

Chinese Consumers' opinion about safe and premium quality pork: Survey at Beibei District, Chongqing, People's Republic of China

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Abstract

To survey Chinese consumers' opinion on buying pork, questionnaire was distributed through Wechat[®] (Tencent Inc., Shenzhen, China) and QQ[®] (Tencent Inc., Shenzhen, China) applications or given to people walking by the street in April 2019. From total 400 voluntary respondents, majority of participants were females, age between 21-30 years old, married, having family strength of 2-5 persons, students, currently enrolled or graduated with bachelor's degree, having salary of less than CNY 3,000, and did not have any health problem. Being their most favorite meat, pork was consumed more than 9 times per month. The most popular cut of pork was loin. The most preferred place to buy pork was community markets. The "premium quality pork" was determined by following attributes in descending order 1) nutritious, 2) safe, 3) high price, 4) sound and delicious, 5) organic origin, and 6) animal welfare. The descending crucial determinants of "safe pork" were 1) place of selling, 2) brand, 3) farm, and 4) advertisement. Purchase of expensive pork was influenced by 1) safe approved label, 2) brand, 3) delicious, 4) advertisement, 5) fresh and clean appearance, and 6) research guarantee. Safe and hygienic ready-to-eat-pork products selling at a convenient location would be the best option for these customers at Beibei District, Chongqing, People's Republic of China.

Keywords: buying decision, Chinese, consumer, pork, premium quality

สำรวจความคิดเห็นของผู้บริโภคชาวจีนเกี่ยวกับเนื้อสุกรปลอดภัย และคุณภาพระดับพรีเมียม ณ เขตเป่ย์เป่ย์ เมืองฉงชิ่ง สาธารณรัฐประชาชนจีน

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บทคัดย่อ

เพื่อสำรวจความคิดเห็นของผู้บริโภคในการตัดสินใจเลือกซื้อเนื้อสุกร ทำการเก็บข้อมูลจากแบบสอบถามที่กระจายผ่าน Wechat® (Tencent Inc., Shenzhen, China) and QQ® (Tencent Inc., Shenzhen, China) applications บนมือถือ และสอบถามโดยตรงกับประชาชนที่สัญจรไป-มาอยู่ภายในมหาวิทยาลัยซีหนาน ในช่วงเดือนเมษายน 2562 โดยความสนใจในการตอบคำถามทั้งหมด 400 คน ผู้ตอบแบบสอบถามส่วนใหญ่เป็นเพศหญิง อายุระหว่าง 21-30 ปี สถานภาพสมรสมีสมาชิกในครอบครัวจำนวน 2-5 คน เป็นนักศึกษาในระดับปริญญาตรี มีเงินเดือนต่ำกว่า 3,000 หยวน และไม่มีโรคประจำตัว เนื้อสุกรเป็นชนิดของเนื้อสัตว์ที่ผู้ตอบแบบสอบถามชอบมากที่สุด การบริโภคมากกว่า 9 ครั้งต่อเดือน เนื้อสันในเป็นส่วนที่นิยมรับประทานมากที่สุด ตลาดชุมชนคือสถานที่ที่ผู้บริโภคมักไปซื้อมากที่สุด เมื่อให้ผู้ตอบแบบสอบถามเรียงลำดับความสำคัญของคุณลักษณะเนื้อสุกรพรีเมียมจากมากไปหาน้อย ได้ดังนี้คือ 1) มีคุณค่าทางสารอาหาร 2) ความปลอดภัย 3) ราคาสูงกว่าเนื้อสุกรทั่วไป 4) ดูน่ารับประทานและมีรสชาติอร่อย 5) ได้จากสุกรที่เลี้ยงแบบอินทรีย์ และ 6) สุกรได้รับการดูแลโดยคำนึงถึงสวัสดิภาพสัตว์ ความปลอดภัยของเนื้อสุกรเรียงลำดับความสำคัญจากมากไปหาน้อย คือ 1) สถานที่วางจำหน่าย 2) ยี่ห้อ 3) ฟาร์ม และ 4) การโฆษณา หากผู้บริโภคต้องจ่ายเงินเพิ่มขึ้นเพื่อซื้อเนื้อสุกรคุณภาพพรีเมียมสิ่งสำคัญที่สุดที่จะต้องมียี่ห้อ 1) ตราสัญลักษณ์รับประกันความปลอดภัย 2) ยี่ห้อ 3) ความอร่อย 4) การโฆษณา 5) คุณสะอาด และ 6) มีงานวิจัยรองรับ เนื้อสุกรที่สะอาดและปลอดภัยหรือผลิตภัณฑ์พร้อมรับประทาน และวางจำหน่ายในสถานที่สะดวกในการซื้อ น่าจะเหมาะสมกับลูกค้า ณ เขตเป่ย์เป่ย์ เมืองฉงชิ่ง สาธารณรัฐประชาชนจีน

