SAUSAGE PREFERENCES FOR CONSUMERS IN TWO DIFFERENT GEOGRAPHICAL AREAS IN COSTA RICAN

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Abstract –Market research was conducted in two different geographical areas in Costa Rica: San Carlos and GAM (San José). A semi-structured interview was performed to develop a discussion guide for further qualitative investigation. One mini group session with 5 persons and a group session with 9 persons were conducted in San Carlos. In the GAM, two mini group sessions with 6 persons each also took place. A thematic analysis was applied in order to identify the most frequently repeated concepts. For the quantitative investigation, a questionnaire was designed using results from the focus groups. The survey was by telephone, the sample size was n=157. Survey data were analyzed using descriptive statistics and also to relate the results to socio-demographic characteristics, a chi-square ratio test (X2) was applied (5% significance). People who live in the GAM prefer ham while in San Carlos the preferred sausage was saucisson. Significant differences were not found for the reported consumption frequency rates, perceptions of the consumption effects on health, or the ways to improve sausages. Consumers eat sausages because they have good taste and are convenient. According to consumers, the sausages should contain less fat, include more natural ingredients and have more control of raw materials and elaboration processes to be healthier.

Key Words –Focus group, frequency of consumption, telephone survey.

I.   INTRODUCTION

The development of sausages in the world market is increasing because these products are considered practical and simple to use. The Costa Rican sausage industry has evolved from manual operations to the establishment of processing plants with different dimensions, varying degrees of process automation and specified infrastructure conditions to ensure quality and safe products. In recent years, concern for providing quality sausages has generated an increase in production and a greater variety of products, such as: bologna, saucisson, frankfurters, "chorizo", *pâté*, and ham [1]. Consumers are also becoming more demanding about quality and variety.

Market research includes the collection, analysis and presentation of relevant market information for a specific product [2]. This can benefit the marketing decision processes [3] and it allows a connection between the producer and the consumer through research, whether quantitative, qualitative or both [4]. It is essential to know the expectations of consumers to develop a competitive advantage [5] [6]. In order to understand the preferences of sausage consumers, market research was conducted in two different geographical areas of Costa Rica using qualitative and quantitative methods.

II.   MATERIALS AND METHODS

Two geographical areas in Costa Rica were compared, the Greater Metropolitan Area (GAM), with a 22% rural population and San Carlos, located outside the GAM, and with a 75% rural population. A semi-structured interview was performed. For this interview, a guide that included various aspects of sausage consumption was designed in order to identify interesting topics to be discussed in the focus group [7]. In depth interview were conducted with twelve persons living in the GAM with ages between 22 and 55. One mini group session with 5 persons and a group session with 9 persons were conducted in San Carlos, in the GAM also two mini group sessions took place consisting of 6 persons each. A

discussion guide was developed from the results of the interviews. The guide included topics such as types of sausages consumed, consumption frequency rates, possible effects of sausage consumption on health, and ways to improve sausages. The sessions were run by two researchers: the moderator leading the session and the observer attending to practical matters, including note-taking. Each group session lasted an hour and each session was audio taped. The results were examined with a thematic analysis in order to identify concepts frequently repeated. For the survey, a questionnaire, with mainly closed questions, was designed from the results of the interviews and focus groups. The survey was by telephone. Sample size (n=157) was calculated considering a 95% confidence, assuming a value of p and q of 0.5 and an error of 7%. The surveyed number of people was 97 and 96 persons for GAM and San Carlos respectively. The sampling method was a simple randomization. Data was analyzed using descriptive statistics and also to relate the socio-demographic characteristics a chi-square ratio test (X2) was applied (5% significance). The JMP statistical software version 8.0 was used.

III.   RESULTS AND DISCUSSION

No relationship between the consumption of sausages and place of residence (X2 = 0.001, p = 0.9725) was found. Both in the GAM and San Carlos about 19% of the people did not eat sausages at all (Figure 1). Sausages are considered bad for health by 77% of the respondents, who do not eat sausages because they consider that sausages have a high fat content, and who have medical indications not to eat sausages because they suffer from diseases such as diabetes, hypertension and obesity. Other reasons for not eating included dislike of the taste and the quality of raw materials.
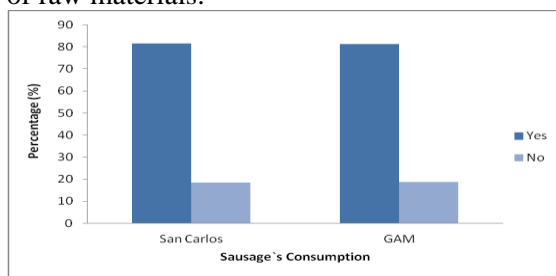

Figure 1. Distribution of consumption of sausages by surveyed consumers, n=157(Costa Rica, 2011).

