

Broiler Chicken vs. Turkey Meat; which One Has the Least Bad Fat to Avoid Positive Case of COVID-19?

Maslichah Mafruchati

Department of Veterinary Anatomy, Faculty of Veterinary Medicine (60115), Universitas Airlangga, Mulyorejo, C Campus, Surabaya, Indonesia

E-mail: maslichah-m@fkh.unair.ac.id

ABSTRACT

Red meat is a source of protein which is favored by people. Poultry red meat has leaner fat and cholesterol than red meat from mammals. However, too much in consuming poultry also led to health problem. This study has an objective to analyze if there is correlation between poultry production and COVID-19 case number in the USA. The method of this study is categorized as quantitative, using secondary data as the main source of data. One of the samples is turkey and broiler chicken meat production in the USA. The data of meat production are taken from USDA official site. Another sample is the COVID-19 case in the USA from worldometer website. The result shows that there is a correlation between the number of production and addition of active case. Between august to September, the addition of active case is second of the lowest than between other months, after February to March, while the total production of broiler chicken is also the highest. Turkey meat reached the highest production in March, where the active case addition is the lowest than other months. It can be concluded that the right amount of consumption will bring benefit to health.

Keywords: Broiler chicken, COVID-19 case, production, turkey

Correspondence:

Maslichah Mafruchati

Department of Veterinary Anatomy, Faculty of Veterinary Medicine (60115), Universitas Airlangga, Mulyorejo, C Campus, Surabaya, Indonesia

E-mail: maslichah-m@fkh.unair.ac.id

INTRODUCTION

Red meat is delicious and provides most protein to human body. Red meat is easy to be purchased, since the agriculture has much technological advancement in breeding cattle [1]. Meat supply rises as the income of the society rises. Study by Wyness shows that an average person consumed 43 kilograms/year globally. The various modes of transportation and availability of infrastructure in supporting export and import makes meat consumption keeps increasing in the last 10 years [2].

Unfortunately, not all of the carcasses contain good nutrition for body. Some of the parts have rich in unsaturated fat, especially in innards. Those bad fats can cause various diseases such as diabetes, heart attack, high blood pressure, and stroke. Most common phenomenon is disease caused by the blockage of blood vessel as a result of fat stacked around the wall of vessel [3].

Too much cholesterol in the blood, especially the type of LDL, can create plaque on the walls of the arteries, which can hinder blood circulation. If left untreated, the oxygen intake to the brain will be disrupted and will cause a stroke or palsied, which can cause physical loss or disability in the body. Therefore, it is best to know which source of meat and what part of meat has low cholesterol level to be consumed for daily needs [4].

COVID-19 pandemic is still roaming around the world and there is no exact medicine or herb which can be used to eradicate the virus completely for all types of people. People with comorbidities have higher risk in infecting COVID-19 than normal people [5]. People with chronic disease have weak immunity systems which are vulnerable to get infected with COVID-19. As a result, people have to be selective to consume what types of meat are safe for their body. Red meat from poultry has lesser cholesterol level than red meat from mammals [6]. Poultry refers to the domesticated bird for meat stock purpose. Broiler is the most common poultry globally, because broiler can be breed and grow fast. Almost every

cuisine in the world uses broiler chicken as the ingredient, especially fast food which has fried chicken as the main course. Turkey is also poultry but only popular in the USA [7].

The United States of America has the biggest active case of COVID-19 as well as death number in the world. One of the reasons because the number of people with chronic disease caused by obesity or over consumption of fat is high [8]. American people like to eat fast food and food with high fat content. Fast food such as burger, hot dog, tacos, BBQ, and steak often paired with high fat sauce [9]. This study has a purpose to observe if poultry meat production in the United States of America has the impact to trigger more case of COVID-19 in the USA.

Method of Collecting and Processing Data

The method of this study is classified as quantitative using secondary data as the main source of the data. One from two samples is data of turkey and broiler chicken production in the USA. The data is taken from United States Department of Agriculture website which gives free data about agricultural products to the public [10]. The duration of the data is started from February where the first COVID-19 case appeared in the USA to September 2020. The data is estimated per million pounds. The data is presented in the table [11].

Another sample is the data of COVID-19 cases in the USA. The data are number of active cases, death case, and recovery case. The data are taken from worldometer as the free source of statistic which report daily COVID-19 case globally. The report of active case and death are started at 15 of each month, because the first active case was found on the 15 of February 2020. The report of recovered case is started at the beginning of each month. The data is also presented in the table [6].

RESULT AND DISCUSSION

Table1. Total of turkey and broiler meat production in the USA

Month	Number of consumptions	
	Turkey	Broiler
February	446,736	3418,464
March	507,029	3861,215
April	441,312	3600,263
May	427,474	3559,446
June	500,704	3779,998
July	505,105	3745,819
August	474,915	3733,88
September	473,752	3877,65

Table above shows that broiler meat consumed more than turkey several folds. It can be seen from table above that broiler meat consumption is around 3400-3800 million pounds, while turkey is only 440-500 million pounds. One of the reasons is because broiler is cheaper than turkey. Broiler can be farmed and harvested faster than turkey because the growth rate is also faster [12]. The biggest addition of meat production is during February to March. There are many important events in March, such as World Consumer Rights Day in 15 March and International Day of Happiness in 20 March 2020, where the consumption of red meat includes poultry is high [13]

One of the reasons of turkey price is because Red meat from turkey is well known in the American plains for its

beneficial nutritional properties [14]. Igenbayev et al in their study say that turkey meat has less protein and is lower than free-range chicken. Turkey breast meat contains protein around 49 percent, higher than broiler chicken breast with 46 percent protein percentage. As for the fat and cholesterol content, the fat content of turkey is around of 4 percent, while free-range chicken is higher at around 6 percent [15].