คำสำคัญ: การตัดสินใจซื้อ ชาวจีน ผู้บริโภค เนื้อสุกร คุณภาพระดับพรีเมียม

Introduction

China has world's largest population and is the top pork consumption country. Learning Chinese customers' mind is important for successful business. The study in 2015 has indicated that consumption of pork meat in 15 provinces (autonomous regions and municipality) of China accounts for 73.9% of total meat intake with an average intake of 94 g/d (Wang et al., 2019). Determination of Chinese consumer preferences is of great importance. Nowadays not only safe and sound food, but also functional nutritious pork can be manipulated by science and technology. Pork meat has been reconstructed to reduce bad fat contents and to increase functional property by using hormone in the pigs (Klindt et al., 1995), adding anti-oxidants in the pig diet (Lauridsen et al., 1999; Dugan et al., 2004), genetic (Huang et al., 2016), or including additives into the pork products (Coates and Ayerza, 2009). Therefore, in order to expand market for anti-ageing pork, it is important to determine consumer preferences. Over the past 50 years, global pork production has increased fourfold, and there is expecting to continue growing (Lassaletta et al., 2019). Apart from the good sake of food safety, people are now aware of healthy food (Grunert et al., 2018). Consuming fat from red meat is well accepted as increasing body weight and the risk for cardiovascular disease (Cui et al., 2019). Consumption of red and processed meat was associated with the risk of cancer (Zhao et al., 2017a; Zhao et al., 2017b; Zhao et al., 2017c). Therefore, people are carefully choosing relatively healthier diets with low animal fat. Recently, genetic engineering pigs or transgenic pigs have been developing. Using rat models, pork meat from genetic modified pigs has been shown to be safe to eat (Zou et al., 2015).

For developed and wealthy countries, one of the most important factors influencing consumers' intention to purchase food is quality. Research conducted in Greece has shown that quality expectations comply with intention to buy pork (Papanagioutou et al., 2013). However, for some people, food choices could be taste, convenience, price, weight control, habitual behavior, and environmental impact (Grunert et al., 2018). Animal welfare is another interesting issue. Whether consumers are willing to pay more for this is not clear. Even in Germany, consumers valued health and safety aspects rather than animal welfare and environmental impact (Grunert et al., 2018). For European organic consumers, animal welfare is regarded as a purchasing influence (Heid and Hamm, 2013).

Materials and methods

The questionnaire was designed and written in Thai language first, then translated into English and Chinese. Before actual used, the questionnaire was pre-tested by 10 Thai and Chinese subjects, to ascertain that every question was understandable. The objective of this study was to survey Chinese consumer's opinion on buying pork. This study was carried out in April 2019. The study area was Beibei district, Chongqing municipality, People's republic of China (110,000 population). Questionnaire was distributed through Wechat® (Tencent Inc., Shenzhen, China) and QQ® (Tencent Inc., Shenzhen, China) applications over the cellular phone (n= 298) or given to people walking by the Tiansheng street (n =102), the data was analyzed once reached 400 voluntary respondents. The questionnaires consisted of 2 parts, 1) demographic information and 2) determinants of pork purchasing decision by Chinese consumers including opinions about

premium quality pork, safe pork, and their willingness to pay for these attributes. The questionnaire was multiple choices. The answers of each question were either calculated into proportion, or some questions would ask the respondents to rate the multiple choices by order of importance.

