

KNOWLEDGE OF CHICKEN *CILOK* VENDORS REGARDING THE ASUH CONCEPT IN PANJER VILLAGE, SOUTH DENPASAR**Tingkat Pengetahuan Konsep ASUH Pedagang Cilok Ayam Terhadap Produk Yang Dihasilkan di Kelurahan Panjer Denpasar Selatan.****Yusril Chalid Wijaksono^{1*}, I Made Sukada², Romy Muhammad Dary Mufa²**¹Undergraduate Student, Faculty of Veterinary Medicine, Udayana University, Jalan P.B. Sudirman, Denpasar, Bali 80234, Indonesia²Laboratory of Veterinary Public Health, Faculty of Veterinary Medicine, Udayana University, Jalan P.B. Sudirman, Denpasar, Bali, 80234, Indonesia

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Abstract

Cilok is a processed animal-based food product made from a mixture of wheat flour, tapioca flour, and ground chicken meat, then boiled to produce a chewy, meatball-like texture. As an animal-based processed food product, *cilok* should comply with the ASUH concept (Safe, Healthy, Wholesome, and Halal). This study aimed to assess *cilok* vendors' knowledge of the ASUH concept in Panjer Village as it relates to the products they sell and to determine whether variables such as sex, age, duration of business, and educational attainment influenced their ASUH knowledge. This study employed a quantitative descriptive research design. Data were collected using a pre-prepared questionnaire. Among the 30 *cilok* vendors surveyed, 12 respondents (40%) had a poor level of knowledge, while 18 respondents (60%) had a moderate level of knowledge. No respondents were categorized as having a good level of knowledge. Factors including age, sex, educational attainment, and duration of business were found to have no significant association with on the level of ASUH knowledge. Based on these findings, it can be concluded that the level of knowledge of *cilok* vendors regarding the ASUH concept was generally moderate, and that sex, age, duration of business, and educational attainment had no significant influence on their level of ASUH knowledge. It is recommended that local authorities provide education to the community regarding the ASUH concept. Future studies should also investigate a broader range of variables that may influence ASUH knowledge and include a larger sample size to obtain more comprehensive results.

Keywords: ASUH concept, food safety, knowledge, *cilok*

Abstrak

Cilok merupakan salah satu produk olahan asal hewan yang terbuat dari campuran tepung terigu, tepung tapioka, dan daging ayam yang digiling, kemudian direbus sehingga memiliki tekstur kenyal seperti bakso. Cilok yang merupakan produk olahan pangan asal hewan haruslah memenuhi konsep ASUH (Aman, Sehat, Utuh, dan Halal). Penelitian ini bertujuan untuk mengetahui tingkat pengetahuan ASUH pedagang cilok di Kelurahan Panjer terhadap produk yang mereka jual, serta untuk mengetahui apakah tingkat pengetahuan ASUH pedagang cilok dipengaruhi oleh variabel seperti jenis kelamin, usia, lama berjualan dan pendidikan terakhir mereka. Metode penelitian yang digunakan ialah penelitian deskriptif kuantitatif. Pengambilan data dilakukan menggunakan metode kuesioner yang telah disiapkan sebelumnya. Hasil dari penelitian menunjukkan bahwa pada tingkat pengetahuan kognitif level pedagang cilok dari 30 responden yang ditemukan 12 responden (40%) yang masuk dalam kategori kurang, 18 responden (60%) masuk dalam kategori cukup, dan tidak ditemukan responden yang masuk dalam kategori baik. Beberapa faktor seperti umur, jenis kelamin, pendidikan terakhir, serta lama berjualan menunjukkan bahwa faktor-faktor tersebut tidak memiliki pengaruh yang signifikan terhadap tingkat pengetahuan ASUH. Berdasarkan hasil yang didapatkan, dapat disimpulkan bahwa tingkat pengetahuan pedagang cilok terhadap konsep ASUH bisa dikatakan cukup, serta faktor seperti jenis kelamin, usia, lama berjualan, dan tingkat pendidikan terakhir tidak memiliki pengaruh yang signifikan terhadap tingkat pengetahuan ASUH. Saran untuk pemerintah setempat agar melakukan edukasi konsep ASUH terhadap masyarakat, serta untuk peneliti selanjutnya agar memperluas variabel yang dianggap berpengaruh terhadap tingkat pengetahuan ASUH dan meningkatkan sampel agar hasil yang didapatkan menjadi lebih sempurna.

