ISSN: 2618-625X
e-ISSN: 2667-5765

HALİÇ ÜNİVERSİTESİ SAĞLIK BİLİMLERİ DERGİSİ

HALİÇ UNIVERSITY JOURNAL OF HEALTH SCIENCES

Cilt: 6 • Sayı: 2 • Tarih: 31 Mayıs 2023
Volume: 6 • Issue: 2 • Date: 31 May 2023

Haliç Üniversitesi Adına Sahibi *Owner on behalf of Haliç University*	**Rektör Prof.Dr. Zafer Utlu** Haliç Üniversitesi Rektörü
Editör *Editor-in-Chief*	Prof. Dr. Hatice Yorulmaz
Editör Yardımcısı *Associate Editor*	Dr.Öğr.Üyesi Aysu Yıldız Karaahmet Öğr. Gör. Berrak Baştürk
Editör Asistanları *Assistant Editor*	Arş. Gör. Zekiye Batcık Öğr. Gör. Duygu Dişli Çetinçay Arş.Gör. Gülsena Utku Umut Öğr. Gör. Pelin Gökoğlu Gürer
Sorumlu Yazı İşleri Müdürü *Publishing Manager*	Yazgı Cihangir Aygün Haliç Üniversitesi
Yönetim Yeri *Head Office*	Haliç Üniversitesi, Haliç Üniversitesi Rektörlüğü
Yazışma Adresi *Corresponding Address*	Haliç Üniversitesi, 5. Levent Mahallesi, 15 Temmuz Şehitler Caddesi, No: 14/12 34060 Eyüpsultan – İSTANBUL Tel: +90 212 924 24 44 E-posta: sabd@halic.edu.tr
İnternet Adresi *Web Address*	http://dergipark.gov.tr/husagbilder
Yayın Türü *Publication Type*	Yerel Süreli / *Periodical* Ocak, Mayıs ve Eylül aylarında olmak üzere yılda 3 sayı yayımlanır. Published three times a year, in January, May and September ISSN: 2618-625X e-ISSN: 2667-5765
Mizanpaj Editörü	İrfan Güngörür
Baskı Türü *Print Type*	09.08.2021 tarihli Yayın Kurulu kararı ile sadece online basılmaktadır.
Baskı *Printing Press*	Aktif Matbaa ve Reklam Hizmetleri San. Tic. Ltd. Şti. Söğütlüçeşme Mah. Halkalı Cad. No: 245/1-A Küçükçekmece / İstanbul Tel: +90 212 698 93 54 Sertifika No: 13978
Basım Tarihi *Publication Date*	31 Mayıs 2023
Derginin Tarandığı Kaynaklar *Index in*	DergiPark AKADEMİK, ASOS indeks, Google Akademik

Haliç Üniversitesi Sağlık Bilimleri Dergisi ***Haliç Üniv Sağ Bil Der - Halic Uni J Health Sci*** olarak kısaltılmaktadır.

Değerli Okurlarımız,

Haliç Üniversitesi Sağlık Bilimleri Dergisi, Türkiye ve dünyada sağlık alanına katkıda bulunmayı amaçlayan özgün araştırmaların yayımlandığı bilimsel ve hakemli bir dergidir. Dergimizin 2023 yılı ikinci sayısında 1 olgu sunumu ve 3 araştırma makalesine yer verilmiştir. Dergimiz Ocak, Mayıs, Eylül aylarında olmak üzere yılda üç defa yayınlanmaktadır. Tıp, Fizyoterapi ve Rehabilitasyon, Beslenme ve Diyetetik, Hemşirelik, Ebelik, Spor Bilimleri başta olmak üzere tüm sağlık alanlarından orijinal araştırma, derleme, olgu sunumu, editöre mektup türünde yapılmış olan çalışmalar değerlendirilmeye alınmaktadır.

2023 yılında dergimize gelen makale sayısının artmasını, daha zengin bir hakem listesi oluşturmayı ve böylelikle makalelerin inceleme sürecini mümkün olduğunca azaltmayı amaçladığımızı da belirtmek isterim. Dergimize yayın başvuruları internet üzerinden Dergi Park sistemi üzerinden alınmaktadır.

Sonraki sayılarda buluşmak dileğiyle,

Prof. Dr. Hatice Yorulmaz
Editör

İçindekiler / Contents

CASE REPORT

BIOENERGY FOR PAIN CONTROL DURING LABOR: A CASE STUDY

Abstract

This study planned to examine the effect of the bioenergy method on birth pain. Bioenergy sessions performed every three hours during the labor process; the results were measured by the visual analog scale and recorded. According to the results Pre-Post the test, bioenergy found as an effective method for controlling birth pain. When the comparison of pain levels according to time evaluated, it found that the effectiveness of the bioenergy application changed every 3 hours. It thought that it would be beneficial to support pregnant women with biofield programs in the management of labor pains during labor. There is a need for studies with both long follow-up and large sample in this area.