Results

After distribution of the questionnaire, within two weeks 400 voluntary participants had completely answered all questions. Part 1 of the questionnaire was demographic information of the respondents (Table 1). The participants were females (55.75%) and males (44.25%). Their age ranges were 21-30 (43.50%), 31-40 (18.50%), less than 20 (15.75%), 41-50 (11.5%), 51-60 (6.75%), and more than 60 years (4.0%). Marital statuses were married (55.5%), single (38.25%), and divorce (6.25%). Family member of 3 (28.25%), 2 (25.5%), 4 (25%), more than 5 (20%), and 1 (1.25%). Educational levels were bachelor's degree (39.5%), vocational certificate (19.25%), high school graduate (15%), master's degree (12.75%), PhD (7%), and others (6.5%). Their occupations were student (34.25%), private company employee (16.75%), government official (13.5%), business owner (12.5%), free-lance employee or labor (12.5%), housewife (7%), and others (3.5%). Income of the respondents was less than CNY 3,000 (47%), 3,001-5,000 (18%), 5,001-8,000 (18%), 8,001-10,000 (9.5%), and more than 10,000 (7.5%). Majority of respondents did not have any health problem (79.5%), but some did (20.5%). Part 2 consisted of questions related to purchasing determinants and opinions (Table 2). Some of them buy fresh pork (30.75%), only ready-to-eat pork products (20.5%) or did not buy fresh pork (48.75%) (Figure 1). Their favorite meats were;

1) pork (29%), 2) chicken (26.75%), 3) beef (25.75%), 4) aquatic animal (17.75%), or 5) other (0.75%) (Figure 2). They rated most to least important factors on buying premium quality pork were as the following: 1) beneficial for health, 2) pathogen-drug-chemical-free, 3) relatively expensive, 4) sound appearance and delicious, 5) organic farm origin, and 6) slaughtering according to animal welfare (Figure 3). The crucial determinants for safe pork were; 1) place of selling (57%), 2) brand (51.25%), 3) farm (44.25%), and 4) advertisement (26.75%) (Figure 4). Frequency of pork consumption per month was as the descending order; 1) more than 9 times (36%), 2) 4-6 times (21.75%), 3) 7-9 times (21.25%), 4) 1-3 time (15%), and 4) none (6%). Favorite places for buying pork and/or pork products were as the following; 1) community markets (47.43%), 2) supermarkets (33.33%), 3) shopping malls (15.71%), and 4) any other places (3.53%). Amount of fresh pork per one purchasing were 1) 1 kg (41.25%), 2) 100-400 g (35.25%), and 3) more than 1 kg (23.5%). Their favorite cuts of pork were; 1) loin (39.25%), 2) ham (37%), 3) neck (36%), 4) rib (35.25%), 5) shoulder (32%), 6) belly (26.25%), 7) leg (21.5%), 8) offal (4.25%), and 9) other (1.5%) (Figure 5). Total amount the respondents paid for each buying was; 1) CNY 10-20 (36%), 2) CNY 20-40 (28.5%), 3) less than CNY 10 (19.5%), or 4) more than CNY 40 (16%). The important buying determinants were; 1) convenient places (60%), 2) sound appearance (53.5%), 3) sale and promotion (51.5%), 4) safe approved label (49.5%), 5) advertisement (11.25%), and 6) research guarantee (11%). Most respondents (60.25%) did not believe about anti-ageing properties of pork. However, if pork with functional food property of anti-ageing was available, they would buy it even though it is more expensive (57.5%).