Keywords: ASUH, pengetahuan, cilok, keamanan pangan

INTRODUCTION

One of the sources of food products for the Indonesian population is derived from animals. Meat is an important source of animal protein. Protein-containing foods help the body maintain the function of its organs (Maiyena & Mawarnis, 2022). High-quality animal-derived products are expected to have better overall health. Therefore, ensuring meat quality is essential to guarantee that consumers have access to meat that is safe, healthy, wholesome, and halal (ASUH) for consumption (Mahaputra *et al.*, 2023). The implementation of the ASUH concept is not only an indicator of the quality of animal-derived food products but is also an important component in protecting consumer health and increasing public confidence in the safety of the food they consume (Anggaeni *et al.*, 2022).

One of the popular processed animal-derived food products is chicken *cilok*. According to Darmawan *et al.* (2024), the term *cilok* is derived from the phrase “Aci Dicolok,” which refers to a tapioca-based food product served on a skewer. Similarly, Sa’adah *et al.* (2021) stated that chicken *cilok* is a processed animal-derived food product consisting of flour mixed with meat from livestock at a proportion of less than 45%. As a processed animal-derived food product, chicken *cilok* should comply with the ASUH concept. The ASUH concept is one of the approaches used to promote food safety in Indonesia, referring to food that is free from hazardous physical, chemical, and biological contaminants, has high nutritional value, is not adulterated with other materials, and is processed in accordance with Islamic law so that it is halal for consumption (Anggaeni *et al.*, 2022).

Several previous studies have reported deviations in chicken *cilok* and similar processed food products. Fauziah (2014) reported the presence of borax in *cilok* products distributed around the University of Jember. Another study conducted by Nugroho (2023) also detected

formaldehyde in *cilok* products in Sukoharjo Regency. The use of borax and formaldehyde as food additives is prohibited because these substances can pose health risks when used in food products (Wulandari & Nuraini, 2020). In addition to the use of prohibited food additives, poor hygiene and sanitation practices during processing, the use of raw materials that do not meet established requirements, and improper product handling can also increase the risk of biological, chemical, and physical hazards, thereby reducing the quality and safety of animal-derived food products (Haskito, 2024). These conditions indicate that the implementation of the ASUH concept in animal-derived food products still needs to be improved to ensure food safety for the community.

The level of knowledge regarding the ASUH concept among food vendors may influence the quality and safety of the products they produce. Vendors with adequate knowledge of the ASUH concept are expected to be better able to select raw materials that meet the required standards, maintain cleanliness throughout the production process, and avoid the use of prohibited food additives, thereby producing safer food products for consumers (Fitriana, 2023). This is also consistent with the statement by Notoatmodjo (2014).

Although numerous studies have investigated the safety of animal-derived food products, most have focused primarily on the identification of chemical and microbiological contamination and the assessment of food product quality (Fauziah, 2014; Nugroho *et al.*, 2023). Studies examining vendors' knowledge of the ASUH concept, particularly among chicken *cilok* vendors in Denpasar City, remain very limited. Furthermore, information regarding the relationship between vendor characteristics, such as sex, age, duration of business, and educational attainment, and their level of knowledge of the ASUH concept has rarely been reported. Based on these considerations, this study aimed to determine the level of knowledge of chicken *cilok* vendors regarding the ASUH concept in Panjer Village, South Denpasar, and to analyze the relationship between vendor characteristics and their level of knowledge. The findings of this study are expected to serve as a basis for local governments and relevant institutions in developing educational programs to improve vendors' understanding of the ASUH concept, thereby enhancing the safety of animal-derived food products available to the community.

MATERIALS AND METHODS

Ethical Clearance for Animal Use

This study did not require animal ethics approval because it did not involve experimental animals or any intervention involving living organisms.

Study Subjects

The subjects of this study were chicken *cilok* vendors in Panjer Village, South Denpasar. The samples were selected using a total sampling method because a total of 30 vendors were identified during the survey. The materials and instruments used in the study included a mobile phone for conducting interviews and documentation, as well as a prepared interview questionnaire.