Key Words: Bioenergy, labor pain, pain, pain management, pregnant

OLGU SUNUMU

DOĞUM AĞRISINDA BİYOENERJİ ETKİNLİĞİ: OLGU SUNUMU

Öz

Bu çalışma, biyoenerji yönteminin travay sürecini yaşayan kadının doğum ağrıları üzerindeki etkisini incelemek amacıyla planlandı. Travay sürecinde her üç saatte bir biyoenerji seansları uygulandı, sonuçlar vizüel analog skala ile ölçüldü ve kaydedildi. Öncesi ve sonrası test sonuçlarına göre, biyoenerji uygulamasının doğum ağrısının yönetiminde etkili bir yöntem olduğu görüldü. Ağrı seviyelerinin zamana göre karşılaştırılması değerlendirildiğinde, biyoenerji uygulamasının etkinliğinin her 3 saatte bir değiştiği saptanmıştır. Gebelerin travay sürecinde doğum ağrılarının yönetiminde biyoalan programlarıyla desteklenmelerinin faydalı olacağı düşünülmektedir. Bu alanda yapılacak hem uzun takipli hem de büyük örneklemle yapılmış çalışmalara gereksinim duyulmaktadır.

Anahtar Kelimeler: Biyoenerji, doğum ağrısı, ağrı, ağrı yönetimi, gebe

Zulfiyya NURALIYEVA[1],

*Sorumlu Yazar e mail: zulfiyyanuraliyeva@halic.edu.tr

[1]Midwifery Department, Halic University, Istanbul, Turkey

Nuraliyeva Z. Bioenergy for Pain Control During Labor: A Case Study. Halic Uni J Health Sci. 2023;6(2) 1-5

Nuraliyeva Z. Doğum Ağrısında Biyoenerji Etkinliği: Olgu Sunumu. Haliç Üniv Sağ Bil Der. 2023;6(2) 1-5

Doi: 10.48124/husagbilder.1294274

Geliş Tarihi: 08.05.2023
Kabul Tarihi: 18.05.2023

1. Introduction

Non-pharmacological methods in the literature; mind-body methods are classified into five groups as alternative medical methods, biological-based methods, manipulative and body-based methods, and energy methods (1-5). One of these methods, energy methods; bio electromagnetic therapies (magnets, variable and direct currents) and bio fields (acupuncture, bioenergy, chakra therapy, reflexology, reiki, shiatsu, tai chi, qi gong, therapeutic touch) (4).

Biofield therapies are therapies that penetrate the human body and affect the energy fields surrounding the body (3, 4). It reported that during the application of bioenergy, which is one of the biofield

therapies, the heat generated because of metabolic activities and the bioenergy created by the ion movements in the tissues transferred from one person to another by touching or not (5-7). The transfer of bioenergy provided through the chakras, which are the energy centers of the body, and the aura associated with these energy centers (8-12). It is stated that if the chakras, which play a role in receiving and transmitting energy, are blocked, the body has difficulty in maintaining its health, its bioenergy decreases and diseases occur (12).

"Bios " is an ancient Greek word meaning life, "energy" activity, and is called Chi, Qi, Prana, universal energy, life energy, light, electromagnetic field, and force field (1). Bioenergy is a form of therapy that helps people become more aware of their potential for pleasure and enjoy life. Bioenergy Therapy uses the life-sustaining energy of the universe and creates healing. This treatment can be performed individually or in groups, closely or remotely (2).

With Bioenergy Therapy, the immune system can be strengthened, pain can be eliminated, blood circulation can be increased, and diseases such as obesity and cancer can be treated by balancing the electromagnetic field (3). Bioenergy application has been used previously to reduce postoperative pain and many pains and has reportedly yielded good results (4-8). However, there are no reports on the use of bioenergy during childbirth in the literature. In this case study, midwives and other healthcare providers are invited to develop protocols and conduct research with the use of this modality. At the same time, how bioenergy used in the management of labor pains of a pregnant woman and its duration of activity presented.

2. Material and Methods

As for the research method, a quasi-experimental design including pre-test, post-test, and follow-up stages adopted. The case admitted to the delivery room of a private hospital on 10.01.2023 with the approval of a physician was included in the study.

Before participating in the study, the procedure introduced to the case with an "informed consent form" and permission obtained. During the first application of the case included in the study, demographic characteristics were questioned and obstetric and pain assessments made. Visual Analogue Scale (VAS) used as the evaluation method.

Visual Analog Scale (VAS) is used to convert some values that cannot be measured numerically. Two end definitions of the parameter to be evaluated are written at the two ends of a 100 mm line and the patient is asked to indicate where this line is appropriate by placing a line, dot, or marker. 0 mm indicates no pain, 100 mm indicates the most severe pain. The distance from the point where there is no pain to the point marked by the patient is measured with the help of a ruler. The measured distance represents the patient's pain in mm.

Before the research, the researcher received a Bioenergy Specialization Training Certificate (49 hours). A quiet environment was provided by removing technological devices for bioenergy, which was created by scanning the literature (4-8) and taking expert opinion.

3. Case Presentation

K.V. was 27 years old, married, graduated from higher education, and was residing in Istanbul. K.V., who is primiparous and in her 40th gestational week, was admitted to the hospital due to a spontaneous rupture of the amniotic membranes. In the obstetric examination, dilatation of 4 cm in length, 30% effacement, and fetal head had appear in the birth canal at -2 station. When her past history questioned, it learned that K.V. did not have any chronic disease, had family and collaborate support, and had a planned pregnancy. She also took and practiced correct breathing and relaxation techniques by attending birth preparation courses throughout her pregnancy.

