

More Milk More Number of Covid-19? Is that True Milk Can Boost Health of Covid-19 Patient?

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ABSTRACT

Milk is favored globally as a healthy drink rich in nutrition. Milk nutrition can boost health to protect the body against disease. This study has aim to observe the correlation between the number of milk consumption and information trend with recovery number of COVID case. This study uses a quantitative method, using statistics from free websites as the sample. The result shows that milk consumption correlates with the recovery case, but does not determine whether a country has a low or high recovery case. Montenegro has the highest recovery rate than Finland, even the number of consumption is lower. Thus, the popularity point does not correlate whether with the number of consumption, nor the recovery rate. Popularity point only shows the most favored topic being discussed through the network.

Keywords: Consumption, Health, Milk, Popularity Point

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INTRODUCTION

Covid-19 is the disease which is occurred first in Wuhan, China in 2019. In February 2020, health experts named the coronavirus from Wuhan, which was previously only known as 2019-nCoV, as SARS-CoV-2. This virus was discovered as a mutation from the coronavirus that caused the SARS outbreak during the 2002 to 2003 period [1]. This virus is more contagious than its predecessor, even just the physical contact can transmit the virus into the other. As a result, many countries implement lockdown and limit physical activity of their society to stop the dissemination of virus [2].

The outbreak caused by SARS-CoV-2 has been spreading all over the world since the beginning of 2020 until now, caused economic depression massive employment in every country. United States of America and India is the leading country which has the biggest number of total cases [3]. Their official ministry of health has issued several medications to overcome the pandemic such as testing drug which has potential against the virus and suggesting people to consume medicinal herb [4].

One of the drugs which has been issued under the command of the USA president, Trump, is Chloroquine. Another drug which is going tested is avivavir in Russia, and dexamethasone in Japan. But several medical experts criticize the usage of chemical drugs as medical treatment has the side effect on the human body. Drugs cannot be consumed for a long time because it can cause serious problems to health. Moreover, people who are recovered from Covid-19 can be relapsed again [5]. China as the country where the first COVID-19 case has appeared is almost finished in recovering all of their patients [6].

Another way is by consuming healthy food which has high nutritious content and health benefit. Milk is a drink with high nutrition. Milk is the result of the production of a white liquid by the udders of sex mammals. However, milk consumed by the community is usually obtained from cows, goats, sheep, and buffalo [7]. There is also milk from wild horses for medication. As a food ingredient, milk contains high nutrition because fresh milk contains various complete and balanced dietary substances such as protein, fat, carbohydrates, minerals, and vitamins. Milk is considered one of the most healthiest beverages besides potion. Milk is rich in

protein and casein which is needed for the baby and the teenagers' body to develop optimally [8].

Cow milk is the most common product consumed by society all around the world. Cow milk has no pungent smell just like goat milk and has a creamy taste. Cow milk can be processed into several derivative products, such as yogurt, butter, cheese, custard, kefir (fermented milk using kefir seed), custard, and cream. Each of them has a distinct purpose in cooking and contains a lot of nutrition [9]. For example, yogurt has the benefit of probiotics as antibacterial and can boost the body's immunity system. It is beneficial for people, especially in recent years which is become chaotic as a result of the COVID-19 pandemic [10]. This study has the purpose to observe if the number of milk consumption and information trend about milk affects the number of recovery rate of Covid-19.

MATERIAL AND METHOD

This study is considered as quantitative, using secondary data as the main sample. The samples are the statistic comes from three different websites which provide free data to the public. The samples are milk consumption in the USA and India, the information trends about milk from the internet, and the number of active and recovery cases of COVID-19 [11]. The duration of the sample is taken on 8 December 2020 as the current date of the COVID-19 case [12].

The sample is divided into three based on the criteria. One of them is milk consumption from six countries. Three of them are categorized as most consumed, while the rest three are the least. Finland, Montenegro, and Netherland are highest in consuming milk, while Laos, Liberia, and Cambodia are the least. The data are taken from worldpopulationreview website. Another is the data of recovery rate of those six countries from worldometer. The other criteria are trends of information search about milk based on the queries contains the word "milk" which is being discussed and searched by people of those six countries on the internet [12].

The data of information trends are taken from Google trends as a free platform of data source. The data about information trends will be valued based on the relevance point. The relevance point itself represents how strong a discussion related to a certain topic or a keyword. The

value of relevance is started from 100 to zero. All of the data will be presented into tables and compared to see the relation between them [13].

RESULT AND DISCUSSION

Table 1 Total milk consumption in 2020

Countries	Total milk consumption (kg/ capita)
Finland	430.76
Montenegro	349.21
Netherlands	341.47
Laos	2.92
Liberia	3.04
Cambodia	3.47

Source: <https://worldpopulationreview.com/>

Table 1 shows that Finland is the top in consuming milk, while Laos is the least. Finland is also famous for its production of milk, especially fresh milk, which is imported by other countries. Trend economy reports that the amount of money in milk products as export is approximately 90 million US dollars. Finland is famous for its cow farming and milk industry since centuries ago. Studies show that Finland people consume 34,3 gallon of milk every year per person. The education system in Finland is also recognized as one of the best in the world. Study by Park (2019) shows that milk consumption per capita can increase human development [14].

Netherlands is the second biggest of milk consumption after Finland. Moreover, Nethrelnad had invested 1 billion US\$ to Indonesia to build a milk factory, after King William-Alexander met with Indonesian President Joko Widodo in 2020. It can be concluded that Netherland has a big demand for milk, represented by Friesland Campina in building a new dairy plant in Indonesia. Netherlands, through its branch company Friesland Campina in Indonesia, namely Frisian Flag, plans to increase investment worth 220 million to 270 million euros [15]. The Frisian Flag company is known in Indonesia to focus more on packaged fresh milk and sweetened condensed milk [16].