Study Design

This study employed an observational design with a quantitative descriptive approach. The study was conducted to assess the level of knowledge of chicken *cilok* vendors regarding the ASUH concept and to analyze the relationship between vendor characteristics, including sex, age, duration of business, and educational attainment, and their level of knowledge. Data were collected through interviews using a structured questionnaire. The results were presented in tables and analyzed and described descriptively.

Study Variables

The study variables were defined as follows:

- Independent variable: Street-vending chicken *cilok* vendors in Panjer Village, South Denpasar.
- Dependent variable: The level of knowledge regarding the ASUH concept among street-vending chicken *cilok* vendors in Panjer Village, South Denpasar.
- Control variable: Panjer Village, South Denpasar.

Data Collection

Data were collected through interviews using a questionnaire consisting of 20 questions. Each respondent's answer was assigned a score of 0 or 1, resulting in a maximum possible score of 20. The total score was then converted into a percentage and categorized into poor, moderate, and good levels of knowledge based on the criteria established by Notoatmodjo (2014).

Data Analysis

The data obtained from the questionnaires were compiled using Microsoft Excel and analyzed descriptively to characterize the respondents and determine the vendors' level of knowledge regarding the ASUH concept. The association between vendor characteristics, namely sex, age, duration of business, and educational attainment, and the level of knowledge was analyzed using Fisher's Exact Test. The strength of the association was expressed as an *Odds Ratio* (OR), with the level of statistical significance set at $p < 0.05$.

RESULTS AND DISCUSSION

Results

Among the 30 chicken *cilok* vendors identified in Panjer Village, South Denpasar, respondent characteristics, including sex, age, duration of business, and highest educational attainment, are presented in Table 1. The majority of respondents were male, comprising 24 individuals (80%), and had been engaged in the business for less than five years, comprising 21 individuals (70%). Meanwhile, the distribution of respondents based on age and highest educational attainment showed an equal frequency in each category, with 15 individuals (50%). The categorization of educational attainment into high and low levels was based on the classification described by Zulkarnaen (2020) in Sari *et al.* (2020), which states that formal education can be divided into primary education (elementary and junior high school), secondary education (senior high school and vocational high school), and higher education (Diploma, Bachelor's, Master's, and Doctoral degrees).

The level of knowledge of chicken *cilok* vendors regarding the ASUH concept in Panjer Village, South Denpasar, is presented in Table 2. Most respondents had a moderate level of knowledge, comprising 18 individuals (60.0%), while 12 individuals (40.0%) had a poor level of knowledge. No respondents were categorized as having a good level of knowledge. The association between vendor characteristics and their level of knowledge regarding the ASUH concept was analyzed using Fisher's Exact Test, as presented in Table 3. The results showed that sex, age, duration of business, and highest educational attainment were not significantly associated with the vendors' level of knowledge regarding the ASUH concept ($p > 0.05$). The Odds Ratio (OR) values for each variable indicated variations in the likelihood of having a particular level of knowledge.

Discussion

The results showed that most chicken *cilok* vendors in Panjer Village, South Denpasar, had a moderate level of knowledge regarding the ASUH concept. As shown in Table 2, 18 respondents (60%) were categorized as having a moderate level of knowledge, 12 respondents (40%) had a poor level of knowledge, and no respondents were categorized as having a good level of knowledge. These findings indicate that most vendors have a basic understanding of the ASUH concept but do not yet have a comprehensive understanding, highlighting the need to improve their knowledge of food safety principles for animal-derived products. These findings are consistent with those of Joharsah *et al.* (2025), who reported that the majority of chicken meat vendors had a moderate level of knowledge regarding the ASUH concept (51.4%). This condition indicates that small-scale food business operators generally possess basic knowledge of food safety but have not yet achieved an optimal level of understanding. The low level of knowledge among vendors may be influenced by various factors, such as educational attainment, limited interest in seeking information, and the limited availability of food safety education and outreach activities (Joharsah *et al.*, 2025).