Table 1. Demographic profile of the respondents

Category	Characteristic (n=400)	Number of Respondent	Percentage (%)
Gender	Male	177	44.25%
	Female	223	55.75%
Age (year)	<20	63	15.75%
	21-30	174	43.50%
	31-40	74	18.50%
	41-50	46	11.50%
	51-60	27	6.75%
	>60	16	4.00%
Marital status	Single	153	38.25%
	Married	222	55.50%
	Divorce	25	6.25%
Household size (members)	1	5	1.25%
	2	102	25.50%
	3	113	28.25%
	4	100	25.00%
	≥5	80	20.00%
Highest education (current or studying)	High school graduate	60	15.00%
	Vocational Certificate / High Vocational Certificate	77	19.25%
	Bachelor's degree	158	39.50%
	Master's degree	51	12.75%
	Doctor of Philosophy	28	7.00%
	Other	26	6.50%
	Occupation	Student	137
Government official / employee enterprises		54	13.50%
Private company employee		67	16.75%
Business owner		50	12.5%
Free-lance employee / labor		50	12.5%
Housewife		28	7.00%
Other		14	3.50%
Monthly income (CNY)		<3,000	188
	3,001-5,000	72	18.00%
	5,001-8,000	72	18.00%
	8,001-10,000	38	9.50%
	>10,000	30	7.50%
Having health problem	No	318	79.5%
	Yes	82	20.5%

Table 2. Purchasing behavior of Chinese consumers

Category	Characteristic (n=400)	Number of Respondent	Percentage (%)
What topics do you want to know about "safe pork"?	Standard approved label	175	43.75%
	Name of the farm	177	44.25%
	Brand	205	51.25%
	Place of selling	228	57.00%
	Advertisement	107	26.75%
How often do you eat pork?	1-3 times/month	60	15.00%
	4-6 times/month	87	21.75%
	7-9 times/month	85	21.25%
	>9 times/month	144	36.00%
	None	24	6.00%
Where do you prefer to buy pork?	Fresh market	135	33.75%
	Community market	192	48.00%
	Shopping mall	60	15.00%
	Other	13	3.25%
Amount of pork per time you normally buy	100-400 grams	141	35.25%
	500 grams-1kg	165	41.25%
	> 1 Kg	94	23.50%
How much do you pay for one purchase of pork?	<CNY 10	78	19.50%
	CNY 10 - 20	144	36.00%
	CNY 20 - 40	114	28.50%
	>CNY 40	64	16.00%
What factors influent your pork selection?	Safe approved label	198	49.50%
	Convenience of place for buying	240	60.00%
	Sale and promotion	206	51.5%
	Sound appearance	214	53.50%
	Advertisement	45	11.25%
	Research guarantee	44	11.00%
Do you believe that scientists can produce safe pork and when eating can have antiaging effect?	Yes	159	39.75%
	No	241	60.25%

Category	Characteristic (n=400)	Number of Respondent	Percentage (%)
If you must pay more expensive price for high quality pork, what is the most importance factor?	Safe approved label	121	30.25%
	Brand	95	23.75%
	Delicious	68	17.00%
	Advertisement	38	9.50%
	Sound appearance and Delicious	52	13.00%
	Knowledge, research and technology guarantee	26	6.50%
If there is a premium quality pork product (good taste, safe, anti-aging), would you buy it?	Yes	230	57.50%
	No	170	42.50%

