▪ Headache Medicine 2020, 11(2):51-53 ▪ ISSN 2178-7468, e-ISSN 2763-6178

Headache Medicine

▪ DOI: 10.48208/HeadacheMed.2020.15

Original

Food avoidance among patients with headache

Stella Boreggio Machado[1] **Nayara Cavalcanti Ares**[2] **Claudio Scorcine**[3] **Yara Dadalti Fragoso**[4]

[1] Universidade Metropolitana de Santos, Nutrition, Santos, São Paulo, Brazil.
[2] Universidade Metropolitana de Santos, Physical Education, Santos, São Paulo, Brazil.
[3] Universidade Metropolitana de Santos, Post Graduate Studies, Santos, São Paulo, Brazil.
[4] MS & Headache Research, Research, Santos, São Paulo, Brazil.

Yara Dadalti Fragoso
yara@bsnet.com.br

Edited by
Marcelo Moraes Valença

Abstract

Objective
To assess food and drink avoidance among patients with headache by means of an online survey.
Methods
Individuals with frequent headaches were invited to answer a Google Form questionnaire [https://form.jotformz.com/200233754863656]. The survey included sex, age and characteristics of headache. Dietary habits were assessed as the number of times the individual consumed certain foods, on a daily, weekly, or monthly basis. The participants could state up to three foods that they avoided for fear of headache attacks.
Results
120 complete forms were received. Alcoholic beverages were the most frequent trigger factor, reported by 26.7% of the patients. 95.5% of the participants did not consume alcohol regularly. Cheese, caffeine and fat were also recognized as potential triggers of headaches. There was no standard profile of dietary triggers and, therefore, everyone has to be personally approached in this subject.
Conclusion
The online survey confirmed that individual characteristics of headache were dietary triggers in half the participants. Alcohol was the most frequently mentioned trigger, followed by cheese, fat and caffeine.

Keywords:
Diet
Headache
Carbohydrates

Received: April 24, 2020.
Accepted: April 27, 2020.

Introduction

The association of dietary factors and primary headaches is controversial.[1] Certain foods can trigger headache in up to 64% of patients, but not all the attacks and not all the time.[2] The literature on this subject is conflicting since no mechanism for supporting the existence of a food-headache association has yet been established with adequate evidence.[3] Among the proposed mechanisms for the onset of headache attacks through dietary triggers are the "amine hypothesis", "allergy vasodilation", "dysregulation of neurotransmitters involved in appetite" and "inflammatory diet".[3]

Perhaps one of the best examples of the conflicting evidence on triggering foods relates to chocolate. Although eating chocolate is widely believed to trigger migraine attacks, the risk of having a migraine after doing this is as likely as after eating placebo.[4] Another confounding factor may be the masticatory trigger for headache attacks: this could be misinterpreted as the food itself (for example, chewing red meat).[5] Anxiety and anticipatory behavior can also play a role among patients who believe a certain food will trigger an attack.[6]

The objective of the present study was to assess headache patients' food avoidance and consumption using an online survey.

Methods

This study was approved by the Ethics Committee at Universidade Metropolitana de Santos, SP, Brazil, under CAAE 17241719.1.0000.5509. Individuals with headache at least once a month over the last three months were invited to answer a Google Forms survey [https://form.jotformz. com/200233754863656].

This study was approved by the Ethics Committee at Universidade Metropolitana de Santos, SP, Brazil, under CAAE 17241719.1.0000.5509. Individuals with headache at least once a month over the last three months were invited to answer a Google Forms survey [https://form.jotformz.com/200233754863656].

The Kolmogorov-Smirnov test assessed the sample normality, Student's t test was used for parametric variables and Pearson's correlation and the chi-square test were used for comparisons.

