

**A demographic study on extends of knowledge and awareness about
zoonotic diseases among livestock owners, workers and butchers in
Moheshkhali upzilla, Cox's Bazar, Bangladesh**



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Roll No: 19/69

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Session: 2018-2019

A Production Report submitted in partial satisfaction of the requirements for the degree of
Doctor of Veterinary Medicine

Faculty of Veterinary Medicine

Chattogram Veterinary and Animal Sciences University

Khulshi, Chattogram- 4225

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A Production Report submitted by as per approved style and content

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ABSTRACT

Zoonotic diseases that cause effective health and financial impact in the fastest growing economic countries such as Bangladesh. In the livestock sector, zoonotic diseases are prevalent and livestock servicers are in the high risk of zoonotic diseases. This study aims to measures the knowledge and awareness of zoonotic diseases among the livestock owners, workers and butchers of the targeted area. A total 45 respondents (where farm owners n=6, workers n=25 and butchers n=14) were selected from this area. A semi structured questionnaire-based interviews were conducted that create into three index-demographic information, knowledge and awareness. Majority of livestock workers were participated (55.55%). The maximum levels of other variables are-age in 30-40 years (55.55%), educational qualification in under SSC (55.55%), the time of experience in 5 to 10 years (53.33%), duration of working in above 6 hours (62.22%). Among the farm owners, the knowledge of zoonotic diseases is educational level in HSC (83.33%), knowledge about diseases (83.33%) and farming experiences in 5 to 10 years (66.67%). In case of workers, the knowledge of zoonotic diseases includes educational level in under SSC (72%), knowledge about diseases (48%) and farming experiences in 5 to 10 years (52%). Among the butchers, the knowledge of zoonotic diseases is educational level in under SSC (64.29 %), knowledge about diseases (21.43%) and farming experiences in 5 to 10 years (64.29 %). The awareness practices among the farm owners, workers and butchers were 72.22%, 60% and 38.093%, respectively. The percentages of being vaccinated of owners, workers and butchers were 66.67%, 24% and 14.29%, respectively. The results emphasize the need for developing effective hygienic training programs, educational companions in the rural area among targeted population, training use of modern technology and hygienic measure especially among the butchers in the means of prevention and control of zoonotic diseases.

Key words: Zoonotic diseases, Knowledge, Awareness, Livestock, Farm owners, Workers, Butchers.

Chapter 1: INTRODUCTION

Veterinary medicine is the unique subject among the medical science. The potential purpose of veterinary science is concerning with prevention, control, diagnosis as well as treatment of diseases affecting the health of livestock, poultry, pet animals and wild animals along with prevention of diseases transmission from animals to people. The primary aim of veterinary medicine is to enhance animal and human health, while also improving characteristics and minimizing the risk of diseases that are significant to public health. Veterinary Public Health is discipline that deals with zoonotic diseases for the protection and improvement of human well-being. The word Zoonoses comprise of two Greek words “zoo” means animal and “noses” mean sickness. According to WHO (2011) and FAO (1959), Zoonoses are defined as those infectious diseases that naturally transmitted between human being and vertebrate animals. Zoonotic diseases or “Zoonoses” which are comprising of an assorted group of microbes such as bacterial, viral, parasitic, fungal, rickettsia and prion disease with diversity of animal reservoirs including wild life, livestock, pet animals and birds. According to various study, emerging and re-emerging pathogens regarding are likely to zoonotic than those are not (Taylor et al.,2001; Cleaveland et al.,2001;). In the last six decades, more than 65% emerging contagious diseases are generated by the various zoonotic pathogens (National Research Council,2010; Narrod et al.,2012), are becoming global concern because of their potentiality of occurring human health hazards and socio-economic impact. According to WHO (2010), consequence of climatic changes, the incidence of emerging and re-emerging diseases has increased widely. Among various microbial disease of human, about 61% are zoonotic whereas 13% of these infections are regarded as emerging and re-emerging diseases and more than 75% zoonotic infection are being derived from emerging infectious disease (Daszak et al,2000.). It has been reported that, most of the peoples of under developed and developing countries are remaining closely with their animals and farming practices, having low education level, attaching with their cultural activities, chance of inadequate disease control programs and lack of knowledge about diseases transmission etc. associated with persistence of zoonotic diseases (John et al,2007; Asbjør,2009). Zoonotic diseases that cause mortality and morbidity of people along with inducting significant economic losses in the livestock sector. According to researchers, Zoonoses are responsible for 2.2 million human deaths worldwide per year (Human death statistics-1,2. LiveScience). Environment changes due to natural and manmade calamities, expansion of human population, indiscriminate cutting down of forest, customs and traditions of different people of different countries, migration and urbanization etc. are the factors of increasing susceptibility of zoonotic disease (Babu AJ et al, 2015;). Zoonoses, in the developing countries, have been related with farming pattern, education background, occupations, maintaining hygiene, knowledge about zoonoses and awareness about disease prevention and control program. Due to lacking's of awareness and knowledge about zoonotic diseases, are associated with the occurrence of zoonotic diseases in humans.