Table 2 Total of active and recovery case COVID-19

Countries	Total recovery cases	Total active cases
Finland	18.100	27.881
Montenegro	27.651	38.562
Netherlands	n/a	56.291
Laos	26	41
Liberia	1358	1676
Cambodia	307	350

Source: <https://www.worldometers.info/>

The table above shows that there is a bit correlation between milk consumption and an increasing number of recovery cases. It can be seen from the table above that 3 countries which consume milk the least than other countries such as Laos, Liberia, and Cambodia have far

fewer recovery number than the three countries which have the highest number of consumption. Montenegro has the biggest recovery number, even the consumption number is lower than Finland.

The cheese industry in Montenegro produces more goat cheese which can help the body to maintain the function of the respiratory organs [17]. Besides that, Montenegro cheese is somewhat unique because of the mixture of its basic ingredients, namely cow's milk and goat's milk. One of the cheese dishes that are consumed is called Zetica "which comes from raw milk which is needed for the patient to regenerate the liver faster [18].

Milk has much of casein which can produce antioxidants against the harmful effects of radical particles. Milk consist of casein 80% of its total masses. Casein has a type C12 peptide which is useful for lowering blood pressure, although not as drastic as star fruit [19]. Consuming milk can become an alternative medical remedy for people with high blood pressure so that it can reduce the risk of getting infected by the SARS-CoV-2 virus [20].

For people who are on a diet, especially for Muslims who are fasting, casein can help the body feel fuller. This is because casein is a type of protein that is digested more slowly by the body's metabolism, so that protein will be absorbed more completely. This is beneficial because it can improve colon health. Salsinha (2018) states in her study that other processed food from milk such as blue cheese and cheddar also contains conjugated linoleic acid (CLA) which can reduce inflammation and heart disease [21].

Table 2 has found something unusual about Netherland. On that table, the total of active case is the highest than other, while the recovery number is n/a or means no information provided. One of the reasons because the country's healthcare system is not set up for reporting the number of recovery [22]. Local health authorities also do not have any responsibilities to report someone who has been recovered from illness. Instead, they are only obliged to report the daily case and death. Another reason is due to some professional sports were still in running, as well as some music festivals until September 2020. [23]

Milk on the other hand, also has a side effect to certain people, as well as if consumed too much. One of the varieties of products from milk, cheese, has a side effect for digestion for certain people. Studies by Singhai (2017) states that some cheese contains lactose which is hard to be digested by certain people because of lack of an enzyme in the stomach so that it can cause gas and bloat. Since cheese also a pasteurized product, it will cause constipation if over-consumed [24].

Table 3 Number of popularity points and most popular topic about milk

Countries	Latest popularity points	Most popular topic
Finland	66	Cup
Montenegro	64	Calorie
Netherlands	80	Condensed milk
Laos	70	Yogurt
Liberia	48	Powder
Cambodia	53	Calorie

Source: Google Trends

The table above shows that the Netherlands also has the highest popularity point of information trend related to milk. On the other hand, Laos which has the least number of consumption has the second highest of popularity points. Liberia has the lowest point in popularity points, with the most popular topic "powder", or can be inferred as powder milk.

Finland which has the highest number in consumption only ranked 3 in popularity points with the most popular topic searched is "cup". As a country with milk as the local cultural beverage, Finlanders use cups to drink the milk together with coffee [25]. One of the famous drink in Finland is Kaffeast. This drink is a traditional Finnish cultural heritage and has become a trademark of Finns in drinking coffee. Kaffeast is coffee mixed with a lump of cheese in a cup. It takes a special cheese called leipäjuusto to make it perfect with coffee. Deer milk cheese is the favorite cheese of the Finnish people to drink with coffee [26].

Kaffeast usually uses black coffee made with a coffee maker and adds diced leipäjuusto cheese to hot coffee. This Kaffeast drinking culture has been closely attached to the culture of the Finnish society, even though the flow of globalization has entered and introduced a new culture of drinking coffee. The cheese that is used, leipäjuusto has several health benefits. Deer milk as an ingredient for leipäjuusto can be consumed for people who have a digestive problem in consuming cow milk [27]. Studies by Wang (2017) show that deer milk contains bioactive compounds that are useful for boosting immunity. Besides, deer milk, especially from the red deer species, has 2 times more solid compounds than cow's milk. Deer milk also has the highest casein, protein, and fat than other kinds of milk [28].

Table 3 shows that the high score of popularity points does not correlate with the recovery number of patients. Laos which has the second of the biggest popularity point has the least recovery number. Thus, Netherland which has the highest number has no information about the recovery number. It can be concluded that the popularity point only determines how frequently a topic is being discussed on the internet. Table 3 shows that Cambodia and Montenegro have the same most popular topic, which is "calorie".

CONCLUSION

Based on the result above, it can be concluded that the number of milk consumption correlates with the recovery number from COVID-19. Milk can help the body to get healthier and provide more nutrition. But milk does not determine patients of COVID-19 to be fully recovered or not.

This study also shows that the popular point of information trends about milk does not correlate with the recovery number and number of consumption. Instead, it only shows the most popular topic being discussed in a certain region and certain period. From table 3 it can be stated that deer milk is one of the factors which help people of Finland to get healthy by consuming it.

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