When K.V. first applied to the maternity unit (at 08:00; 15.08.2022), she reported that she had uterine contractions, back and groin pain. In this context, bioenergy applied only to the waist and groin of the pregnant woman. The application performed in the desired position (supine on the bed).

The effectiveness of bioenergy application in the birth process has not been examined before (3-8), the bioenergy steps perform in the study are the stages applied to reduce the pain of the incision site after cesarean section (11). Immediately after determining the level of pain, patients were given bioenergy for 10–15 min, according to the recommendations in the relevant literature (4-8).

In order to focus and not be distracted at every stage of the application, the practitioner listened to the 528 Hz frequency ringing tone (Tibetan voice bowl sound) with headphones (pregnant she did not hear the sound). Implementation started by providing a quiet environment. Starting from the crown chakra, energy attunement achieved to the third eye, throat, heart, solar plexus, sacral, and root chakras, respectively. First, the right side of the body and then the left side of the pregnant woman cleaned with a sweeping movement starting from the shoulder to the tips of the toes. The root chakra (groins) and lumbar region taken between the two hands (2-3 cm away) without contact with the pregnant woman, and the resonance of the vibrations in this area and the alignment with the energy achieved. The pregnant woman tried to be relieved by relieving the pain with circular and ligament-cutting movements on the related area (2-3 cm above) until electricity was felt in the hands. As soon as electricity felt in the hands, the procedure terminated, and the hands were positioned 2-3 cm away and the aura integrity in that area ensured. When the procedure was finished, the hands shaken, and the energy disconnected and washed. This application applied every 3 hours until complete dilatation. Before and after each application, the pregnant woman asked to mark the pain she experienced on a line between two extreme points according to her own pain perception. The distance between the starting point where there is no pain and the point marked by the pregnant woman measured and recorded as millimeter (mm). At the same time, pregnant women were asked to rate their pain every hour in order to evaluate the effectiveness of the application according to time. Pain scores were evaluated according to VAS and the results were compared (Table 1). According to the Pre-Post Test results, bioenergy application is an effective method in the control of labor pain. However, when the comparison of pain levels with respect to time evaluated, it observed that the effectiveness of the bioenergy application changed every 3 hours (08:00, 11:00, 14:00, 17:00). To put it more clearly, it concluded that bioenergy application is effective on labor pain severity for only 3 hours.

Table 1. Comparison of pain levels by time

Time	Dilatation/ Effacement	Pain scores before bioenergy	Pain scores after bioenergy	Pain scores at follow-up times
8:00	4 cm/30%	4 mm	1 mm	
9:00	4 cm/30%			1 mm
10:00	4 cm/30%			1 mm
11:00	5 cm/40%	4 mm	2 mm	
12:00	6 cm/50%			2 mm
13:00	6 cm/50%			2 mm
14:00	7 cm/50%	6 mm	5 mm	
15:00	7 cm/75%			5 mm
16:00	8 cm/95%			5 mm
17:00	8 cm/100%	6 mm	5 mm	
18:00	10 cm/100%			6 mm
19:00	baby's birth			

Evaluated according to the 24-hour period.

mm: millimeter

4. Discussion

The transfer of bioenergy provided through the chakras, which are the energy centers of the body, and the aura associated with these energy centers (5-8). It is stated that if the chakras, which play a role in receiving and transmitting energy, are blocked, the body has difficulty in maintaining its health and diseases occur (1). In this context, when the literature examined, it seen that there are laboratory studies examining the effect of bioenergy on the growth and metastasis of cancer cells and cortisol levels (9, 10). In addition, the bioenergy method used in the treatment of glaucoma, obesity, and relief of stress, anxiety symptoms, migraine, and the management of pain in the surgical incision area (4-9). However, due to the limited number of studies in this area, no academic study found in the national and international literature examining the effects of bioenergy, especially on labor pain. In this context, the data of this presentation were discussed by comparing the results of the studies that examined the skin stimulation methods (touch, reiki, TENS, etc.) that are like bioenergy.

In a study examining the effect of bioenergy on tumor size and metastasis in breast cancer, breast cancer cells were injected into mice. After the injection, bioenergy was applied for 10 days. Mice treated with bioenergy had smaller tumors and lower rates of metastasis (11).

Another study examined the effect of bioenergy on cortisol levels in mice injected with breast cancer cells. The first group underwent bioenergy daily, and in the second group, bioenergy was applied every other day; the last group was not subjected to any intervention. The fecal cortisol levels in mice that underwent bioenergy were found to be lower than those in mice that were not subjected to any intervention (12).

In this case report, it was stated that the bioenergy applied reduced the pain level of the pregnant woman and gave the pregnant woman a pain-free period for a certain period. Similar to this finding, in a study conducted by Sağkal (13) to examine the effect of reiki touch therapy, which is one of the skin stimulation methods, on pain after cesarean section, it found that reiki application applied once a day for 2 days significantly reduced the severity of pain (13). In a similar study, the healing touch was applied on the 1st, 2nd, and 3rd days after bariatric surgery (healing touch), and it was stated that the pain level of the patients decreased (14). The results of these studies are similar to the findings of this study. As a result, it can be concluded that the results of this research support those of other relevant studies in the literature. Bioenergy was found to be effective in the management of labor pain during labor if applied at 3-hour intervals.