Livestock farm owners, livestock workers and butchers stand risk group in the transmission of zoonotic diseases as they are closely related to livestock.

Livestock farm owners who play vital role in the transmission of zoonoses though they are not spend much with animals except small farm owner. Due to ignorance of proper hygienic practices, they may be the media of diseases transmission (Hundal et al,2007). Normally, during

rearing and management practices, farm owners get exposure of disease and thrive pathogens in themselves.

Livestock workers of livestock may get exposure of zoonotic diseases about long time during rearing and management of livestock. Low level of education, lack of knowledge about zoonotic diseases and ignorance of hygiene, unawareness etc. are the factors of may infect zoonotic diseases of workers (Girma et al.). Most of the workers do not use personal protective equipment such as hand gloves, mask, sanitizer etc. during working. All activities of them are increasing risk of zoonotic disease day by day.

Butchers who constitute the high-risk group in the transmission of zoonotic diseases being the critical linkage in the meat production and processing chain at slaughterhouses (Shilenge et al ,2017). Organized and unorganized, two types of slaughterhouses are operating in the country. The butchers of the country, are miserable, the people who consume meat from the slaughterhouses have the highest chance of being infected of meat borne diseases such as Anthrax, Brucellosis, Taeniasis, Trichinosis, Toxoplasmosis, Salmonellosis, Tuberculosis, Listeriosis and so on (Bafanda et al, 2017).

Progressing awareness among the livestock farm owners, workers, butchers and practitioners and accurate diagnostic techniques and facilities of lab diagnosis could be subsidiary in prevention and control of zoonotic diseases. Consequently, a study has been conducted assessing the content of knowledge, awareness and attitude of zoonotic diseases among livestock owners, livestock workers and butchers.

Objectives of the study;

1. To measure the knowledge of zoonotic diseases among the livestock owners, workers and butchers of the targeted area.
2. To measure the awareness of zoonotic diseases among the livestock farm owners, workers and butchers of the targeted area.

Chapter 2: Materials and Methods

2.1 Study area

This study was carried out randomly selected local livestock owners, workers and butchers from various villages under Moheshkhali upzilla in Cox's Bazar.

2.2 Study population and sample size determination

A simple random sampling method was done to select the participants. A total number of 45 respondents from the different villages at Moheshkhali. Respondents, who were willing to participate in the survey was taken as sampling unit during the application of questionnaire. After the survey, we listed 6 local livestock farm owners, 25 livestock workers and lastly, 14 butchers to accomplish the study.

2.3 Study design and data collection

The respondents were being interviewed with a semi- structured questionnaire containing both open and close ended questions. The questionnaire was organized in three sections that covered demographic characteristics including respondent's -location, age, education level, working experience time, duration of exposure etc. and finally about their common knowledge and awareness towards zoonotic diseases used to collect data. The questionnaire was prepared during upzila internship placement from April to June 2024.

