prohibits drawing conclusions about causation from observed relationships.

#### **4.3 Strengths**

To the best of my knowledge, no such studies have been done in Bangladesh before. Only a few studies on butchers have been done, according to a study of the literature. Butchers have never been the subject of a study by BILS. For a better scenario in the context of Bangladesh, all of the chosen industry employees must be considered.

#### **4.5 Potential hurdles that have been faced**

The data was collected from bazaars where the head was approached before data collection. Sometimes they did not want to cooperate due to workload. As a result, the general secretary of the Bangladesh meat merchant association was contacted before approaching any Bazar for data collection. Proof of concrete consent was obtained before starting data collection.

### **5.0 CONCLUSIONS**

The meat industry in Bangladesh is huge. It is hard for this industry to survive if there are unskilled butchers who are dissatisfied with their job. The research looked at the job content and musculoskeletal disorder of butchers in Dhaka. This was accomplished by taking into

account both psychological and personal elements. Ultimately, this study will be very helpful to Bangladeshi society because these employees are striving for a big change in the economy.

A content butcher will be tremendously beneficial to society. Financially, the nation will gain since less attention is required for healthcare. The worker will eventually be able to lead a society that is healthy in the capacity of a better member of society.

The results will help policymakers create more specialized rules for butchers with higher recognition. Overall, everyone will benefit from the scenario.

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Bangladesh Institute of Labour Studies where the authors met for an internship for there then pursues a respectable course of studies.

### **5.2 Conflict of Interest**

“The authors declare no conflict of interest.”

### **5.3 Author Contributions:**

Both Tasdidaa and Fahad carried out the research together and Tasdidaa wrote the article.

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