The pain relief mechanism of bioenergy is not yet fully known. It is known that if the chakras, which play a role in receiving and transmitting energy, are blocked, the body has difficulty in maintaining its health and diseases occur (13,14). In this context, it can be said that the energy given to the pregnant during bioenergy therapy helps to reorganize the chakra balance, which is disturbed, and thus, it is effective in reducing labor pain. In addition, as known those biofield therapies help relaxation and have the effect of reducing stress (15-16). It can be said that the bioenergy included in these therapies helps pregnant women to feel less pain during labor by helping to relax and reduce stress.

However, bioenergy is thought to relieve pain by several different mechanisms (3-5).

According to the first mechanism, bioenergy relieves pain by stimulating the skin according to the gate control and endorphin theories (4,7).

Bio-field therapies help to relax patients and reduce stress (4). In fact, Running and Hildreth determined that bioenergy was effective in reducing the stress of university students (7). Similarly, according to the second mechanism, bioenergy may help to relax patients by reducing stress and, thus, reducing pain (4).

5. Conclusion

It considered that it would be useful to support pregnant women with biofield programs in the management of labor pains during labor. In particular, it recommended that midwives obtain a certificate and actively use bioenergy application in order to reduce the labor pain of pregnant women in the clinic. In addition, it suggested that the bioenergy application, which is one of the integrative methods, should be added

to the midwifery education program contents and the students should be trained comprehensively. Midwives can be encouraged to participate in certificate programs for active use of the application. However, long-term follow-up studies are need in the field of women's health.

References

1. Narayanan, C. R., Korotkov, K., Srinivasan, T. M. Bioenergy and its implication for yoga therapy. *International Journal of Yoga 2018;11 (2), 157.*
2. Zubkova, l. P., Bocharov, V. A. «Traditional» and «Alternative» approaches for evaluation of bioenergy mechanisms in medicine and biology. *Medical Journal Bioenergetics in Medicine and Biology 2018; 1(1).*
3. Pandarakalam, J. P. Interactions of quantum bioenergy fields. *NeuroQuantology 2020; 18(2), 157-173.*
4. Running, A., Hildreth, L., John-Henderson, N. Bioenergy for stress relief in university students: A Randomized Controlled Trial. *Journal of Community Health Nursing 2022; 39(1), 1-11.*
5. Vahedi, S., Tabatabaei, S. M. Effectiveness of bioenergy economy intervention on self-compassion, self-efficacy, and weight loss in women with obesity. *Iranian Journal of Health Psychology 2021; 4(4), 27-46.*
6. Ghassemi, Z., Vahedi, S., Tabatabaei, S. M., Alivandi-Vaf, M. Developing and studying the effectiveness of bioenergy economy program in body self-concept and weight loss of women with obesity. *International Journal of Body, Mind and Culture 2020; 126-139.*
7. Aslan, B., Özkan, M. The effect of bioenergy on postoperative pain in patients experienced abdominal surgery: A nonpharmacological approach. *Complementary Therapies in Clinical Practice 2019; 3(6), 158-163.*
8. Goli, F., Yekta, R., Scheidt, C. E., Boroumand, A., Fard, R. J., Ghazizadeh-Hashemi, M., Khabazkhoob, M. Effect of a bioenergy economy program on the severity of symptoms and quality of life of patients with myofascial pain syndrome. *Acta Medica Iranica 2019; 59(8), 592-604.*
9. Running A. Decreased cortisol and pain in breast cancer: biofield therapy potential. *Evid Based Complement Alternat Med 2015; 1-7.*
10. Running A, Greenwood M, Hildreth L, Schmidt J. Bioenergy and breast cancer: a report on tumor growth and metastasis. *Evid Based Complement Alternat Med 2016; 1-(9).*
11. Running A. decreased cortisol and pain in breast cancer: biofield therapy potential. Evid Based Complement Alternat Med 2015; (1), 1–7.
12. Sağkal T. Sezaryen ameliyatı sonrası uygulanan reiki dokunma terapisinin ağrı ve anksiyete üzerine etkisi. Sağlık Bilimleri Enstitüsü, Hemşirelik Esasları Anabilim Dalı. Doktora Tezi, İzmir: Ege Üniversitesi 2012.
13. Anderson JG, Suchicital L, Lang M, Kukic A, Mangione L, Swengros D, Fabian J, Friesen MA. The effects of healing touch on pain, nausea, and anxiety following bariatric surgery: A Pilot Study. *Explore 2015; 11(3), 208-16.*
14. Sağkal T, Eşer İ, Uyar M. The effect of reiki touch therapy on pain and anxiety. *Spatula DD 2013; 3(4), 141-6.*
15. Doğacı K. Ruhun yedi kapısı, 1. Baskı. İstanbul, Sınır Ötesi Yayınları 2015; 23-140.
16. Hibdon SS. Biofield considerations in cancer treatment. *Semin Oncol Nurs 2005; 21(3), 196-200.*