2.4 Data analysis

Thoroughly, every questionnaire was checked after completion of survey and any obscure and misunderstood answer were excluded during final data analysis. The questionnaire was entered into a computer spreadsheet, Microsoft excel. Moreover, descriptive data analysis like frequency, average and percentage were calculated by IBM-SPSS-27, furthermore p-value was calculated by OpenEpi online statistical software.

2.5 Objectives

The major objective of the study was to detect knowledge and awareness about the zoonotic disease in the targeted population.

Chapter 3: RESULTS

Demographic information of respondents: -

Table-1: Demographic information of respondents (N=45).

Variable	Categories	Frequency	%
Occupation	Owner	6	13.33
	Worker	25	55.55
	Butchers	14	31.11
Age	20-30 years	14	31.11
	30-40 years	25	55.55
	Above 40 years	6	13.33
Educational status	HSC	8	17.77
	SSC	12	26.66
	Under SSC	25	55.55
Time of experience	Less than 5 years	12	26.66
	5-10 years	24	53.33
	More than 10 years	9	20
Duration of working	4-5 hours	3	6.66
	5-6 hours	14	31.11
	Above 6 hours	28	62.22

According to study, most of the respondents are livestock workers (55.55%). And about 55.55% of respondents are 30 to 40 years old. Besides, the highest educational qualification of the total attendance is under SSC (55.55%). Moreover, the time of experience of respondents are 5 to 10

years which is the highest (53.33%) among the others categories. Furthermore, most of the respondent's duration of working is above 6 hours (62.22%).

Knowledge of livestock farm owners, livestock workers and butchers about zoonotic diseases: -

Table-2: Knowledge of livestock Farm Owners about zoonotic diseases (n=6).

Variable	Categories	Frequency	%	P-value
Education level	HSC	5	83.33	0.005
	SSC	1	16.67	
	Under SSC	0	0	
Do you know about Zoonotic diseases	Yes	5	83.33	0.020
	No	1	16.67	
Farming experience	Less than 5 years	2	33.33	0.049
	5 to 10 years	4	66.67	
	More than 10 years	0	0	

On the basis of investigation, the highest of educational status of owners receiving education is HSC (83.33%). Besides, about 16.67% are received SSC education level and none of them is under SSC. The p-value 0.005 is a statistically significant association between educational level and knowledge about zoonoses. Most of the owners (83.33%) have knowledge about zoonoses. The p-value is 0.020 which a significant association with variable. The farming experience of owners is less than 5 years (33.33%) where highest number of owners have 5 to 10 years' experience. None of them have more than 10 years' experience. The p-value (0.049) is a statistically significant.

Table-3: Knowledge of livestock workers about zoonotic diseases (n=25).

Variable	Categories	Frequency	%	P-value
Education level	HSC	0	0	<.001
	SSC	7	28	
	Under SSC	18	72	
Do you know about Zoonotic diseases	Yes	12	48	0.777
	No	13	52	
Working experience	Less than 5 years	8	32	0.025
	5 to 10 years	13	52	
	More than 10 years	4	16	

Among the 25 workers, most of them have an education level is below SSC (72%), where none of them achieved HSC. Besides, 18% of workers have completed their education level below SSC. The p-value is less than 0.001 which have less significant. Most of them (52%) have no knowledge about zoonotic diseases. The p-value is 0.777. The percentage of workers having working experience is 32%. Most of them, the highest experience (52%) is 5 to 10 years while about 16% have more than 10 years' experience. The p-value is 0.025.

Table-4: Knowledge of Butchers about Zoonotic diseases (n=14)

Variable	Categories	Frequency	%	P-value
Education level	HSC	0	0	0.001
	SSC	5	35.71	
	Under SSC	9	64.29	
Do you know about Zoonotic diseases	Yes	3	21.43	0.002
	No	11	78.57	

Working experience	Less than 5 years	0	0	<0.001
	5 to 10 years	9	64.29	
	More than 10 years	5	35.71	

Among the 14 Butchers, none of them have achieved HSC education level. Besides, 35.71% of having education level SSC while the highest number of butchers have an education level at the below of SSC (64.29%). The p-value is 0.001. Most of the butchers (78.57%), do not have knowledge about zoonotic diseases and the p-value is 0.002. The working experience is above 5 years and most of the butchers have 5 to 10 years (64.29%) along with having 35.71% more than 10 years working experience. And the p-value is less than 0.001.