The frequency of consumption per week showed no relationship (X2 = 4.192, p = 0.6507) with the place of residence. About 30% of the respondents consumed sausages twice a week, 20% once a week and 18% ate sausages fewer times than once a week, only about 30% eat them more than three times per week (Figure 2). In the group sessions, about half of the participants consumed sausages between two and three times a week while the others eat them more than three times a week. According to Calderon et al. [8], in a telephone survey about food consumption in different social classes in Costa Rica, 38% of people consumed sausages fewer times than once a week, therefore the intake appears to have increased.

A significant relationship (X2 = 28.093, p<0.0001) was found between frequency of sausage consumption and a respondent's self reported health practices through food (Figure 3). Approximately 80% of the respondents, who take care of their health, consume sausages twice a week or fewer times, while 55% people who do not take care of their diet consume these products more than three times a week. The sausages are perceived as "unhealthy", this behavior coincides with that observed in a study conducted in Canada, where people who had greater intentions to eat healthy foods, were those who used healthier methods of preparing foods and acquired unhealthy food less frequently [9].
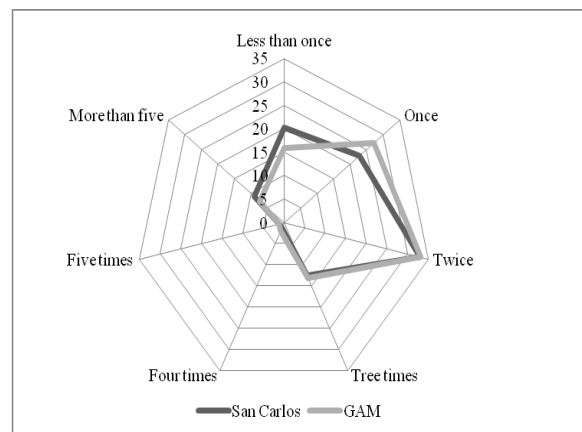

Figure 2. Frequency of sausage consumption per week by place of residence (Costa Rica, 2011).
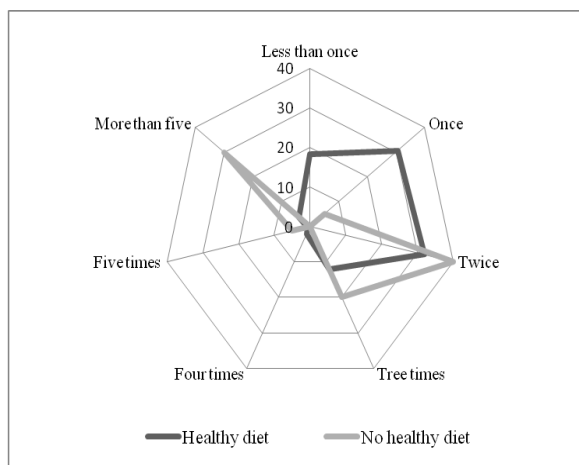
Figure 3. Frequency of sausage consumption per week by healthy diet (Costa Rica, 2011).

Figure 4. Sausage preference by place of residence n=157 (Costa Rica, 2011).

Respondents claimed to eat sausages mainly for their good taste (56%) and because they are practical (26%). Also, in the group sessions, these characteristics were identified as being the most important. Another important characteristic mentioned in these meetings was versatility, participants said they can prepare sausages in many different ways and serve them with a wide range of foods.

Regarding the type of sausage consumed, the following results were found: 74% saucisson, 62% frankfurters , 60% bologna, 40% ham, 15% "chorizo" and 8% other products included pâte and salami. In a study by Aguilar et al. [10], saucisson was consumed by 66%, 76% consumed bologna and 41% consumed chorizo, these were more consumed as compared to frankfurters (54%) and ham (31%).