RESEARCH

THE EFFECT OF THEORY-BASED RESEARCH ON BREASTFEEDING: A SYSTEMATIC REVIEW AND METAANALYSIS

Abstract

The aim of this study is to systematically review the results of theory-based research on breastfeeding and to perform a meta-analysis of the available evidence. The literature review for this systematic review was conducted between September and October 2022 by using five electronic databases PubMed, Cochrane Library, Web of Science, ULAKBIM. Published articles were scanned using MeSH-based keywords. Only Randomized Controlled Trials (RCTs) conducted in the last five years were included. The data were analyzed using the Review Manager computer program (Version 5.3). Two randomized controlled trials were included in the meta-analysis. All of the studies were combined for breastfeeding information, time to start breastfeeding, and five-course (breast milk only, breast milk, and formula). The meta-analysis revealed that theory-based education increased the rate of breastfeeding information of pregnant women in the postpartum period (OR: 0.73 95% CI: 0.51 to 1.05, Z = 1.69, p: 0.09), the rate of exclusive breastfeeding (OR: 1.80 95% CI: 1.26 to 2.57, Z = 3.23, p: 0.001) and decreased the rate of feeding intake (OR: 0.49 95% CI: 0.33 to 0.74, Z = 3.41, p: 0.0007). The study findings found that education did not affect the rate of early initiation of breastfeeding between groups ((OR: 1.31 95% CI: 0.91 to 1.90, Z = 1.45, p: 0.15) and was not significant. This study provides sufficient evidence that theory-based training has positive effects on breastfeeding attitudes and behaviors.

Keywords: Breast milk, breastfeeding, metaanalysis, model, theory.

Fatma Şule BİLGİÇ[1,2*],

Aysu Yıldız KARAAHMET[1],

Gülçin BOZKURT[2],

*Sorumlu Yazar e mail: sulebilgic@halic.edu.tr

[1]Midwifery Department, Halic University, Istanbul, Turkey
[2]Istanbul University-Cerrahpasa, Midwifery Department, Istanbul, Turkey

Bilgiç FŞ, Karaahmet AY, Bozkurt G. The Effect of Theory-Based Research on Breastfeeding: A Systematic Review and Metaanalysis. Halic Uni J Health Sci. 2023;6(2) 7-17

Bilgiç FŞ, Karaahmet AY, Bozkurt G. Kuram Temelli Araştırmaların Emzirme Üzerine Etkisi: Sistematik Derleme ve Metaanaliz. Haliç Üniv Sağ Bil Der. 2023;6(2) 7-17

Doi: 10.48124/husagbilder.1302184

Geliş Tarihi: 25.05.2023
Kabul Tarihi: 27.05.2023

ARAŞTIRMA

KURAM TEMELLİ ARAŞTIRMALARIN EMZİRME ÜZERİNE ETKİSİ: SİSTEMATİK DERLEME VE METAANALİZ

Öz

Bu çalışmanın amacı kuram temelli yapılan araştırmaların emzirme üzerine sonuçlarını sistematik olarak gözden geçirmek ve mevcut kanıtların meta analizini yapmaktır. Bu sistematik derleme için literatür taraması Eylül-Ekim 2022 tarihleri arasında, beş elektronik veri tabanı PubMed, Cochrane Kütüphanesi, Web of Science, ULAKBİM kullanılarak gerçekleştirildi. Yayınlanmış makaleler MeSH tabanlı anahtar kelimeler kullanılarak tarandı. Yalnızca son beş yılda yapılan Randomize Kontrollü Çalışmalar (RKÇ) dahil edildi. Veriler, Review Manager bilgisayar programı (Sürüm 5.3) kullanılarak analiz edildi. İki randomize kontrollü çalışma meta-analize dahil edildi. Çalışmaların tamamı emzirme bilgisi, emzirmeye başlama zamanı,

beşlenme şekli (sadece anne sütü, anne sütü ve mama) için birleştirildi. Meta-analiz, kurama dayalı eğitimin gebe kadınların postpartum dönemdeki emzirme bilgisi oranını (OR: 0.73 95% CI: 0.51 to 1.05, Z = 1.69, p: 0.09), sadece anne sütü alma oranını (OR: 1.80 95% CI: 1.26 to 2.57, Z = 3.23, p:0.001) arttırdığı, mama alma oranını (OR: 0.49 95% CI: 0.33 to 0.74, Z = 3.41, p: 0.0007) azalttığını ortaya koydu. Çalışma bulguları eğitimin erken dönemde emzirmeye başlama oranını gruplar arasında ((OR: 1.31 95% CI: 0.91 to 1.90, Z = 1.45, p: 0.15) etkilemediği ve anlamlı olmadığı bulundu. Bu çalışma, kuram temelli eğitimlerin emzirme tutum ve davranışları üzerine olumlu etkilerinin olduğuna dair yeterli kanıt sunmaktadır.

Anahtar Kelimeler: Anne sütü, emzirme, model, metaanaliz, kuram.

1. Introduction

Breastfeeding has been considered sacred throughout human history and has lasted for thousands of years as a form of nutrition for babies without alternatives (1). According to the WHO's "State of the World's Children: Children, food and nutrition report, 2018, 3/1 of all children are either malnourished or overweight. Almost two out of every three children between the ages of 6 months and two years do not receive foods to support their growth and development during what we call the critical window period (2). Although there is no other situation that is so beneficial to both mother and baby, breastfeeding rates are not at the desired level in the world and in our country. There are many factors related to mother and baby that affect the breastfeeding of babies. In addition to these factors, the fact that mothers cannot receive effective, professional support during breastfeeding makes it difficult to solve the problems experienced and adversely affects the continuation of successful breastfeeding (3).

