



Profile and preference of pork consumers in Campo Grande - MS

Perfil e preferência dos consumidores de carne suína em Campo Grande - MS

Clariana Leon Nantes¹, Charles Kiefer¹, Mariana Souza de Moura¹, Alysson Saraiva², Ricardo Carneiro Brumatti¹, Camilla Mendonça Silva¹, Elizangela Alves da Silva¹

¹Universidade Federal de Mato Grosso do Sul (UFMS), Faculdade de Medicina Veterinária e Zootecnia (FMVZ), Av. Senador Filinto Müller, nº 2443, CP 549, Vila Ipiranga, CEP 79070-900, Campo Grande, MS, Brasil. E-mail: charles.kiefer@ufms.br.

²Universidade Federal de Viçosa (UFV), Departamento de Zootecnia, Viçosa, MG, Brasil.

Recebido em: 27/03/2013

Aceito em: 22/03/2014

Abstract. This study was conducted to characterize the profile and preference of pork consumers in Campo Grande, Mato Grosso do Sul, Brazil. Using a questionnaire at different points of pork sale, 211 random interviews were conducted. It was verified that 55.0% of the interviewees were female, with a more pronounced frequency of people at the age of 40–50 years (25.0%) and belonging to the social class B (67.3%). It was found that 85.0% of the interviewed people have their main meal “lunch” at home and 82.8% consume pork. The main factors pointed out by non-consumers of pork were that they do not appreciate the meat, religious thoughts and the high cholesterol content. It was verified that beef is the most consumed meat followed by poultry and pork. Regarding the consumer preference, beef takes the first place, followed by fish and pork. The great majority of the interviewed people showed a lack of knowledge about the nutritional value of pork. Pork meat may have more room on consumers’ tables in Mato Grosso do Sul provided that informative campaigns are held to clarify its nutritional quality and to eliminate the taboos and myths involving pork consumption.

Keywords: buying behavior, consumption of meat, market, pig production

Resumo. Realizou-se este estudo com o objetivo de caracterizar o perfil do consumidor de carne suína na capital sul mato-grossense. Foram realizadas 211 entrevistas, de forma aleatória, em pontos de venda de carne, mediante aplicação de questionário. Verificou-se que 55,0% dos entrevistados pertenciam ao sexo feminino, com frequência mais pronunciada de pessoas entre 40-50 anos (25,0%) e pertencentes à classe social B (67,3%). Constatou-se que 85,0% dos entrevistados fazem sua principal refeição em casa e que 82,8% consomem carne suína. Os principais fatores apontados pelos não-consumidores de carne suína foram a não apreciação da carne, questões religiosas e o alto teor de colesterol. Verificou-se que a carne bovina é a mais consumida, seguida pela carne de frango e a suína. A grande maioria da população entrevistada demonstrou desconhecimento sobre as qualidades nutritivas da carne suína. A carne suína poderá ocupar maior espaço na mesa do consumidor campo-grandense, desde que sejam realizadas campanhas de esclarecimento sobre sua qualidade nutricional e que desfaçam os tabus e mitos que envolvem seu consumo.

Palavras-chave: comportamento de compra, consumo de carnes, mercado, suinocultura

Introduction

World population is growing rapidly and in 2050 could exceed 8 e 9 billion people. As a result, world population growth must be followed by an increase in food production (ONU 2001).

In recent 30 years the Brazilian pig production has undergone great development, changing from a subsistence activity to industrial pig farming to produce carcasses with a high lean meat percentage

that are low in fat and cholesterol. In agreement with this statement, researchers have verified that pork cuts (loin, leg, and shoulder) without external fat contain 42 to 49 mg cholesterol and 3 to 5% fat per 100g and can be considered low in fat content (Bragagnolo & Rodriguez-Amaya, 2002).