- **Awareness practices of farm owners, workers and butchers to prevent zoonotic diseases: -**

Table-5: Awareness of farm owners about zoonotic diseases (N=6).

Variable	Categories	Frequency	%	P- value
Do you use hand gloves?	Yes	4	66.67	0.119
	No	2	33.33	
Do you use mask?	Yes	5	83.33	0.020
	No	1	16.67	
Do you use sanitizer?	Yes	4	66.67	0.119
	No	2	33.33	
Do you take vaccine?	Yes	4	66.67	0.119
	No	2	33.33	

According to the study, used of hand gloves, mask, sanitizer by owners is 66.67%, 83.33%, 66.67% respectively. The p-value of the variable is 0.119, 0.020 and 0.119 respectively. Besides, 66.67% of owners are taken vaccine for the purpose of diseases prevention. The p-value is 0.119.

Table-6: Awareness of farm workers about zoonotic diseases (n=25)

Variable	Categories	Frequency	%	P- value
Do you use hand gloves?	Yes	14	56	0.396
	No	11	44	
Do you use mask?	Yes	13	52	0.777
	No	12	48	
Do you use sanitizer?	Yes	7	28	0.001
	No	18	72	
Do you take vaccine?	Yes	6	24	0.047
	No	19	76	

The table reveal that, the livestock workers used hand gloves, mask and sanitizer 56%, 52% and 28% respectively. The p-value is 0.396, 0.777 and 0.001 respectively. Whereas 24% of workers have taken vaccine to prevent transmission of diseases from animal and the p-value is 0.047.

Table-7: Awareness of Butchers about zoonotic diseases (N=14).

Variable	Categories	Frequency	%	P- value
Do you use hand gloves?	Yes	2	14.29	<0.001
	No	12	85.71	
Do you use mask?	Yes	3	21.43	0.002
	No	11	78.57	
Do you use sanitizer?	Yes	1	7.14	<0.001

	No	13	92.86	
Do you take vaccine?	Yes	2	14.29	<0.001
	No	12	85.71	

Among the butchers, it was observed that, uses of hand gloves, mask and sanitizer are 14.29%, 21.43% and 7.14% respectively. Here the p-value of using mask is 0.002 and the rest p-value of using hand gloves and sanitizer is less than 0.001. Moreover, 14.29% of butchers have taken some vaccine to protect their selves from zoonotic disease along with less than 0.001 p-value.

Chapter 4: DISCUSSION

The ongoing major public health concern is zoonotic diseases which can be transmitted from animals to human. There are many reasons of spreading zoonotic diseases such as enhanced human and animal interactions, environmental changes, increases movement of animals towards human habitations, migration of people from one place to another place and so on.

In the rural area like Moheshkhali, there was no record available on the knowledge and awareness of zoonoses. So, this study was taken to content knowledge and awareness about zoonoses among livestock farm owners, workers and butchers.

The study which looked for the demographic characteristics, knowledge, and awareness practices about zoonotic diseases among livestock farm owners, workers, and butchers. The findings of the study pick into the levels of education, experience, knowledge of zoonotic diseases, and preventive measures practiced by these groups.

4.1 Demographic Characteristics

According to the study, it depicts that the most of the respondents are livestock workers (55.55%), aged group between 30 to 40 years (55.55%), with an educational status mostly under SSC (55.55%). Besides, working experience of respondents are the highest proportion of 5 to 10 years (53.33%) categories. The significant number (62.22%) work for more than 6 hours a day.