Results

A total of 120 individuals answered the survey (95 women). Their average age was 36 years and 65.8% of them had presented headaches for four or more years. Migraine or probable migraine was identified in 104 subjects. The remaining 16 patients presented the characteristics of tension-type headache. Table 1 presents the list of foods that the patients avoided because they believed that these foods could induce headache attacks. Alcohol, greasy food, cheese and caffeine were the most cited triggers of headaches. Figure 1 presents the frequencies of food consumption. In summary, alcoholic beverages, fizzy drinks, fruits, processed fruit juices, fish, prawns, soya products and cured meats were often avoided by these patients. Bread, cheese, natural fruit juices, beans, eggs, read meats, chocolates and coffee were frequently consumed by these patients. Only 13 patients (10.8%) reported five or more dietary triggers for their headaches that they never consumed.

Table 1. Number (and percentage from n=120) of participants who spontaneously referred specific dietary components that could trigger headaches.

Food/drink	Number of patients (n)	%
Triggers?		
Yes	63	52.5%
Alcohol	32	26.6%
Bread	1	0.8%
Caffeine	9	7.5%
Cheese	9	7.5%
Chocolate	7	5.8%
Cured meats	4	3.3%
Egg	1	0.8%
Fat	15	12.5%
Nuts	3	2.5%
Red meat	2	1.6%
Salt	3	2.5%
Soda	3	2.5%
Spicy food	4	3.3%
Sweets	9	7.5%

There were no differences in food preference and/or avoidance regarding sex, age, frequency or type of headache. Caffeine and cheese, which were spontaneously cited as headache triggers by 10% of the patients, were among the five items most consumed by them. Cheese was consumed by 73% of the patients while black coffee was consumed by 77% of them. Canned fish and prawns were consumed by less than 10% of the patients, although none of them regarded these items as potential triggers.

Discussion

The association between headaches (particularly migraine) and dietary components is complex and often misunderstood. Physicians frequently tell patients to avoid a list of standard foods and drinks that are not triggers for all headache sufferers. In addition, it is important to acknowledge that, beyond diet, other lifestyle changes may have a role in the therapeutic success of these patients.[7] Rather than implementing a standard list of foods and drinks that are "forbidden", identification of dietary triggers for each patient is ideal. This can be done with the help of food diaries, which are an inexpensive way to understand which foods and drinks may trigger headache attacks in that individual.[8]

It was interesting to observe that half the patients considered that at least one dietary component was a headache trigger. While alcohol