In Brazil, pork consumption loses in the preference for beef and poultry and approximately 65% of Brazilian pork is consumed in the



industrialized form, only 35% being consumed *in natura*. The low consumption of pig meat in Brazil is due, among other factors, to its higher cost compared with poultry, little disclosure of pork's nutritional qualities, low use in restaurants, preferences on preparation, higher consumption in the industrialized form, consumers' prejudices and taboos, also are due to the lack of knowledge about the intense work on genetics, nutrition and health management realized over the last few years (Bezerra et al., 2007).

Several studies have detected differences in the pattern of meat consumption depending on factors such as gender and age of the consumer (Beardsworth et al., 2002; Verbeke et al., 2002). In general, women consume less meat than men (Cosgrove et al., 2005) and older people have greater health concerns with the choice of meat (Verbeke et al., 2002). Another factor that may influence the meat consumption is the socioeconomic status of families (Schnettler et al., 2008).

The knowledge of the factors associated with the habits of pork consumption has great importance for the production chain, since the segment, based on the information about consumer preferences, may adopt business strategies aiming to increase the frequency and consumption of pork. In this context, we carried out this study with the aim of evaluating the profile and preference of pork consumers in Campo Grande, Mato Grosso do Sul, Brazil.

Materials and Methods

This study was conducted in Campo Grande, Mato Grosso do Sul, Brazil. The diagnosis was made by the interrogation method according to Hildebrand et al. (1992) is a variation of methods for rapid diagnosis and participatory rural. This method allows the knowledge of both social relations and productive systems of communities through semi-structured interviews. Moreover, the interrogation technique enables the identification of potential problems and helping the community to consider their own reality.

The interviews were conducted using a questionnaire with pre-defined terms, consists of questions addressed to consumers. All work was developed in order to establish a profile of consumption of pork, describing the quantity and frequency of consumption and the reasons therefore, consumer preferences related to this in addition to

the criteria used at the time of purchase, consider the price, appearance, origin, packaging and advertising.

211 persons of both sexes and had always been the point of sale (supermarkets, butchers) for a period of two months were interviewed at random.

Aiming to obtain assurance representative sample of the questionnaires was designed to achieve a homogeneous distribution of the population (based on consumer responsibility to purchase food) on the parameters of social class, gender, age and location of the interview.

Quantitative data were analyzed for the distribution of frequencies makes it possible to transform raw data into information in the interpretation and visualization of the phenomenon data.

The distribution analysis allows the illustration by percentage of the number of responses information, facilitating their count. The data were also subjected to analysis technique intersection that aims to simultaneously describe both variables and illustrating the joint distribution of these variables with a discrete number of categories or values.

Results and Discussion

Of the total number of interviewees, 45% were male while 55% were female and despite being employed they continued to give great importance to their home, taking responsibility for household tasks such as being responsible for buying food. It was found that 18% of the interviewed people were between the ages of 20 and 30 years, 22% between 30 and 40 years, 25% between 40 and 50 years, 19% between 50 and 60 years, 13% between 60 and 70 years and only 4% were more than 70 years old.

The average number of people per family was 3.76. As for family incomes, the results showed that 67.3% of the respondents belonged to the social class "B", 27.5% to the social class "C" and 5.2% to the social class "A".

Among the interviewees, 29.6% finished secondary school, 16.5% had an undergraduate degree, 15.5% did not complete undergraduate course, 14.1% did not finish basic education, 9.2% completed basic education, 8.3% did not finish secondary school, 4.4% had a graduate degree, and 2.4% never went to school. It can be inferred that the level of the interviewees' education was lower than in the research of Faria et al. (2006), in which the authors assessed the consumer profile of pork and pork products in Belo Horizonte, Brazil and reported that 42.2% of the interviewees had finished

secondary school, 39.9% had finished basic education and 18.2 had completed graduation.

It was found that 82.8% of the interviewees consume pork while. Among those who consume pork, 64.6% had the amount they would like to eat, 31.8% did not eat the amount they would like and 3.7% did not eat the amount they would like and needed to reduce their consumption further because

of health issues. On the other hand, the justification of the great majority of interviewees (42.0%) for not eating pork is because they do not appreciate the taste; other justifications were based on religious thoughts, the meat high cholesterol content, and fear of verminosis among other reasons not pointed out (Figure 1).