Knowledge plays an important role in shaping individual behavior (Notoatmodjo, 2014), and the application of knowledge also contributes to the implementation of food safety practices. Vendors' ability to maintain food safety is influenced by their level of knowledge, attitudes, and practices. Low levels of knowledge are often accompanied by unhygienic food handling and storage practices and low compliance with food safety policies (Wallace *et al.*, 2022).

No respondents in this study were categorized as having a good level of knowledge. This condition indicates that vendors' understanding of the ASUH concept still needs to be improved through continuous educational activities. Socialization and educational programs concerning the ASUH concept have been reported to improve public knowledge and awareness of the importance of food safety for animal-derived products (Anggaeni *et al.*, 2022). Therefore, educational activities regarding the ASUH concept should continue to be developed, particularly for small-scale food vendors, as an effort to improve knowledge and support the implementation of food safety practices for animal-derived products.

Based on Table 3, the results of Fisher's Exact Test showed no significant association between vendor characteristics, including sex, age, duration of business, and highest educational attainment, and the level of knowledge regarding the ASUH concept ($p > 0.05$). Although the *odds ratio* values for each variable indicated different tendencies in the associations, none of the statistical analyses demonstrated a significant relationship. These findings indicate that the vendor characteristics examined in this study cannot be considered significant factors associated with the vendors' level of knowledge regarding the ASUH concept. These findings are consistent with those of Siddiky *et al.* (2024), who reported no significant association between sex and food safety knowledge among food handlers ($p=0.830$). Another study also reported that individual characteristics are not necessarily associated with the level of food safety knowledge (Sekarsari *et al.*, 2024). Ahmed *et al.* (2021) similarly found that not all respondent characteristics were associated with food safety knowledge. In that study, age and sex were not significantly associated with knowledge levels, whereas educational attainment and work experience showed significant associations.

In general, several previous studies have indicated that characteristics such as sex, age, duration of business, and educational attainment are not the only factors determining an individual's level of food safety knowledge. However, other studies have reported findings that differ from those of the present study. Noviarmi (2026) reported that sex and educational attainment were significantly associated with food safety knowledge among street food vendors in Surabaya

($p=0.000$ and $p=0.005$, respectively), indicating that female respondents and those with higher educational attainment tended to have better food safety knowledge. Ahmed *et al.* (2021) also reported that educational attainment and work experience were significantly associated with food safety knowledge, although age was not significantly associated with knowledge levels. In addition, a study on the knowledge, attitudes, and hygiene and sanitation practices of food handlers at Taman Tegalega, Bandung City, conducted by Pratiwi *et al.* (2025), showed that educational attainment and work experience were associated with knowledge of food hygiene and sanitation. These differences among studies indicate that the association between individual characteristics and food safety knowledge has not been consistent. Such variation may be influenced by differences in respondent characteristics, types of food businesses, study settings, and access to food safety information and training.

The absence of a significant association between vendor characteristics and knowledge of the ASUH concept in this study indicates that knowledge is not necessarily influenced by demographic factors such as sex, age, educational attainment, or duration of employment. Knowledge can be acquired from various sources, including personal experience, mass media, social media, educational activities, and interactions with the surrounding environment. This is consistent with Fitriana (2023), who stated that knowledge is not always directly proportional to educational attainment. This may occur because vendors can obtain information regarding hygiene and sanitation in food processing from various sources, including the internet, mass media, and social media. Therefore, individuals with different characteristics have similar opportunities to obtain information regarding food safety. In addition, this study involved vendors from a relatively homogeneous geographical area and type of business, meaning that the variation in respondent characteristics may not have been sufficient to demonstrate statistically significant associations. Thus, these findings suggest that efforts to improve knowledge regarding the ASUH concept should not be limited to vendors with specific characteristics but should instead be provided comprehensively to all vendors to improve the implementation of food safety practices for animal-derived products.

CONCLUSION AND SUGGESTIONS

Conclusion

Based on the results of this study, it can be concluded that the level of knowledge of chicken *cilok* vendors regarding the ASUH concept in Panjer Village, South Denpasar, was categorized as moderate. The analysis of associations showed that sex, age, duration of business, and highest educational attainment were not significantly associated with the vendors' level of knowledge regarding the ASUH concept.

