



5. INTERNATIONAL FOOD, AGRICULTURE AND VETERINARY SCIENCES CONGRESS

17 - 19 March 2023

Kafkas University, Kars, Türkiye

PROCEEDINGS BOOK (VOLUME-2)



EDITORS:

Prof. Dr. Tarkan ŞAHİN
Ass. Prof. Mükremin ÖLMEZ



ISBN: 978-625-367-003-0



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Issued: 22.03.2023

ISBN: 978-625-367-003-0

CONGRESS ID

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EVALUATION PROCESS

All applications have undergone a double-blind peer review process

TOTAL NUMBER OF PAPERS: 426

THE NUMBER OF PAPERS FROM TÜRKİYE: 202

OTHER COUNTRIES: 224

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ANTIMICROBIAL RESISTANCE IN FOOD PATHOGENS	Prof. Dr. Nebahat BİLGE Ress. Assist. Gönül Damla ALTUNTAŞ	Kafkas University, Türkiye
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SUNULAN BEBEK BİSKÜVİLERİNİN BESİN ETİKETLERİNİN İNCELENMESİ**
**THE INVESTIGATION OF FOOD LABELS OF BABY BISCUITS WHICH SALE ON
ONLINE SHOPPING WEBSITES IN THE TURKEY, USA and GERMANY**

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ÖZET

Günümüzde bebek ek gıdalarının ticari olarak birçok formda üretiliyor olması, annelerin bu ürünleri alırken bilinçli olarak tercih edebilmelerini zorlaştırmaktadır. Tüketici sağlığının korunması ve sağlıklı besin tercihlerinin gerçekleştirilmesi için ise paketlenmiş ürünlerde, gıda etiketi çalışmaları gerçekleştirilmektedir. Literatürde, çeşitli ülkelerde satışa sunulan kahvaltılık gevrekler, fast-food ürünleri, bebek mamaları ve asitli içecekleri inceleyen gıda etiketi araştırmaları mevcuttur. Ancak, tüketim tercihi ve gıda endüstrisindeki payı gittikçe artan bebek ek gıdalarına yönelik herhangi bir gıda etiketi çalışması bulunmamaktadır. Bu çalışmanın amacı, ülkemizde çevrimiçi ortamda satışa sunulan bebek bisküvilerinin Almanya ve ABD'deki muadillerine göre besinsel ve gıda katkı maddesi içeriğinin değerlendirilmesidir. Bu amaçla üç ülkede 167 bebek bisküvisi belirlenmiş olup, etiket bilgisinin eksik olması (n=50), 2 yaşın altındaki bireyler için uygun olmaması (n=10), internet üzerinden satıştan kaldırılmış olması (n=18), toz formunda olması (n=5) gibi nedenlerden dolayı 83 ürün çalışmadan dışlanmıştır. Türkiye (n=24), ABD (n=17) ve Almanya (n=43)'da çevrimiçi olarak satışa sunulan 84 bebek bisküvisinin etiketi çalışmaya dahil edilmiştir. Elde edilen veriler Jamovi (2.3.21) istatistik programına aktarılmış, Shapiro Wilk, Mann Whitney U testi ve ki kare testleri uygulanarak sonuçlar değerlendirilmiştir. Türkiye, ABD ve Almanya'da satışa sunulan bebek bisküvilerindeki besinsel öğelerin ortalama±standart sapma değerleri sırasıyla enerji (419±89.1, 422±25.8, 427±22.5), karbonhidrat (62.2±14.7, 71.6±6.1, 69.9±5.2), yağ (15.2±7.1, 11.7±2.7, 11.6±2.6), doymuş yağ (5.0±2.6, 4.5±3.5, 3.5±2.5), protein (6.9±2.3, 6.1±3.3, 8.8±2.6), şeker (15.5±8.4, 21.7±3.8, 19.8±6.6), tuz (0.2±0.3, 0.2±0.2, 0.3±0.3) ve lif (3.7±2.0, 2.6±1.6, 3.1±3.2) şeklindedir. ABD'de satışa sunulan ürünlerdeki karbonhidrat ve şeker miktarı ülkemizdekilere göre anlamlı olarak daha yüksektir ($p<0.05$). Ayrıca, ülkemizdeki bebek bisküvilerinin yağ ve doymuş yağ miktarları Almanya'da satışa sunulan muadillerine göre daha yüksek, protein ve karbonhidrat miktarları ise anlamlı ölçüde daha düşük bulunmuştur ($p<0.05$). Sonuçlar ülkemizdeki bireyler için potansiyel bir sağlık tehdidi ifade etmekte olup, ileride gerçekleştirilecek geniş kapsamlı araştırmalarla gelecek nesillere güvenli ve eşit bir gıda endüstrisi sağlanmalıdır. Bu çalışma Tübitak 2209 A proje çağrısı tarafından desteklenmektedir.

Anahtar Kelimeler: besin ögesi, tamamlayıcı beslenme, gıda etiket bilgisi, gıda katkı maddesi

ABSTRACT

Today, the fact that infant complementary foods are produced commercially in many forms makes it difficult for mothers to consciously choose these products while purchasing them. To protect consumer health and to realize healthy food preferences, food label studies are carried out for packaged products. In the literature, there are food label studies examining breakfast cereals, fast-food products, baby foods, and sodas sold in various countries. However, there is no food label study for baby complementary foods, whose consumption preference and share in the food industry are increasing. This study aims to evaluate the nutritional and food additive content of baby biscuits offered for sale online in our country, compared to their counterparts in Germany and USA. For this purpose, 167 baby biscuits were determined in three countries, 83 products were excluded from the study due to reasons such as lack of label information (n=50), not being suitable for individuals under the age of 2 (n=10), being removed from sale on the internet (n=18), being in powder form (n=5). Labels of 84 baby biscuits offered for sale online in Turkey (n=24), USA (n=17), and Germany (n=43) were included in the study. The obtained data were transferred to the Jamovi (2.3.21) statistical program, and the results were evaluated by applying Shapiro Wilk, Mann Whitney U test, and chi-square tests. The mean \pm standard deviation values of nutritional components in baby biscuits offered for sale in Turkey, USA and Germany are energy (419 \pm 89.1, 422 \pm 25.8, 427 \pm 22.5), carbohydrate (62.2 \pm 14.7, 71.6 \pm 6.1, 69.9 \pm 5.2), fat (15.2 \pm 7.1, 11.7 \pm 2.7, 11.6 \pm 2.6), saturated fat (5.0 \pm 2.6, 4.5 \pm 3.5, 3.5 \pm 2.5), protein (6.9 \pm 2.3, 6.1 \pm 3.3, 8.8 \pm 2.6), sugar (15.5 \pm 8.4, 21.7 \pm 3.8, 19.8 \pm 6.6), salt (0.2 \pm 0.3, 0.2 \pm 0.2, 0.3 \pm 0.3) and fiber (3.7 \pm 2.0, 2.6 \pm 1.6, 3.1 \pm 3.2), respectively. The amount of carbohydrates and sugar in the products offered for sale in the USA is significantly higher than those in our country ($p<0.05$). In addition, while the fat and saturated fat amounts of baby biscuits in our country were higher than their counterparts sold in Germany, the protein and carbohydrate amounts were found to be significantly lower ($p<0.05$). The results represent a potential health threat to individuals in our country, and a safe and equitable food industry should be provided to future generations with extensive research to be carried out in the future. This study is funded by Tubitak-2209 project call.

Key Words: nutrient, complementary feeding, food label information, food additive