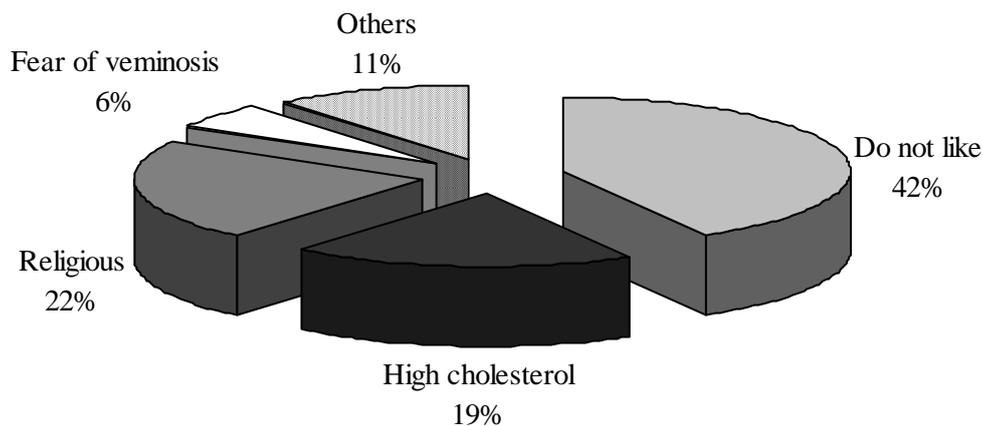


Figure 1. The main reasons pointed out for not consuming pork meat.

From the results obtained in our study, it can be inferred the proportion of people that consume pork (82.8%) was high compared with other studies, such as in Garcia (2005) who reported that only 53% of interviewees in Cordoba, Argentina, consume pork. In the same study, most of the people that do not eat pork said it is because they believe the meat is harmful to health. What in facts is not true, since cuts like loin, ham, and fat-free shoulder contain 3 to 5% fat and therefore are considered low in fat (Bragagnolo & Rodriguez-Amaya, 2002).

It was observed that 85.0% of the interviewees have their main meal (lunch) at home and only 15.0% have it in restaurants; among those, 74.2% reported that in the restaurants they have pork for their meal.

When consumers were asked about the order of consumption (Figure 2), listing from the first to the fourth option, we found that for 81.0% of the interviewees beef is the first in order of consumption in their homes, 17.0% said poultry is the first, while pork and fish took up the first position only for 2.0% of the interviewees. This result is similar to that obtained by Francisco et al. (2007), in Porto Alegre/RS, in which the author's verified beef was the most consumed meat, followed by poultry and pork. Similarly, Morales et al. (2006) and Schnettler

et al. (2008), in studies conducted in Chile, also reported that pork was the third type of meat in the consumers' preference after beef and poultry. However, considering the worldwide standard for meat consumption pork is the most preferred, followed by poultry and beef (Faria et al., 2006).

On the other hand, when the consumers were questioned about the preference order of consumption, in the present study, considering a hypothesis of the same price per kilogram for all meat, the data obtained pointed out that for 65.0% of the interviewees the first option for consumption would be beef, for 18.0% fish was the first option and for 13.0% the first option would be pork, while only 7.0% would continue consuming poultry as their first option. These results allow us to infer that the preference order of consumers does not faithfully follow the order of consumption and it is probably related to the prices of meat and the purchasing power of consumers as evidenced in the studies of Faria et al. (2006), Morales et al. (2006) and Schnettler et al. (2008).

It was verified that 66.1% of the interviewees know the kinds of pork cuts; among them 75.9% have no preference for any type of cut, that is, they consume any cut available in the market, while

16.1% prefer ribs, 5.7% prefer gammon and 2.3% prefer loin.