Suggestions

Educational activities on the ASUH concept should be provided to chicken *cilok* vendors to improve their knowledge of food safety for animal-derived products. Future researchers are recommended to expand the scope and number of respondents to obtain more comprehensive results.

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REFERENCES

- Ahmed, M. H., Akbar, A., & Sadiq, M. B. (2021). Cross sectional study on food safety knowledge, attitudes, and practices of food handlers in Lahore district, Pakistan. *Heliyon*, 7(11), e08420. <https://doi.org/10.1016/j.heliyon.2021.e08420>
- Anggaeni, T. T. K., Indraswari, N., & Sujatmiko, B. (2022). Sosialisasi pangan ASUH (aman, sehat, utuh, dan halal) dan jajanan sehat dalam upaya meningkatkan kesadaran masyarakat atas kualitas hidup sehat. *Media Kontak Tani Ternak*, 4(1), 27–35. <https://doi.org/10.24198/mktt.v4i1.38627>
- Darmawan, E., Saputro, A. E., & Firsta, N. C. (2024). Kandungan Gizi dan Daya Terima Cilok dengan Penambahan Daun Kelor (*Moringa oleifera*). *AGROTECH: Jurnal Ilmiah Teknologi Pertanian*, 6(1), 23–29. <https://doi.org/10.37631/agrotech.v6i1.1558>
- Fauziah, R. R. (2014). Kajian keamanan pangan bakso dan cilok yang beredar di lingkungan Universitas Jember ditinjau dari kandungan boraks, formalin dan TPC. *Jurnal Agroteknologi*, 8(1), 67–73. <https://garuda.kemdiktisaintek.go.id/documents/detail/1378883>
- Fitriana, S. W. (2023). Hubungan tingkat pengetahuan dan sikap pedagang kaki lima dengan perilaku higiene sanitasi pengolahan makanan di Alun-Alun Gresik. *Jurnal Gizi Dan Kesehatan Nusantara*, 3(1), 261–266. <https://ejournal.unesa.ac.id/index.php/GIZIUNESA/article/view/51230>
- Haskito, A. E. P. (2024). Pembelajaran keamanan pangan asal hewan dan kertas kunyit untuk deteksi boraks pada masyarakat Kepuharjo, Malang. *JIA (Jurnal Implementasi Abdimas)*, 2(1), 1–8. <https://ejournal.uniska-kediri.ac.id/index.php/jia/article/view/4793/2480>
- Joharsah, J., Muttaqinullah, R., Sahfitri, S., & Assauwab, M. H. (2025). Analisis tingkat pengetahuan dan keterampilan pedagang ayam potong dalam menjamin keamanan pangan dengan penerapan pola ASUH (aman, sehat, utuh, dan halal). *Baselang*, 4(2), 385–391. <https://doi.org/10.36355/bsl.v4i2.279>
- Mahaputra, I. M., Bolla, N. E., Roby, I. M., Juniartini, W. S., Nazara, A. L., & Swacita, I. B. N. (2023). Evaluasi Kualitas Daging dan Produk Olahan Daging dari Pasar Tradisional Kumbasari dan Pasar Cokroaminoto, Kota Denpasar, Bali. *Buletin Veteriner Udayana*, 15(2), 222–241. <https://doi.org/10.24843/bulvet.2023.v15.i02.p09>
- Maiyena, S., & Mawarnis, E. R. (2022). Kajian analisis konsumsi daging sapi dan daging babi ditinjau dari kesehatan. *Jurnal Pendidikan Tambusai*, 6(1), 3131–3136. <https://jptam.org/index.php/jptam/article/view/3359?utm>
- Notoatmodjo, S. (2014). *Promosi Kesehatan dan Perilaku Kesehatan* (Edisi Revisi). Rineka Cipta.
- Noviarmi, F. S. Ika, Damayanti, R., Dwicahyo, H. B., Sholehuddin, M., Firdausi, S. Al, Rahmawati, N. A., Rohmah, S., & Lutfiya, I. (2026). Factors Influencing Food Handlers' Knowledge and Hygiene Behavior at Street Food Vendors in East Surabaya: A Cross-sectional Study. *Journal of Public Health for Tropical and Coastal Region*, 9(1), 23–35. <https://doi.org/10.14710/jphtcr.v9i1.29222>
- Nugroho, D. C. (2023). Evaluasi Keamanan Makanan Jajanan Cilok Bakso Ditinjau dari Kandungan Boraks dan Formalin di Beberapa Sekolah Menengah Pertama (SMP) Wilayah Kabupaten Sukoharjo. *Journal of Food and Agricultural Product*, 3(1), 36–43. <https://doi.org/10.32585/jfap.v3i1.3615>