Theory is generally defined as a tool that is commonly used to understand, control, predict, and explain what exists, and that allows the systematic emergence of truth that serves a specific purpose (4,5). Discipline-specific knowledge production and accumulation can be realized by deciding the problem in the light of theories, solving the problem with theory-based research, testing and developing theories. There is a mutually dynamic process between theory and research: research supports theory, theory generates the research question, and guides the research process (6,7). The use of theory provides a systematic approach to studies and also sets standards for applications (4,5,8). In addition, models and theories play an important role in the synthesis of the relationship between research and knowledge. By using these models and theories, it was ensured that the quality of education and care was increased and the development of practices based on holistic care was guided (9).

In theory-based research, the aim is neither to develop a new theory nor to determine the validity of an existing theory. The aim here is to reveal the conceptual framework of the research and to discuss the theoretical framework. At the same time, it is to put all stages of research into a conceptual framework and to make sense of it (7). Although many researches have been conducted to increase breastfeeding rates, there have been no systematic reviews and meta-analyses examining the effectiveness of theory-based interventions. The aim of this study is to systematically review the breastfeeding outcomes of theory-based research and to perform a meta-analysis of the available evidence.

2. Material and Method

In this study, systematic review and meta-analysis of studies evaluating the effect of theory-based education on breastfeeding outcomes was performed. In the preparation of the systematic review and meta-analysis, the PRISMA (Preferred Reporting Items for Systematic Reviews and Declaration of Meta-Analysis) (10) was followed by the directive. To control the risk of bias during the study, the two researchers independently conducted a literature review, article selection, data extraction, and quality assessment of the included articles. In the event of disagreement on any issue, all the researchers were brought together for a discussion and a final consensus. During the study, no situation requiring deviation from protocol was encountered.

2.1. Eligibility criteria

The following criteria (PICOS) were taken into consideration in the selection of the studies to be included in the study: Participant (P): Pregnant and puerperal women who received training based on the course. The women included in the study had the following criteria for inclusion. (1): Pregnant women who do not have a disability related to pregnancy, (2) pregnant women who do not have psychological problems, (3) pregnant women who can be contacted. Intervention (I): Methods related to training. The training includes the following criteria (1): face-to-face trainings on theory-based breastfeeding, (2): counseling on theory-based breastfeeding. (3): Onlie counseling on breastfeeding based on rules. Comparison (C): Routine maintenance. Results (0): Breastfeeding knowledge level, breastfeeding start time, diet. Study design (S): Randomized controlled trials and controlled groups were included. Educational studies that are not based on theory in pregnant women or in the postpartum period, studies reflecting women with psychological problems, articles evaluating the effect of breastfeeding outside education, and traditional and systematic reviews were excluded.

2.2. Search strategy

The literature review for this systematic review was conducted between September and October 2022 using five electronic databases (PubMed, CINAHL, Scopus, WOS and ULAKBİM). Theory-based education given to pregnant and postpartum women was screened using medical topics or keywords to evaluate their breastfeeding status. The keywords were: “breastfeeding,” OR “human milk,” AND “model,” OR”theory,” OR “education,” AND “nulliparous”OR “primiparuos”. The search strategy was changed according to the characteristics of each database. In addition, reviews on articles included in systematic reference lists and other previous systematic reviews were checked to reach further studies.

2.3. Selection of studies and data extraction

After removing duplicate articles from different databases, two researchers (A.Y.K. and F.Ş.B.) independently conducted literature review, article selection, data extraction and quality evaluation of the included articles to control the risk of bias during the study. The two independent reviewers first scanned the titles and abstracts to determine which studies met the inclusion and exclusion criteria. Full texts that met the inclusion criteria but could not be identified in the title/abstract scan were examined. In studies where consensus could not be reached, the researchers considered working as partners. A data extraction tool developed by the researchers was used to obtain the research data. Two reviewers (A.Y.K. and F.Ş.B.) obtain data on the location and year of the study, publication year, research design, sample size, the effect of theory-based education on breastfeeding knowledge level, the time of starting breastfeeding and the effect on diet (Table 1).