It was also found that among pork consumers the great majority (79.0%) consume processed products. Among those who consume processed products, 88.2% consume a variety of products,

8.2% consume only pepperoni, 2.1% consume exclusively ham and the remaining 1.5% consumes only bacon. Dry-cured ham, coppa salami and kits with pig sausage, bacon and various cuts of pork to prepare a dish cooked with black beans were not cited by the interviewees.

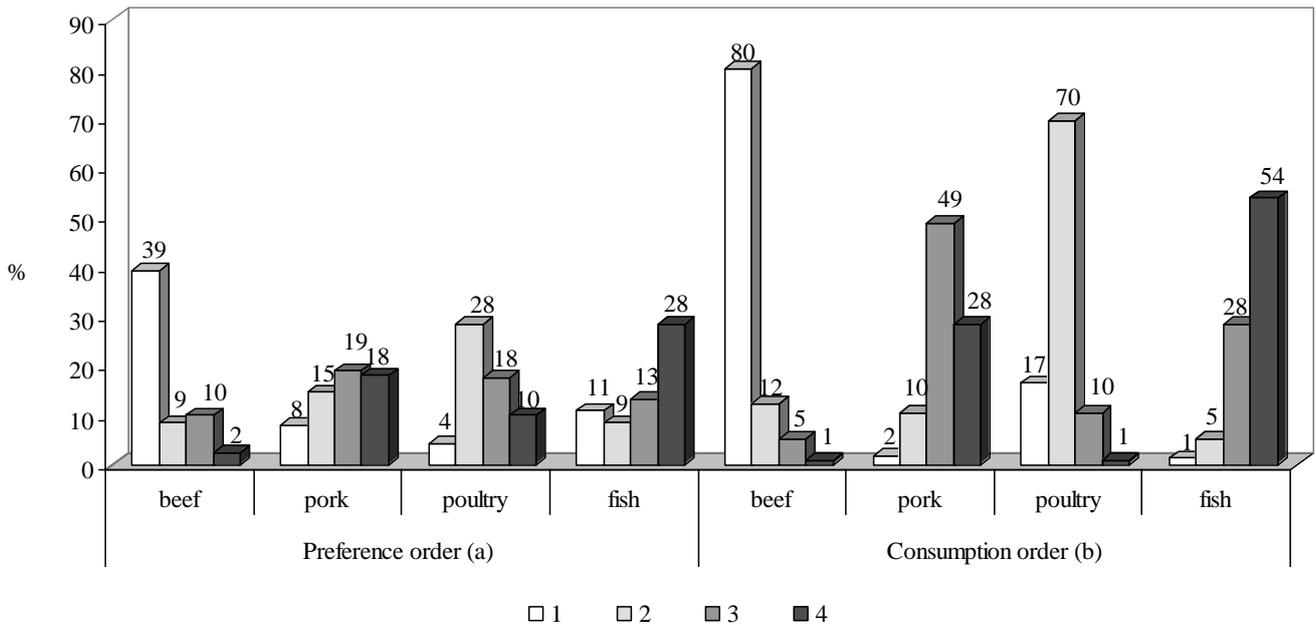


Figure 2. Preference (a) and consumption (b) order considering the same price for all meats.

The interviewees were not able to inform the quantity of pork consumed *in natura* but only the frequency of consumption and the great majority (41.0%) consume pork only once a month, while for

the remaining interviewees the frequency is distributed among weekly, biweekly and during holidays and year-end holidays (Figure 3).