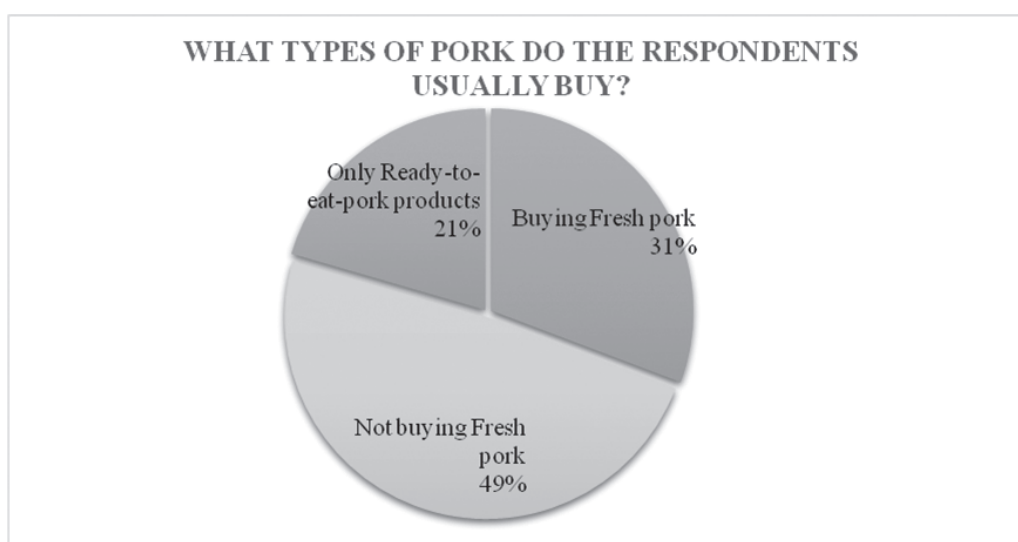


Figure 1. Type of pork the respondents usually buy.

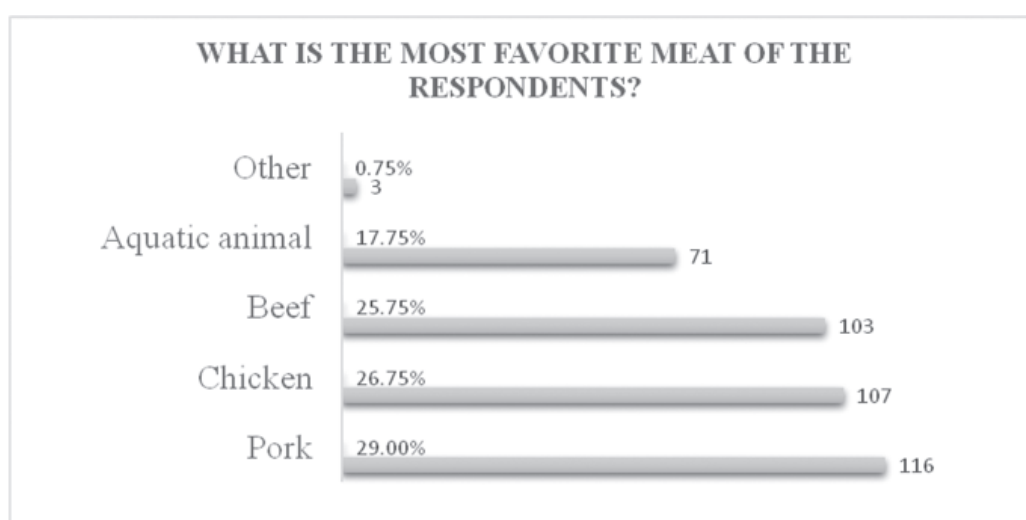


Figure 2. Pork was the most favorite meat for Chinese respondents.

