

Do misconceptions affect chicken egg consumption pattern among the public community? A case of Western province-Sri Lanka

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1. Introduction

Eggs are considered the most low-cost, highly nutritious and highly bioavailable dietary protein source. The egg's role as a source of food for human was known from prehistoric era (Ravindran, 2017). Current Sri Lankan egg industry focuses mainly on the domestic market, providing eggs to a population of 21.8 million (Census and Statistics, 2021). Of the total poultry population (39.26 million) in 2019, the annual average layer population and back-yard poultry population in Sri Lanka were represented by 16.11 million and 0.93 million, respectively. Moreover, the mean total egg production was 2630.74 million where the per capita availability was reported as 120.23 (Livestock Statistical Bulletin, 2019).

However, it is well known that the reputation of chicken eggs among the general public in Sri Lanka suffers from numbers of misconceptions. One major misconception circulating is that existence of life in farmed eggs. Since Sri Lanka is multi-ethnic and multi-religious country, this sort of myths might negatively affect egg consumption pattern. Second, the consumers might refrain from eating eggs, due to the fear of health issues (Eg. Hypercholesteremia) though the current dietary guidelines recommend to consume an egg (180 mg cholesterol/per egg) per day since an average less than 300 mg cholesterol intake per day is widely acknowledged (Ravindran, 2017). However, limited systematic studies have been conducted in Sri Lanka to investigate the various misconceptions based on chicken eggs and their impact on egg consumption pattern. Therefore, the present study was conducted to investigate misconceptions exist among the community in Western province - Sri Lanka in relation to consumption of chicken eggs.

2. Materials and Methods

The present study was carried out in the Western province where a higher number of commercial (3114) and backyard (25635) poultry farms are available and for ranking the 2nd place based on the total number of registered poultry farms in this province (Livestock Statistical Bulletin, 2019). Research approach was deductive and the study was obtained both primary and secondary data. The sample consisted with 690 respondents selected from the Western province using simple random sampling technique. The key data collecting tool was a pre-tested interviewer administrated questionnaire. Questionnaire was designed to identify the consumer perception and buying behaviours of purchasing chicken eggs and surveyed consumer's awareness on egg's nutritional profile, fertility, health benefits or health risks associated and socio-economic factors affecting egg consumption frequencies and pattern. The secondary data were collected from the Ministry of Livestock & Rural Community Development and Department of Census & Statistics. Data were analyzed by using SPSS (Statistical Package for Social Sciences) version 22 software and Microsoft Excel 2016 software. The collected data were analysed using descriptive statistics, such as frequencies, percentages and Chi square analysis.

3. Results and Discussion

Of the total respondents, 52.3% were in the Colombo district. The majority of them were female (51.7%) whereas the frequent age group is 18-30 years who are living in urbanized areas (60.9%). Most of them are educated up to higher education level (Graduates and post graduates) (52.8%) with income level distributed between Rs.50,000-100,000/per month (40.1%). The majority of respondents were from the private sector (48%). Moreover, 80.4% of respondents are Buddhists and 89.7% are Sinhalese.

The results revealed that the majority of the respondents (95.8%) consume chicken eggs as their main protein source where the eggs were purchased mainly from the retail shops and supermarkets. Majority (65.9%) consume both the village chicken eggs and commercial chicken eggs in a frequency of 3-5 eggs per week per person. The present study proved that the egg consumption frequency has been increased tremendously over the years from 2015 to 2021 from 1-2 per week to 3-5 per week, respectively (Wickramasinghe et al., 2015). There is a relationship between age and the frequency of chicken egg consumption (Table 01). With aging, the respondents believe at least they need to consume 3-5 eggs weekly for proper nutrition.

When considering perceptions towards chicken eggs purchasing, they aware (53.4%) the facts that commercial chicken eggs are (i) infertile (ii) do not carry embryo and (iii) the female birds are reared sex separated in layer operations. Moreover, they believe the fact that village chicken eggs are more nutritious and safer to eat than commercial chicken eggs. This is in an agreement with the finding of Wickramasinghe et al. (2015) who found that the majority of the community is aware about the fact that commercial eggs do not carry embryos and less nutritious than village chicken eggs. No relationship has been observed between age, profession or education level and the belief that village chicken eggs are more nutritious and safer to eat than commercial chicken eggs. Of the total respondents, 95.4% do not believe the fact that brown eggs are more nutritious than white eggs. However, 53.5% of respondents prefer to eat brown eggs instead of white eggs.

Table 01. Chi square test results

Age*How often you eat chicken eggs	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	24.741 ^a	12	0.016
Likelihood Ratio	20.842	12	0.053
Linear-by-linear association	2.173	1	0.140
N of valid cases	668		

^a 9 cells (45.0%) have expected count less than 5. The minimum expected count is 0.57

Further, in contrast to the findings of Wickramasinghe et al. (2015), the majority of the respondents (46.2%) in the present study believe that daily consumption of chicken eggs causes high blood cholesterol levels increasing the risk of coronary diseases. However, fear of high blood cholesterol level has negatively impacted on their buying decision and to limit egg

consumption (14.1%). According to Mizrak et al. (2012), fear of high blood cholesterol level has been identified as the second most common reason to limit egg consumption (33.3%) in Turkey, next to the medical advice (41.7%). The misconception of the fact that pregnant women should not prepare or eat commercial chicken eggs was not accepted by 52.5% while 36.4% of respondents did not have an exact idea. However, 11.2% of the total respondents were in an agreement with this misconception. All these believes on chicken egg consumption and purchasing decisions are mainly depending on the information that they gathered from the general public and social media platforms. Further, 77.4% are willing to change their mindset if it is confirmed or certified with the fact that both village chicken and farm chicken eggs are equally nutritious, white and brown eggs are equally nutritious, safe to eat daily, and are infertile.

4. Conclusions

The present study concluded that two misconceptions: (i) village chicken eggs are more nutritious than commercial eggs and (ii) daily consumption of chicken eggs causes high blood cholesterol levels while increasing the risk of coronary diseases, do exist. However, the colour of the chicken eggs does not have any impact on their buying decision. The majority of respondents from the Western province are aware of the fact that commercially reared chicken eggs are not fertile, not carrying embryos and reared sex separate. Though majority of the sample represents higher educated professionals, majority of respondents are relying the information of general public and social media for purchasing decisions. Organizing promotion campaigns to make well inform the community about the nutritional value and health benefits of eggs is warranted.

5. References

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