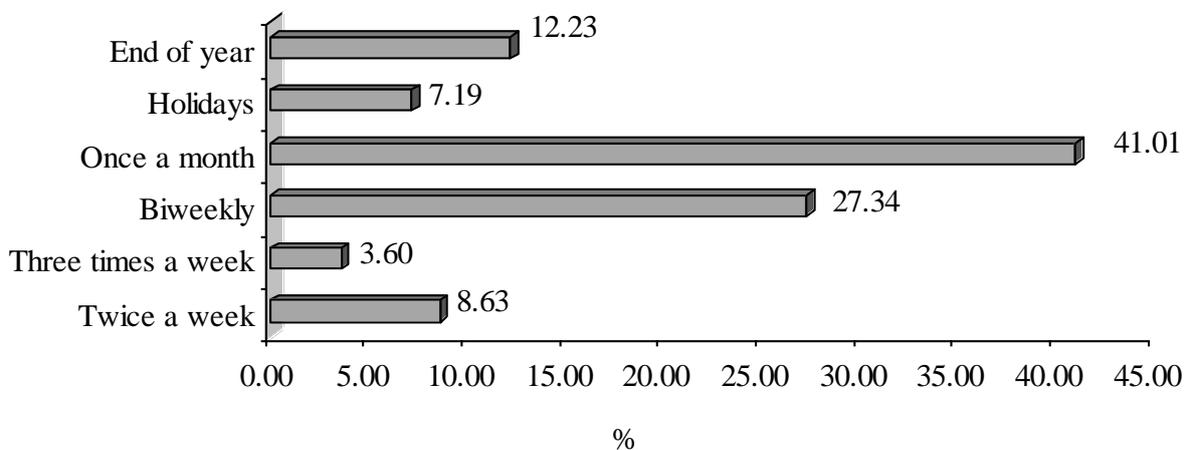


Figure 3. Frequency of pork consumption.

When asked about the factors that could influence an increase in pork consumption (Figure 4) the main factors pointed out were sales promotion (62.9%), reducing the price (62.4%) and decreasing the fat content (56.7%). Among the intermediate factors, the interviewees answered positively to campaigns for clarification of the nutritional quality

of pork (55.2%), an increase in the price of other meat (53.6% each) and an improvement in the products' presentation (52.1%). On the other hand, the factors that would have no influence on increasing consumption were improvements to cuts (53.6%) and increases in supply (65.5%) and in family income (61.9%).