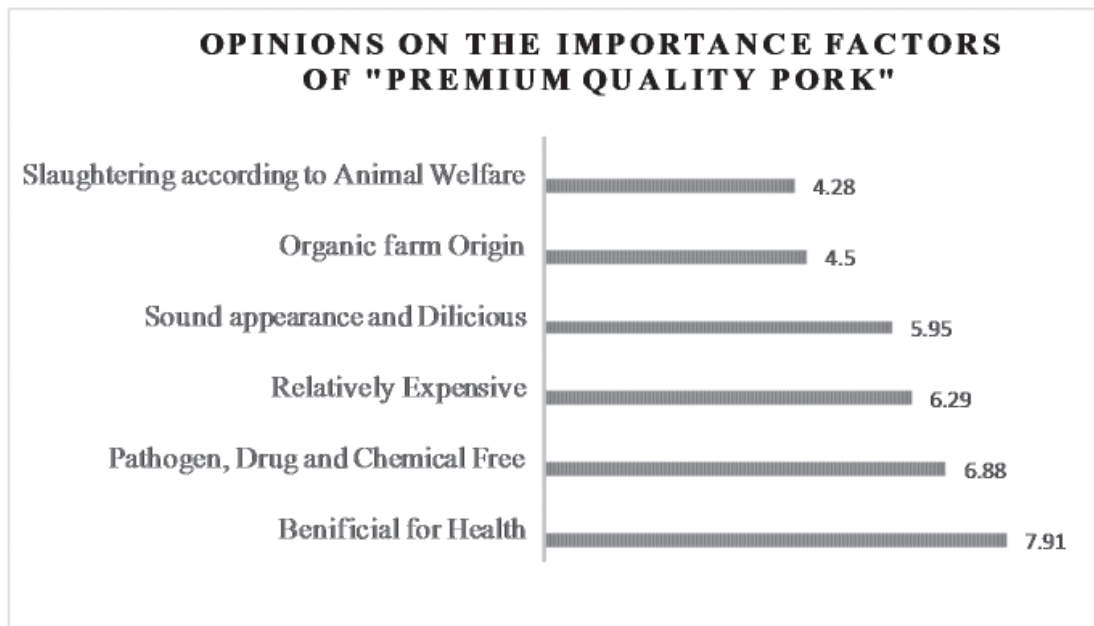


Figure 3. Buying determinants of premium quality pork rated by the respondents.

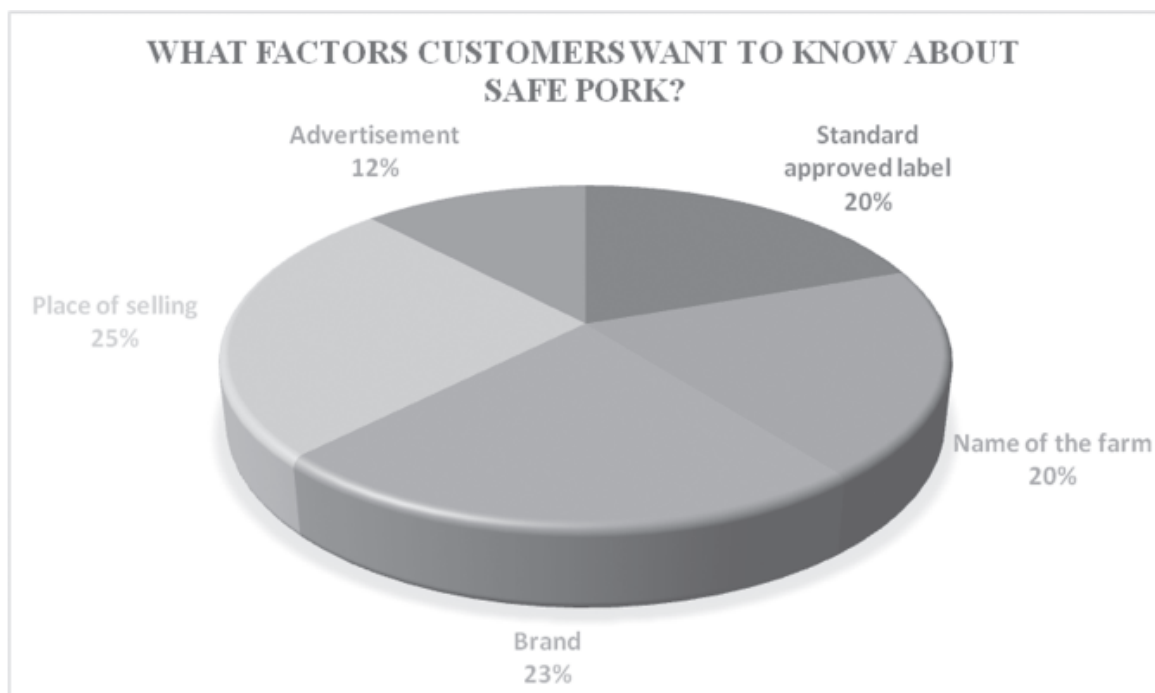


Figure 4. Important factors of safe pork the respondents have chosen.