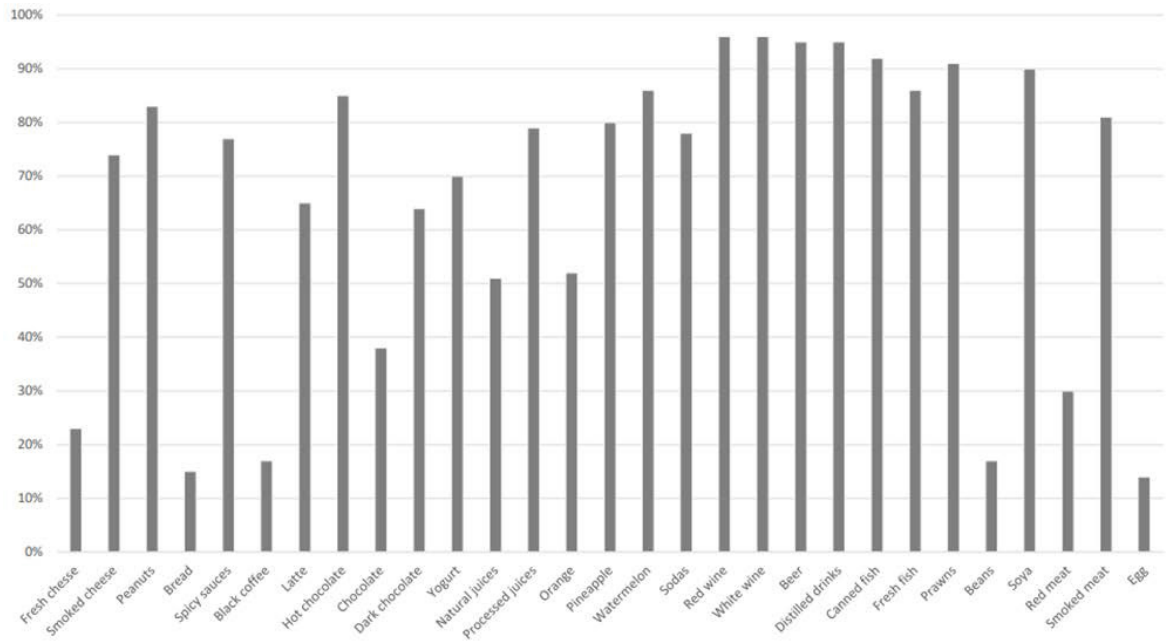

Figure 1. Percentage of individuals with headache (n=120) who avoided consuming each of these foods or drinks. Note that avoidance of dietary factors is higher than that spontaneously cited by patients.

was believed to trigger headache attacks by over a quarter of our patients, other dietary factors were remarkably different among the patients. For example, some participants could not tolerate cheese, while other ate it regularly without problems. This reinforces the idea that, like the pharmacological approach to headaches, a tailor-made dietary recommendation for each patient is necessary. While patients may give us details of their food avoidance, the biological mechanism through which dietary triggers precipitate headache attacks remains obscure.[9]

Our study had limitations. It used a small sample of individuals who answering an online survey. The diagnosing their headache was not ideal, and the sample comprised a mixture of cases of migraine, probable migraine, and tension-type headache. However, the aim of this study was not to study any specific primary headache. There were no evaluations for micronutrients or the percentage of proteins, carbohydrates, and fat in the patients' diet. All of these factors will be addressed in future studies in our group.

Conclusion

The online survey used in this study confirmed the individual characteristics of headache dietary triggers. Alcohol, the most frequently reported trigger, affected 26% of the participants. Overall, half the patients had at least one food or drink that was associated with headaches.

Acknowledgement: SB Machado received a Scientific Initiation Grant from the Brazilian National Council for Scientific and Technological Development (CNPq) for which the authors are grateful.

References

1. Rockett FC, de Oliveira VR, Castro K, et al. Dietary aspects of migraine trigger factors. Nutr Rev. 2012; 70: 337-56. doi: 10.1111/j.1753-4887.2012.00468.x.
2. Zaeem Z, Zhou L, Dilli E. Headaches: a review of the role of dietary factors. Curr Neurol Neurosci Rep. 2016; 16: 101.
3. Razeghi Jahromi S, Ghorbani Z, Martelletti P, et al. Association of diet and headache. J Headache Pain. 2019; 20: 106.doi: 10.1186/s10194-019-1057-1
4. Lippi G, Mattiuzzi C, Cervellin G. Chocolate and migraine: the history of an ambiguous association. Acta Biomed. 2014; 85: 216-21.
5. Costa YM, Porporatti AL, Stuginski-Barbosa J, et al. Headache attributed to masticatory myofascial pain: clinical features and management outcomes. J Oral Facial Pain Headache. 2015; 29: 323-30.doi: 10.11607/ofph.1394.
6. Iliopoulos P, Damigos D, Kerezoudi E, et al. Trigger factors in primary headaches subtypes: a cross-sectional study from a tertiary centre in Greece. BMC Res Notes. 2015; 8: 393. doi: 10.1186/s13104-015-1390-7.
7. Slavin M, Ailani J. A clinical approach to addressing diet with migraine patients. Curr Neurol Neurosci Rep. 2017; 17: 17. doi: 10.1007/s11910-017-0721-6.
8. Sun-Edelstein C, Mauskop A. Foods and supplements in the management of migraine headaches. Clin J Pain. 2009; 25: 446-52. doi: 10.1097/AJP.0b013e31819a6f65.
9. Finocchi C, Sivori G. Food as trigger and aggravating factor of migraine. Neurol Sci. 2012; 33: S77-80. doi: 10.1007/s10072-012-1046-5.