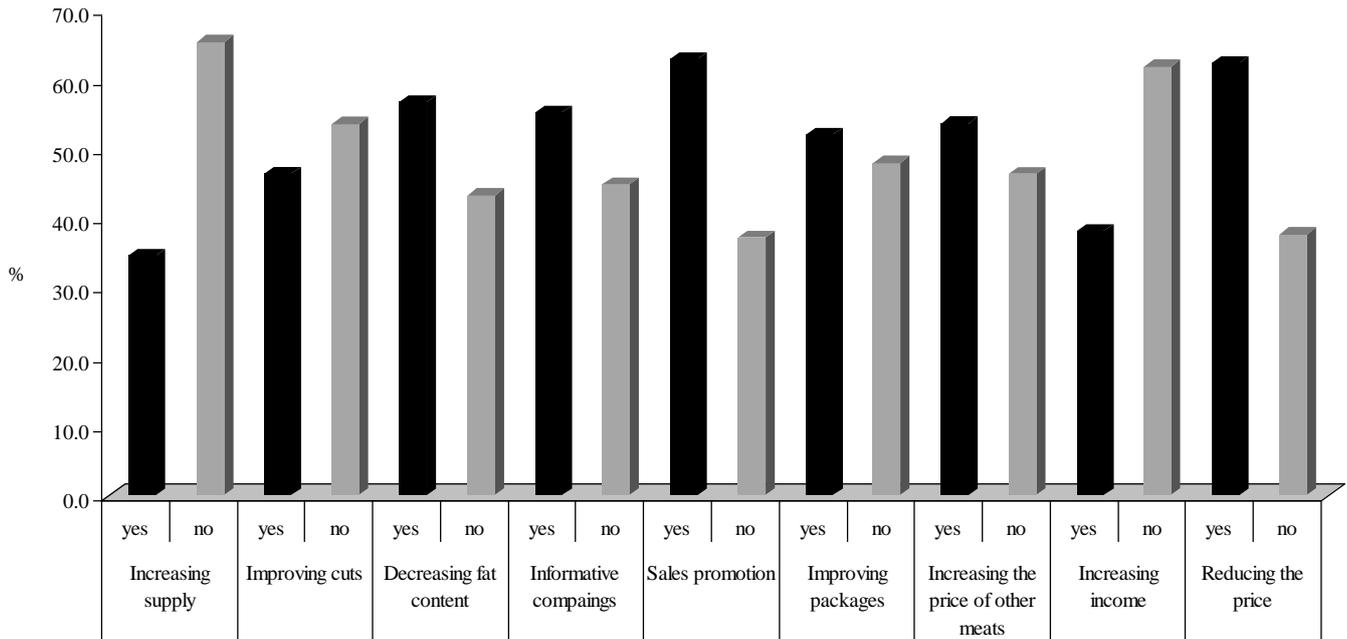


Figure 4. Factors that can increase pork meat consumption.

According to Faria et al. (2006), Martins et al. (2009) and Simões et al. (2012) the variable cost is one of the most important considerations for the demand for any product as the consumers, under normal conditions of consumption, always look for low prices when purchasing a product. This proposition is consistent with our results, since for 62.4% of the interviewees a reduction in the price would be a positive factor for increasing consumption. However, 61.9% of the interviewees did not consider a raise in salary as a relevant factor to increase pork consumption.

Analyzing the preferred way of preparing pork, it was found that 38.4% have a preference for fried meat, 29.1% have no established preference for the way it is cooked and consume pork cooked in any way, 20.7% have a predilection for pork roasted in the oven, 8.4% roasted on barbecue and 3.0% prefer it cooked with black beans, a special Brazilian dish.

According to our results, we can infer that the pork consumer profile of Campo Grande and the

consumers' criteria for selection appear to be strongly related to the local culture. The region is one of the largest beef producers nationally, which probably resulted in the third place for pork concerning the order of consumption among the interviewed people, lagging behind beef and poultry. When evaluated in terms of consumer preference pork also remained as the third option, behind beef and fish.

Most of the interviewed people (62.0%) affirmed that they know how pigs are fed and raised nowadays, and mentioned that production takes place at high-density pig farms and the animals are fed with rations.

The interviewees rated pig meat (Figure 5) for flavor: tasty (84.9%); quality: tender (89.2%); fat/cholesterol: reasonable (48.9%); health: healthy (52.2%); price: reasonable (54.8%); cooking: easy to cook (68.3%); and availability: good supply (58.1%).