4.2 Knowledge about zoonotic diseases

The factors- education level, information about zoonotic diseases and farming experiences are interrelated having knowledge of zoonotic diseases among the farm owners. Here, majority (83.33%) of owners have completed their HSC and p-value is 0.005 which indicates significant association between education level and knowledge about zoonotic diseases. After that, the percentage of knowing about zoonotic diseases is notably high (83.33%) indicating aware of

such diseases and emphasizing the significance of this knowledge. Furthermore, farming experience of owners possess between five to ten years with 66.67% and p- value of 0.046 that indicates a significant correlation between farming experiences and knowledge about zoonotic diseases.

Among the workers, the highest education level is under SSC with 72% and possess a strongly significant correlation between education and knowledge about diseases and emphasizes arrange targeted educational programs to enrich knowledge about diseases. Besides, with 52% of workers saying they don't know about zoonotic diseases and reveals no significant association. And finally, in the terms of working experiences, about 52% possess between five to ten years with 0.025 p-value indicating significant relationship between education and knowing about zoonotic diseases. It indicates having association with the factors.

About 64.29% of Butchers have education levels under the SSC. The p-value of 0.001 turns a strong relation education and knowledge about diseases. Then, with only 21.34% of them know about the zoonotic diseases and the p-value of 0.002 indicates a significant association between education and knowledge about diseases. It suggests to improve educational resources could enrich understanding of zoonotic diseases. Moreover, it is reported that about 64.29% of respondents have working experience between five to ten years and the p-value of less than 0.001 reveals strong link between working experiences and knowledge about zoonotic diseases. For developing knowledge about diseases, practical exposure to the field is important. Additionally, workers can be instrumental in increasing knowledge and implementing effective health practices in the community.

4.3 Awareness practices among the respondents.

Among the farm owners reported about 66.67% using hand gloves and showing no significant association with other variables while using gloves is common, it may not be influenced by other factors. Besides, approximately 83.33% of owners use mask and have a strong significant correlation. Considering of public health, the high frequency of mask using is important in reducing the transmission of zoonotic diseases. The important fact observed throughout the study, a plenty of respondents (66.67%) use hand sanitizer before and after their activities. This result shows a significant relation in this regard. A significant percentage of owners (66.67%) are vaccinated against couple of zoonotic diseases. The improvement of outreach is showing in a significant association with the factors.

According to study, 56% of farm workers are using hand gloves which is the primary tools to protect any kind of hazards. This outcome indicates lack of significant that using gloves is not uniformity adopted or perceived as important for this context. More than half of workers (52%) are using mask that is the basic and important tools to protect any kind of diseases carry. Consequently, it shows lack of correlation in mask usage as a preventive media. The smaller

number of respondents (28%) are using hand sanitizers with critical relation in preventing diseases. It indicates having substantial gap in hand hygiene practices. The concerning result of up taking vaccine with only 24% of workers along with statistically significant a pressing public health issue. It is upholding there is a association of factors in the public health.

The present analysis found that about 14.29% of Butchers are using hand gloves which indicates usage of gloves is not common among the butchers. It suggests lack of awareness of protective benefits of gloves and public health organization focus on enhancing awareness among the communities to prevent infection. The usage of mask is vulnerable with 21.43% of total butchers and indicating strong significant relation. The low percentage rate reflects lack of awareness. It is crucial to involve them protective awareness programmed and emphasize using mask in crowded or high risk setting in mitigating diseases transmission. The crucial fact observation, 7.14% respondents are using hand sanitizers with significant finding. It turns substantial gap in hand hygiene practices that are important to reduce spread of infection. It suggests to highlight value and availability of sanitizers for reducing infection. The alarming fact of the study, the fewer of respondent (14.29%) are taken vaccine where butcher are at high risk of any meat borne diseases. The low rate of vaccination can increase the susceptibility of zoonotic diseases.

Throughout the study, it reveals that knowledge and awareness about zoonotic diseases in the targeted population of this area. It depicts different knowledge and awareness according to their occupation where farm owners are the most knowledgeable and aware than other respondents. Among the variables, education level, farming experience, aware about hygiene and vaccination are strongly associated with knowledge and awareness about zoonotic diseases.