Table 1. General Features of the Included Studies

Author (reference)\ Publication date\ Country	Study design **Population**	The inclusion and exclusions criteria	Education protocol	**Comparisons** **Drop out** **Outcome**	Results
Admasu et al., 2022,(12) Ethiopia	RCT* 285 Pregnant women (EG: 143, CG: 142)	**Inclusion criteria**: Pregnants between 26-32 weeks of gestation and permanent residents of the study area were included in the study. **Exclusion criteria:** Pregnant women who were critically ill or unable to communicate during the study period were excluded from the study.	Intervention group; 3 weeks once a week for 30-35 minutes and postpartum 3. Training based on the Health Belief Model was given in the form of monthly reminders.	Routine maintenance EG=12;CG:13 Data Collection Form	Breastfeeding education [AOR 1.55, 95% CI (1.02, 23.36)], institutional birth [AOR 2.29, 95% CI (1.21, 4·35)], vaginal delivery [AOR 2.85, 95% CI (1.61, 5.41)] and pre-breastfeeding nutrition [AOR 0.47, 95% CI (0.25, 0.85)] were the determinants of early initiation of breastfeeding. Breastfeeding education [AOR 1·72, 95% CI (1.12, 264)] and institutional childbirth [AOR 2·36, 95% CI (1·28, 4·33)] were also determinants of breastfeeding. breastfeeding practices
Zhu et al., ,2017, (11) China	RCT* 288 mothers (EG: 157, CG:131)	**Inclusion criteria:** Eligible participants were primitive mothers who were willing to participate in the study, accompanied by important people, could read, write, and communicate in Chinese, and had no serious obstetric complications or other medical illnesses that permanently or temporarily hindered them. postpartum bleeding, acute phase hepatitis, HIV positive or psychiatric illness such as breastfeeding. In addition, the criteria for their babies included: gestational age ≥37 weeks, birth weight ≥2500 g, Apgar score of 5 min≥8 and those who do not have any condition that prohibits breastfeeding or diseases that need to be referred to the neonatal intensive care unit .	**Intervention group:** Participants in the intervention group were given standard obstetric care and a TPB-based intervention program. Mothers began phone counseling within three days of discharge and weekly up to 6 weeks after delivery. Each call lasted 20-30 minutes. The content of the personal counseling included emphasizing the importance of breastfeeding, providing emotional support, reinforcing coping strategies and dealing with the problems that mothers face with breastfeeding after discharge.	Routine maintenance None BKS* BAPT*	Scores of the four determinants were also significantly higher in the experimental group than in the control group at 3 days and 6 weeks, with the exception of breastfeeding control at 6 weeks, which resulted in higher rates of breastfeeding alone at 3 days and 6 weeks. the experimental group is more than the control group

RCT: Randomized Control Trials, EG: Experimental Group, CG: Control Group, BKS: Breastfeeding Knowledge Scale, BAPT: Modified Breastfeeding Attrition Prediction Tool

2.4. Evaluation of the methodological quality of the studies

The quality of the articles in randomized controlled trials and the Version 2 of the Cochrane Risk-of-Bias tool (RoB-2) were used for randomized trials.

2.5. The data analysis

Meta-analysis was performed using Review Manager 5.4 (The Nordic Cochrane Center, Copenhagen, Denmark) for data analysis. The heterogeneity between the studies was evaluated using Cochran's Q test and Higgins' I^2, and it was accepted that I^2 greater than 50% showed significant heterogeneity. Accordingly, random effect results were taken into account when I^2 was greater than 50%, and fixed effect results were taken into account if it was less than the value. Odds ratio (OR) for categorical variables, mean difference (MD) and standardized mean difference (SMD) for continuous variables were calculated. MD or SMD, along with the corresponding 95% confidence interval (CI), is appropriately pooled for continuous variables based on whether the results are measured on the same scales. All tests were calculated from two-pronged tests, and a p value of less than 0.05 was considered statistically significant.

2.6. Risk of bias

All selected articles were independently conducted by an author (EIC) using the Cochrane tool to assess the risk of nepotism. The criteria outlined in the Cochrane Handbook for Systematic Investigations of Interventions are; were classified into six areas: ((random sequence generation (selection bias), allocation obfuscation (selection bias), blinding of participants and staff (performance bias), blinding of outcome evaluation (detection bias), handling of missing outcome data (attrition bias), selective outcome reporting (notification bias), and other potential sources of bias (conflict of interest and funding sources)). The risk of bias for each area was classified as "low risk", "high risk" or "uncertain risk" according to the decision criteria in the "bias risk" assessment tool.

3. Results

3.1. Literature review

The PRISMA flowchart for literature review and selection is summarized in Figure 1. A total of 546 studies were reached through electronic database research and manual search. 546 articles, the full text of which can be accessed, were examined. Titles and abstracts were read to identify the relevant articles, 539 articles were removed because they did not meet the criteria for review articles, protocols, duplications, different populations and inclusion. The remaining seven full texts were evaluated for eligibility. Two RCT articles were included in the quantitative synthesis because they met the desired criteria (Figure 1). Table 1; The two RCTs included outline the study. RCTs were ranked chronologically from the nearest date to the farthest.

3.2. Study characteristics

This systematic review and meta-analysis included two studies involving a total of 550 pregnant and puerperal women to assess the impact of theory-based education on breastfeeding outcomes conducted in the two countries; China (11), Ethiopia (12). One of all the studies included in the meta-analysis is in RCT and controlled design (12). The characteristics of the studies are summarized in Table 1. From the articles included in the study, Admasu et al.(12) gave 30-35 minutes of training on nutrition to pregnant women in the intervention group once a week for three weeks and then three. It includes monthly recall training. Zhu et al. (11) provided mothers in the intervention group with breastfeeding support counseling on the first postpartum day before discharge and six. A total of two training sessions were held per week and weekly telephone consultation was provided. While the duration of the interventions of the studies included in the review ranged from 3 weeks to 6 weeks, Admasu et al. (12) provided reminder training in his study. In most of the articles, women in the control group received standard obstetric care. All groups in the study were completed with 2 groups, not intervention and control groups. Women in the intervention group received interventions that included the following educational models for

breastfeeding outcomes: In the study of Admasu et al. (12), used the Health Belief Model in their educational intervention on nutrition to pregnant women, while Zhu et al. (11) used the Theory of Planned Behavior. From the studies, Admasu et al. (12) reported early initiation of breastfeeding, administration of prelacteal nutrients and colostrum in intervention and control groups. Zhu et al. (11) Primary output postpartum 3. While the Daily Breastfeeding Information Scale (BKS) and the Modified Breastfeeding Attrition Predictor (BAPT) values were evaluated, the secondary output was evaluated by the Breastfeeding Information Scale (BKS) and the Modified Breastfeeding Attrition Prediction Instrument (BAPT).