Another reason is because broiler chicken meat is more common to be used in fast food such as in KFC and McDonald, rather than using turkey. Only certain dishes use turkey as ingredient. Turkey is also used for festival such as thanksgiving. Turkey is also needs longer time to be cooked than chicken [16].

Table 2. Total of Covid-19 cases in the United States of America in 2020

Month	Case		Recovered
	Active case	Death	
February	12	0	0
March	3694	73	7
April	580491	33.339	5510
May	1.067.069	91.380	130.000
June	1.160.511	121.140	418.000
July	1.864.873	140.775	800.000
August	2.505.918	173.458	1.620.000
September	2.587.443	200.713	2.490.000

Table 2 shows that all cases of COVID-19 keep increasing in significant number each month in the United States. USA is famous for the winner of COVID-19 case number along 2020 globally. Study by Graham et al state that Trump failed to prepare for the outbreak by ignoring the warning from the overseas [17]. Trump also ignores the warning from other countries, especially China to perform national lockdown to prevent the mass dissemination of virus. Trump also has made controversial attitude to keep in carrying out presidential campaign around the nation which can create flock of people. The active case increases so much during March and April, but slow down until September. Fortunately,

the number of recovered people far surpasses the number of death, almost more than 10 times [18].

Based on the table 1, Broiler chicken production reached the highest number in September, while Turkey in March in the same year. All of the COVID-91 cases, active, death, and recovered cases also reached the highest than other months. But the rate of turkey and the broiler chicken consumption are not so significant in changes. Poultry such as broiler chicken and turkey have lower fat than red meat from mammals, especially when they are eaten without the skin. But still, turkey has leanest fat compared to other bird with similar size [19].

Similar to the study by Amirkhanov et al, which shows that Turkey meat contains lots of protein and is an

excellent source of vitamins and minerals, especially B vitamins and omega 3. These nutrients are needed by the body to support various aspects of health, including muscle growth and maintenance of damaged muscle tissues. Turkey meat also consists of the amino acid tryptophan which is useful for the body to produce serotonin. Serotonin is an important compound for maintaining the immune system [20].

Turkey meat also contains selenium, which allows the immunity system to ward off viral and bacterial infections. The antibacterial properties of turkey are useful as an antidote to the COVID-19 outbreak, although they still need traditional plants and medicines to support them [21]. For patient with diabetic or high sugar content inside the body, consuming turkey can increase insulin to be produced inside body. COVID-19 can cause congenital disease such as diabetes, high blood pressure, stroke, or respiration problem become worsening and quickly led to death. Consuming turkey can at least relieving the body to avoid the diabetes become worsening [7].

Table 2 also shows that August to September is the least addition of active case and the highest addition of recovered case. This was the good sign because more people are getting recovered and less getting infected. Table 1 above shows that the production of broiler chicken's meat far surpassing the production of meat from Turkey. However, consuming broiler chicken is not all bad. There are some health benefits in consuming broiler chicken as long it is processed in the right way [12].

Table 2 also shows that between August to September, the number of recovered people is the highest than between other months. Based on the table 1, the number of productions of turkey also decreased a bit. It can be concluded that the exact proportion of turkey consumption will bring healthiness [7].

Table 2 also shows that between May to June, the addition of active cases and death is 2nd lowest after August to September than other months. Between May to June, the number of Turkey production raised to 73,230 million pounds, while broiler chicken 220,552 million pounds. However, the total production addition was still fewer than another month. It can be concluded that turkey and broiler chicken can help people to stay healthy as long as they are consumed in normal rate.

Broiler chicken can increase red blood cells production, because it contains iron, but with lower fat content than beef in the same weight. Broiler chicken also contains Vitamin of B5 to make nerves relaxed. Broiler chicken also contains selenium, similar to turkey. Both turkey and broiler chicken contains Niacin, part of a substance of Vitamin B in preventing cells from damaged and turned into cancer [22].

But too much in consuming broiler chicken is also dangerous for human body. Table 1 shows that from February to March, the addition of meat production both in turkey and broiler chicken reached the highest than between other months. Even though meat from poultry is lower in fat than red meat from mammals, still too much fat will be condensed inside the blood veins and could be hindrance to blood circulation [12]. Moreover, in this modern era, some farms use growth promoter to poultry by using certain chemical substance. The growth promoter is usually injected into the wings of chickens and turkeys. Growth promoters contain certain chemicals that can harm human health if consumed in excess. It is

used to support the growth of broiler chickens and turkeys to boost their growth in rapid time, so they can be consumed immediately and save costs on feed and poultry care [14].

Another thing that has to be considered in consuming broiler chicken is in how the meat is being prepared. Study by shows that some of the farms do not consider about the safety of the poultry from unseen contagious disease, because they do not want to spend more money in health maintenance of the poultry to keep price of the product low. Too much maintenance cost to be spent will impact to the price of the poultry itself and will affect to business competition [23].

Broiler chickens have low body immunity, so sometimes these birds are often given high antibiotics during breeding. Therefore, if too much is consumed by humans, the body will be resistant to antibiotics. In addition, broiler chickens that are not given antibiotics are prone to exposure to salmonella bacteria, so the meat must be cooked until it is completely cooked and dry. This is in contrast to fast food restaurants where sometimes chicken's meat is half cooked or still leaves some parts that are not yet cooked [24].

CONCLUSION

Based on the result above, it can be concluded that the number of productions both of turkey as well as broiler chicken has an effect in increasing the number of active cases and death cases. Between Augusts to September, the number of active cases and death reached the highest than other months when the production number of broiler chicken is the highest. But the number of recovered also is the highest between August to September, means that the highest turkey and broiler chicken production, the highest the recovery number will be.

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