Chapter 5: CONCLUSION

In the study, the overall percentage of knowledge and awareness with respect to zoonotic diseases is not satisfactory irrespective of different socio-demographic position, education level, information about zoonoses, hygiene maintain and vaccination of respondents. Consequently, most often either themselves or their animals do suffer and hold out. Therefore, this study recommends developing effective hygienic training programs, educational companions in the rural area among targeted population, training use of modern technology and hygienic measure especially among the butchers in the means of prevention and control of zoonotic diseases.

REFERENCES

1. Babu, A. J., Ramya, P., Rao, L. V., Swetha, C. S., Sudhanthiramani, R. K., & Venkateswara, R. A. (2015). A study on the awareness and knowledge of zoonotic diseases among the public in and around Proddatur, YSR Kadapa District, Andhra Pradesh, India. *Int J Recent Sci Res*, 6(6), 5131-5138.
2. Prabhakar, Z. N., Lokesh, M., Saidaiiah, M., & Sai, E. S. (2017). Awareness regarding zoonotic diseases among the butchers of Proddatur, Kadapa Dist., AP, India. *Iranian Journal of Health, Safety and Environment*, 4(2), 729-737.
3. Islam, S., & Ahmed, M. S. (2019). Knowledge, attitude, and practice toward zoonotic diseases among different professionals at selected coastal areas in Barguna district, Bangladesh. *Journal of Advanced Veterinary and Animal Research*, 6(3), 284.
4. Singh, B. B., Kaur, R., Gill, G. S., Gill, J. P. S., Soni, R. K., & Aulakh, R. S. (2019). Knowledge, attitude and practices relating to zoonotic diseases among livestock farmers in Punjab, India. *Acta tropica*, 189, 15-21.
5. Chowdhury, T. A., Marufatuzzahan, P. S., Shanzana, P., & Zahan, F. N. (2018). Knowledge, awareness and risks of zoonotic diseases among the smallholder livestock farmers in suburban areas of Sylhet, Bangladesh. *Adv Biol Earth Sci*, 3, 69-84.
6. World Health Organization. (2011). *FAO/OIE/WHO joint scientific consultation on influenza and other emerging zoonotic diseases at the human-animal interface, 27-29 April, 2010, Verona, Italy: consultation summary 2010*. World Health Organization.
7. (Taylor LH, Latham SM, Woolhouse ME. Risk factors for human disease emergence. *Philos Transact R Soc B (Biol Sci)* 356:983–9. <https://doi.org/10.1098/rstb.2001.0888>)
8. Daszak, P., Cunningham, A. A., & Hyatt, A. D. (2001). Anthropogenic environmental change and the emergence of infectious diseases in wildlife. *Acta tropica*, 78(2), 103-116.
9. Cleaveland, S., Laurenson, M. K., & Taylor, L. H. (2001). Diseases of humans and their domestic mammals: pathogen characteristics, host range and the risk of emergence. *Philosophical Transactions of the Royal Society of London. Series B: Biological Sciences*, 356(1411), 991-999.
10. Cleaveland, S., Haydon, D. T., & Taylor, L. (2007). Overviews of pathogen emergence: which pathogens emerge, when and why? *Wildlife and emerging zoonotic diseases: the biology, circumstances and consequences of cross-species transmission*, 85-111.