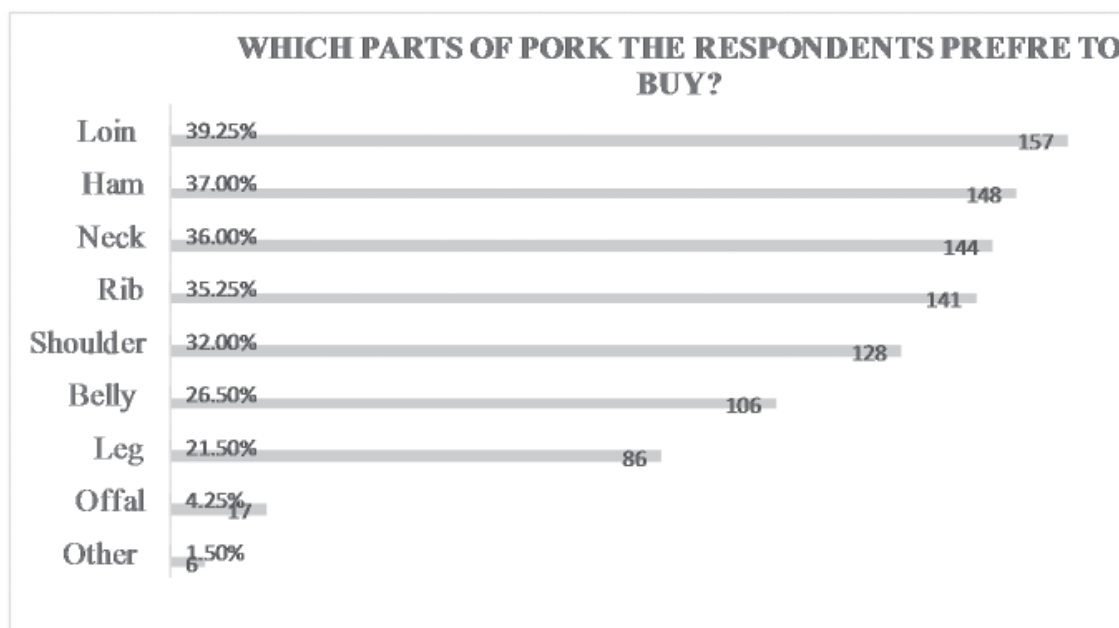


Figure 5. Comparison of pork parts Chinese respondents prefer to buy.

Discussion and conclusion

Pork is considered delicious and nutritious by most Chinese. In this survey, pork was recognized as the most favorite meat for Chinese and this finding is the same as other studies (Wang et al., 2019). Respondents trusted safety of pork foremost by place of selling pork, while animal welfare was of little value. The respondents believe that pork meat was the good source of protein and taste. The most favorite factor for their buying decision was convenient locations, likewise they cared least about research guarantee. For expensive pork products and premium quality pork, safe approved label was the most important factor, whereas knowledge-research-technology guarantee was the least. Sale and promotion appeared to induce their buying, but advertisement and animal welfare did not influence their intention to buy. There is a need for commercialization about animal friendly produced pork. Study in Mexican has addressed that customers should receive information to consider welfare innovations when deciding to

purchase animal products (Miranda-de la Lama et al., 2019).

Majority of participants were females, age between 21-30 years old, married, having family strength of 2-5 persons, students, currently enrolled or graduated with bachelor's degree, having salary of less than CNY 3,000, and did not have any health problem. Being their most favorite meat, pork was consumed more than 9 times per month. The most popular cut of pork for them was loin. The place where the respondents most preferred to buy pork was community markets. Their opinions about "premium quality pork" were most determined as being nutritious food. The most crucial determinant of safe pork was place of selling. The most factor influencing their pork buying decision was convenient places. Purchase of expensive pork was highest influenced by safe approved label. Most respondents did not believe about anti-ageing properties of pork. However, if pork with functional food properties such as anti-ageing was available, they would buy it even though it is more

expensive. Our findings are restricted to young and knowledgeable customers, Y-generation, who constitute significant present and future customers. Chinese customers were willing to accept a novel product. Safe and sound ready-to-eat-pork products selling at a convenient location shop would be the best option for these customers.

Acknowledgement

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