- Pratiwi, N. P. S., Rahayu, W. P., & Nurjanah, S. (2025). Pengetahuan, Sikap, dan Perilaku Higiene dan Sanitasi Penjamah Pangan di Taman Tegalega Kota Bandung. *Jurnal Mutu Pangan: Indonesian Journal of Food Quality*, 12(1), 84–96. <https://doi.org/10.29244/jmpi.2025.12.1.84>
- Sa'adah, A., Maherawati, M., Hartanti, L., & Mulyani, S. (2021). Cemaran Mikrobia pada Jajanan Pentol Kuah di Sekitar Universitas Tanjungpura Pontianak. *FoodTech: Jurnal Teknologi Pangan*, 4(2), 72–77. <https://doi.org/10.26418/jft.v4i2.56924>
- Sari, D. N., Laela, D. S., & Restuning, S. (2020). Tingkat pengetahuan orang tua dengan kejadian nursing bottle caries. *JDHT Journal of Dental Hygiene and Therapy*, 1(2), 40–44. <https://doi.org/10.36082/jdht.v1i2.137>
- Sekarsari, K. A., Budiningsari, D., & Prawiningdyah, Y. (2024). The relationship between food safety knowledge and optimistic bias among food handlers in the state high school canteens in Magelang City, Indonesia. *Berita Kedokteran Masyarakat*. <https://journal.ugm.ac.id/v3/BKM/article/view/13488>
- Siddiky, A., Mollick, K., Aktarujjaman, Md., Islam, F., Mamun, M. A., & Roy, N. (2024). Determinants of food safety knowledge and practices among food handlers in Bangladesh: An institution-based cross-sectional study. *Heliyon*, 10(4), e25970. <https://doi.org/10.1016/j.heliyon.2024.e25970>
- Wallace, F., Mittal, N., Lambertini, E., & Nordhagen, S. (2022). Vendor Knowledge, Attitudes, and Practices Related to Food Safety in Low- and Middle-Income Countries: A Scoping Review. *Journal of Food Protection*, 85(7), 1069–1078. <https://doi.org/10.4315/JFP-21-439>
- Wulandari, A., & Nuraini, F. (2020). Hasil uji penggunaan boraks dan formalin pada makanan olahan. *Jurnal Info Kesehatan*, 10, 279–288. <https://jurnal.ikbis.ac.id/index.php/infokes/article/view/405/256>

Tables

Table 1. Respondent Characteristics

Characteristic	Category	Frequency	Percentage
Sex	Male	24	80%
	Female	6	20%
Age	≤40 years	15	50%
	>40 years	15	50%
Duration of Business	<5 years	21	70%
	≥5 years	9	30%
Educational Attainment	Low	15	50%
	High	15	50%

Table 2. Knowledge Level of Chicken *Cilok* Vendors Regarding the ASUH Concept

Knowledge Level	Frequency	Percentage
Poor	12	40%
Moderate	18	60%
Good	0	0%
Total	30	100%

Table 3. Association Between Vendor Characteristics and Knowledge Level Regarding the ASUH Concept

Characteristic	Category	Poor (%)	Moderate (%)	OR	p-Value
Sex	Male	9 (37.5)	15 (62.5)	1.67	0.659
	Female	3 (50.0)	3 (50.0)		
Age	≤40 years	7 (46.7)	8 (53.3)	0.57	0.715
	>40 years	5 (33.3)	10 (66.7)		
Duration of Business	<5 years	9 (42.9)	12 (57.1)	0.67	1.000
	≥5 years	3 (33.3)	6 (66.7)		
Educational Attainment	Low	6 (40.0)	9 (60.0)	1.00	1.000
	High	6 (40.0)	9 (60.0)		