11. National Research Council (2010). Sustaining global surveillance and response to emerging zoonotic diseases. National Academies Press.
12. ohn K., et al. "Knowledge of causes, clinical features and diagnosis of common zoonosis among medical PR actioners in Tanzania".
13. BMC Infectious Diseases 2.8 (2008): 16
14. Babu, A. J., Ramya, P., Rao, L. V., Swetha, C. S., Sudhanthiramani, R. K., & Venkateswara, R. A. (2015). A study on the awareness and knowledge of zoonotic diseases among the public in and around Proddatur, YSR Kadapa District, Andhra Pradesh, India. *Int J Recent Sci Res*, 6(6), 5131-5138.
15. Girma, S., Zewde, G., Tafess, K., & Jibat, T. (2012). Assessment of awareness on food borne zoonoses and its relation with veterinary public health services in and around Addis Ababa, Ethiopia. *Journal of Public Health and Epidemiology*, 4(2), 48-51.
16. Bafanda, R., Khandi, S., Minhaj, S., & Choudhary, F. (2017). Meat Hygiene and Associated Health Hazards Awareness among Butchers and Meat Retailers in Jammu District of Jammu and Kashmir. *Current Journal of Applied Science and Technology*, 23(3), 1-16.
17. Shilenge, L. B., Shale, K., Matodzi, T., Machete, F., & Tshelane, C. (2017). A review of microbial hazards associated with meat processing in butchereries. *African Journal of Science, Technology, Innovation and Development*, 9(1), 1-6.
18. Hundal, J. S., Sodhi, S. S., Gupta, A., Singh, J., & Chahal, U. S. (2016). Awareness, knowledge, and risks of zoonotic diseases among livestock farmers in Punjab. *Veterinary world*, 9(2), 186
19. John K., et al. "Knowledge of causes, clinical features and diagnosis of common zoonosis among medical PR actioners in Tanzania".
20. BMC Infectious Diseases 2.8 (2008): 162
21. John K., et al. "Knowledge of causes, clinical features and diagnosis of common zoonosis among medical PR actioners in Tanzania".
22. BMC Infectious Diseases 2.8 (2008): 16
23. ohn K., et al. "Knowledge of causes, clinical features and diagnosis of common zoonosis among medical PR actioners in Tanzania".
24. BMC Infectious Diseases 2.8 (2008): 1
19. Assessment of Community awareness on Common Zoonotic Disease in and around Yabello District of Oromia regional State, Ethiopia. [<http://www.researchgate.net/publication/327467433>.]
20. Human Death Statistics available at <https://www.livescience.com/3780-odds-dying.html>.

Acknowledgement

I would like to bring out my depth gratitude to the Almighty Allah, by whose mercy I have been able to complete my production report successfully. I am thankful to my honorable supervisor **Professor Ms. Shahnaz Sultana**, Department of Agricultural Economics and Social Science of Chattogram Veterinary and Animal Sciences University (CVASU) who assist me with her valuable advice, leadership direction and required facilities performing this work. Besides, I would like to thank **Dr. Mahbub Alam**, Associate professor of Department of Animal Science and Nutrition, and advisor of production report of Faculty of Veterinary Medicine of CVASU whose technical guidance helped me to data analysis and writing this report.

Moreover, a special acknowledgement is given to Prof. **Dr. Mohammad Lutfur Rahman**, Dean of Faculty of Veterinary Medicine as well as **Prof. Dr. AKM Saifuddin**, director of External Affairs, Faculty of Veterinary Medicine for their vital role in constituting a diagnostic internship program and giving excellent research exposure among the students.

Finally, I hamble to express my gratitude to all my well- wishers, Family members, Class fellow and honorable Teachers for their significant support and inspiration.

BIOGRAPHY

Ummey Sahibunnesa, who is the daughter of Md Abu Talab and Taskin Ara Begum. She passed valiantly her Secondary School Certificate (SSC) examination in 2016 along with Higher Secondary Certificate (HSC) examination in 2018 under the Chattogram education board. She is currently an intern student of Chattogram Veterinary and Animal Sciences University (CVASU) under the faculty of Veterinary Medicine (FVM). She has major interest on animal medicine, zoonotic diseases, anti-microbial resistant, public health significance, vaccine and its potentiality. After completing her study, she would like to work in the development of livestock sectors, zoonotic diseases and antimicrobial resistance. Moreover, she wants to play a role in the conservation of livestock resources, public health promotion and advancement of medical knowledge in keeping with the principles of veterinary medical ethics.