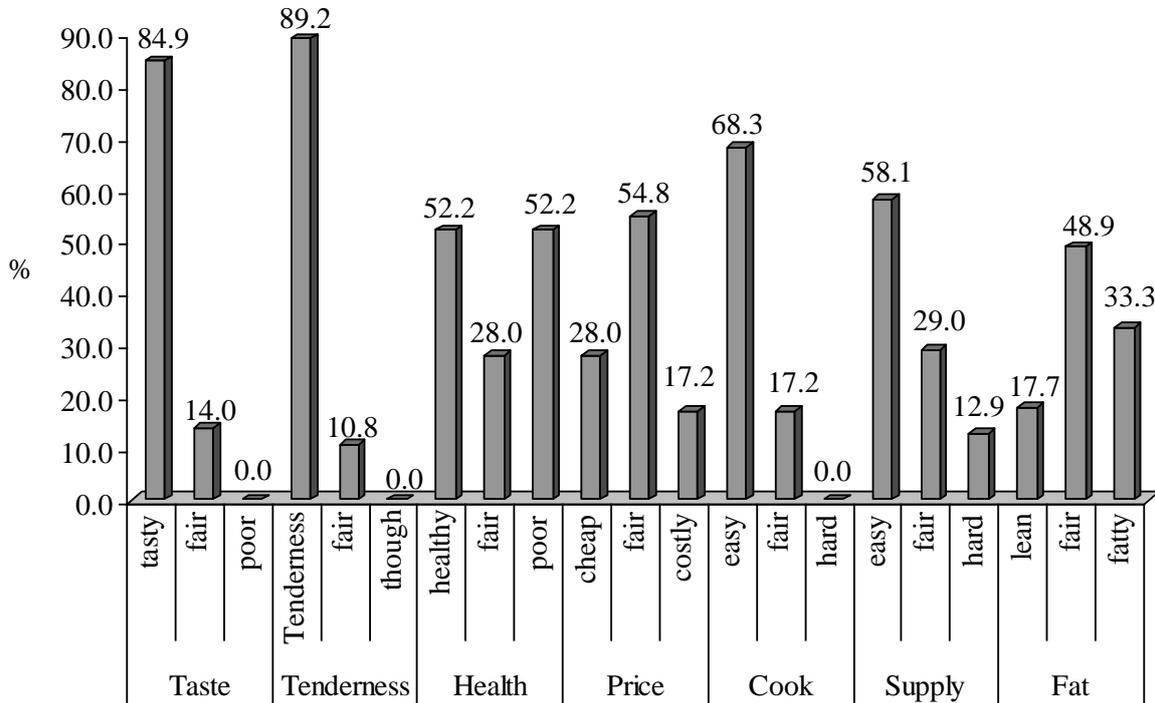


Figure 5. The consumers' view of pork.

As for nutritional value (Figure 6), 52.2% do not have this information, 26.4% believe pork has the same nutritional content as other kinds of meat,

9.3% consider pork to be the most nutritious, 8.2% consider beef to be the most nutritious and only 3.8% consider fish to be more nutritious than pork.

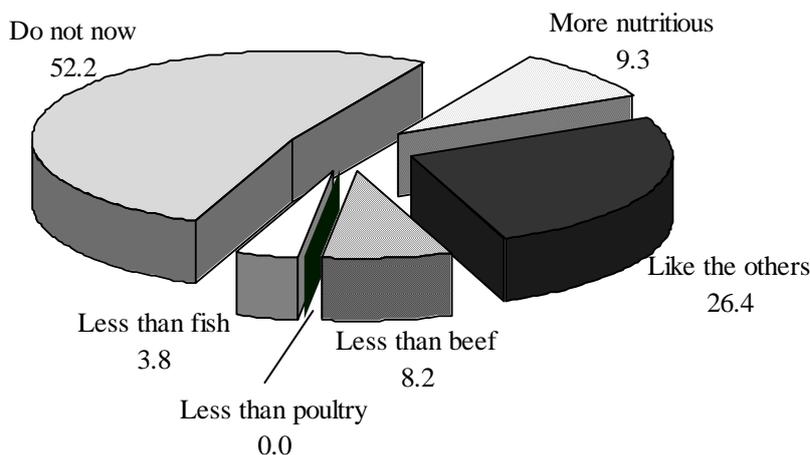


Figure 6. Consumers' knowledge about the nutritional values of pork.

The relatively low pork consumption found in this survey may be related mainly to prejudices created by the lack of knowledge and the taboos attributed to pig meat. However, it is observed that there is room for an increase in consumption as there are positive factors pointed out by the interviewees concerning the characteristics of pork, such as flavor

and tenderness. Flavor and tenderness were the main positive characteristics of pig meat, while fat and cholesterol content were the weaknesses pointed out.

Regarding the place of purchase, most consumers buy pork at marketplaces or supermarkets (75.0%), while the remaining purchase it from butchers (15.0%) or farms (10.0%). Probably



the pork purchase directly from the producer is a consequence of the large number of pig farms in the region where this study was performed.

According to research conducted by Bezerra et al. (2007), interviewees tend to buy their products (pork and/or its industrialized products) in supermarkets (40.8%), fairs (37.0%) or directly from the producer (22.3%).

Among pork consumers 57.5% do not know the meat's origin, 28.5% of the people interviewed said it comes from slaughterhouses with inspections and for 14.0% of people the meat comes from informal slaughterhouses, that is, with no inspections. In turn, Bezerra et al. (2007) found that 36.0% of interviewees only consume meat inspected by the Federal Inspection Service (SIF), 32.8% consciously consume uninspected meat, 18.0% do not know what the SIF is and 13.3% do not care about whether the product has been inspected or not. Most of the interviewees consume *in natura* and processed pork products but unaware of the meat nutritional values. The great majority of pork buyers are females with purchasing held in supermarkets and the main meal of the day done at home.