Sausage preference and place of residence showed a relationship (X2 = 11.222, p = 0.0472). In the GAM, respondents preferred eating ham while in San Carlos saucisson was preferred (Figure 4). This preference for ham was also observed in a Venezuelan study by Saez et al. [11], while saucisson was least preferred by Venezuelan consumers.
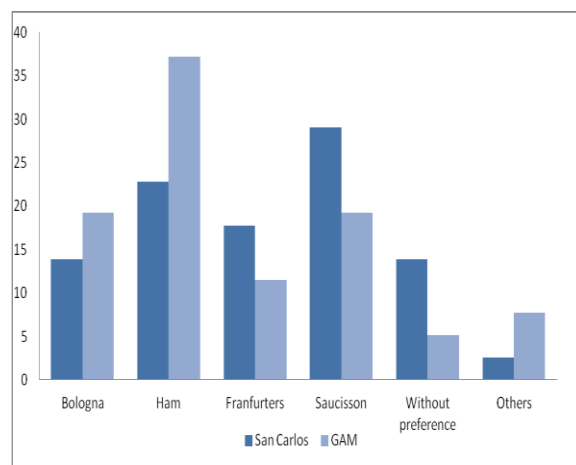
When asked about the possible impact of sausage consumption on health, people say it is mostly negative or neutral (Figure 5), and that to eat a lot of sausages can be harmful. No relationship was found between the perceived impact on health and place of residence (X2 = 7.364, p = 0.1178). Most of the people who participated in the focus groups, believed that sausages were bad for their health, and that health outcomes depend largely on consumption frequency. Among the reasons for this consideration are: that perception of high fat and salt content, added preservatives, quantity and quality of meat used in their processing, home preparation form is considered to be unhealthy and sausages are associated with junk food. However, these people emphasized they consumed the least amount of sausages, primarily because they have good taste, are practical and versatile.
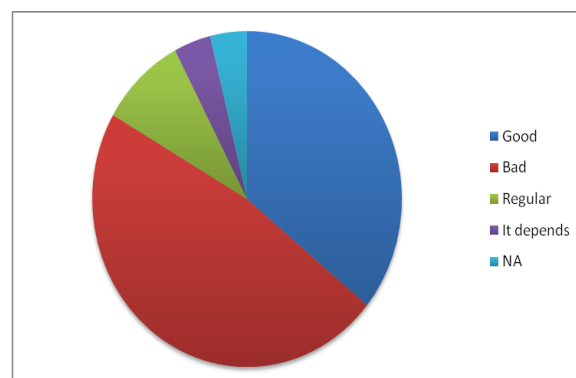

Figura 5. Opinion about sausage impact on health, n=157 (Costa Rica, 2011).

To improve sausages, 49% of consumers believe that suasages should have less fat (Figure 5), this

improvement was also suggested by most consumers in the study by Aguilar et al. [10]. In addition, 28% of consumers indicated control of raw materials and processes as a suggestion of how to improve these products. This opinion is in accordance with Spanish consumer research on ham, in which raw materials and processes were considered to be important factors in quality [12], 16% of consumers believed that sausages should be more natural decreasing the amount of preservatives they have (Figure 6). These opinions were the same in the focus groups.
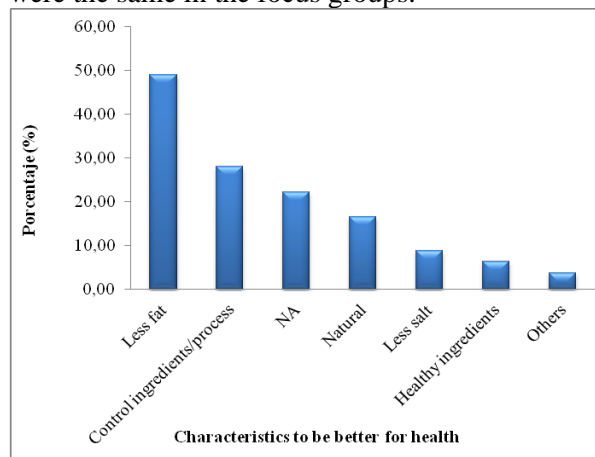

Figure 6. Consumers opinion about sausages characteristics to improve the impact on health, n=157(Costa Rica, 2011).

IV. CONCLUSION

No significant differences were found in the surveyed populations related to desires and preferences between consumers from the GAM and San Carlos, except for the specific preferred sausage. People in the GAM prefer ham, while those in San Carlos prefer saucisson. Consumers eat sausages because of their good taste and their convenience. According to consumers, sausages should contain less fat, include more natural ingredients and should also be produced with more control over raw materials and elaboration processes in order to be healthier.

ACKNOWLEDGEMENTS

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