Conclusions

The consumption of meat in Campo Grande, follows the Brazilian setting where the most consumed meat is beef, followed by poultry, with pork in the third position, which can be related to cultural and religious issues and also to the myths and prejudices associated with pig meat. Pork may have more room on the consumers' tables in Mato Grosso do Sul as long as more publicity is given to it, providing information about its nutritional quality that could abolish the taboos and myths involving its consumption.

References

BEARDSWORTH, A.; BRYMAN, A.; KEIL, T. GOODE, J.; HASLAM, C.; LANCASHIRE, E. Women, men and food: the significance of gender for nutritional attitudes and choices. **British Food Journal**, v.107, p.470-491, 2002.

BEZERRA, J.M.M.; NETO, A.C.; SILVA, L.P.G.; LUI, J.F.; RODRIGUES, A.E.; MARTINS, T.D.D. Caracterização do consumidor e do mercado da carne suína na microrregião de Campina Grande, estado da Paraíba. **Ciência Animal Brasileira**, v.8, n.3, p.485-493, 2007.

BRAGAGNOLO, N.; RODRIGUEZ-AMAYA, D.B. Teores de colesterol, lipídios totais e ácidos graxos em cortes de carne suína. **Ciência e Tecnologia de Alimentos**, v.22, p.98-1043, 2002.

COSGROVE, M.; FLYNN, A.; KIELY, M. Consumption of red meat, white meat and processed meat in Irish adults in relation to dietary quality. **British Journal of Nutrition**, v.93, p.933-942, 2005.

GARCIA, S.D. Caracterización del consumo de carne porcina en la ciudad de Córdoba-Argentina. Universidade Nacional de Córdoba. 7p. 2005.

FARIA, I.G.; FERREIRA, J.M.; GARCIA, S.K. Mercado consumidor de carne suína e de derivados em Belo Horizonte. **Arquivos Brasileiros Medicina Veterinária e Zootecnia**, v.58, n.2, p.251-256, 2006.

FRANCISCO, D.C.; NASCIMENTO, V.P.; LOGUERCIO, A.P.; CAMARGO, L. Caracterização do consumidor de carne de frango da cidade de Porto Alegre. **Ciência Rural**, v.37, n.1, p.253-258, 2007.

HILDEBRAND, P.; POATS, S.; WALECKA, L. **Introdução à pesquisa e extensão de sistemas agrícolas florestais**. Gainesville, Florida, 1992, 23p.

MARTINS, T.D.D.; BEZERRA, W.I.; MOREIRA, R.T.; SILVA, L.P.G.; BATISTA, E.S. Mercado de embutidos de suínos: comercialização, rotulagem e caracterização do consumidor. **Revista Brasileira de Saúde e Produção Animal**, v.10, p.12-23, 2009.

MORALES, B.S.; BÄSCHLER, O.M.; VARGAS, H.M. Hábitos de consumo de carne bovina em Temuco, IX Región de Chile. **Idesia**, v.24, p.1215-1253, 2006.

ONU 2001, World population prospects: The 2000 revision. New York: **United Nations Publications**, 2001, 269 p.

SCHNETTLER, B.M.; SILVA, R.F.; SEPÚLVEDA, N.B. Beef consumption in southern Chile and its relation to consumers sociodemographic characteristics. **Revista Chilena de Nutrición**, v.35, p.262-271, 2008.



Revista Agrarian

ISSN: 1984-2538

SIMÕES, A.R.; SANTOS, T.M.B.; CAPPI, N.; KIEFER, C. Aspectos da comercialização da carne suína no varejo no município de Aquidauana-MS. **Revista Agrarian**, v.5, p.417-427, 2012.

VERBEKE, W.; WARD, R.; VIAENE, J. Probit analysis of fresh meat consumption in Belgium: exploring BSE and television communication impact. **Agribusiness**, v.16, p.215-234, 2002.