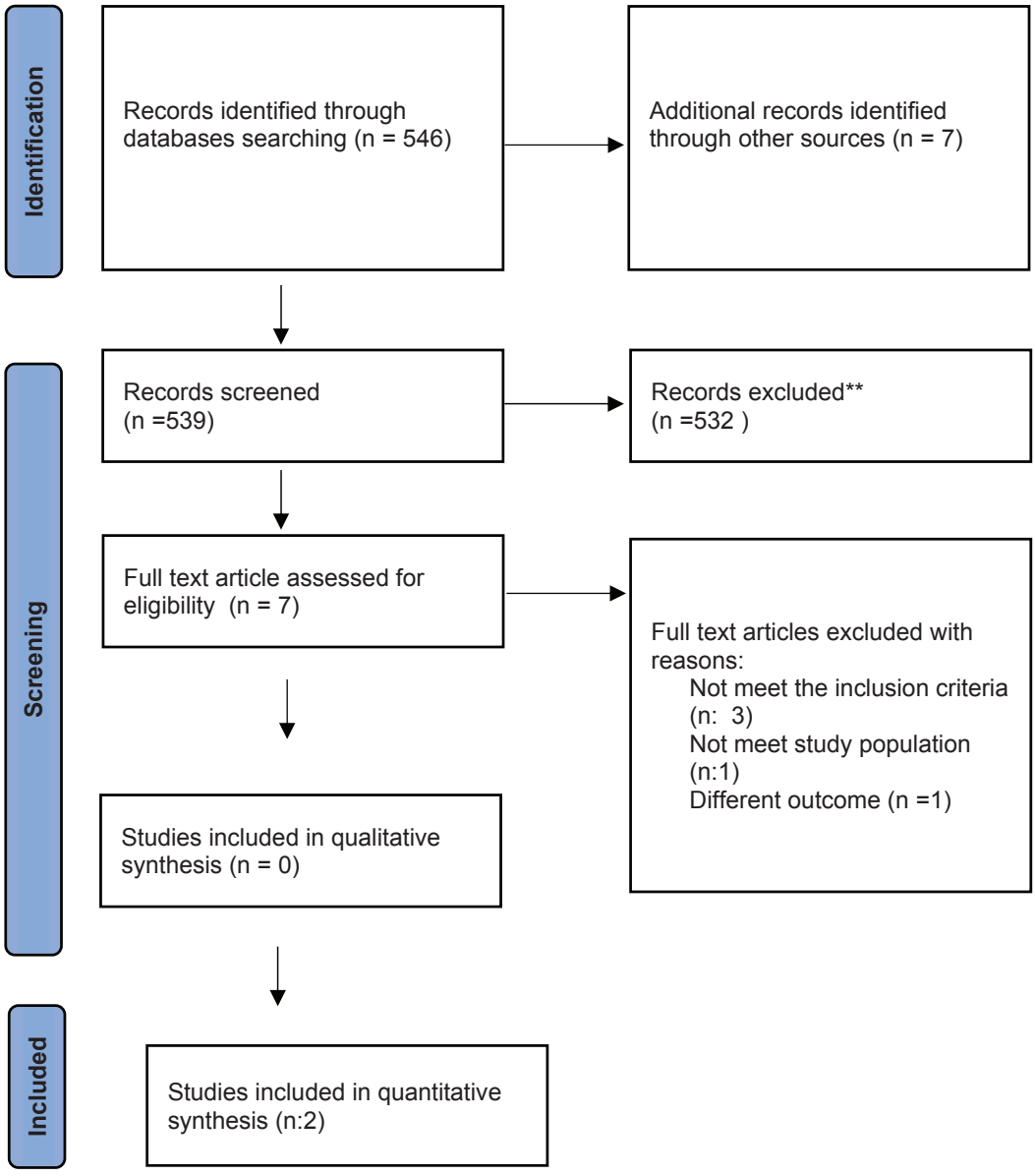

Figure 1. PRISMA flow diagram.
PRISMA: Preferred Reporting Items for Systematic Reviews and Meta-Analyses

3.3. Outcomes

The results of the meta-analysis were presented as Forest Pilot. In the included researches, information about breastfeeding was examined as breastfeeding information and breastfeeding practices. Results in the research, Zhu et al. (11) postpartum 3. The Breastfeeding Information Scale of the Day (BKS) and the Breastfeeding Information Scale (BKS) and Admasu et al. (12) in the second follow-up evaluated not with a tool with validity and reliability, but with a tool based on measuring the breastfeeding practice and knowledge they created.

3.3.1. Effect of breastfeeding

Knowledge In all studies examined on the effect of theory-based education on breastfeeding knowledge, the authors reported results on the effect of theory-based education on breastfeeding knowledge. The average pooled results of the studies show that breastfeeding knowledge was a significant difference between the groups in the post-educational period based on theory (OR: 0.73 95% CI: 0.51 to 1.05, Z = 1.69, p: 0.09) (Figure 2).

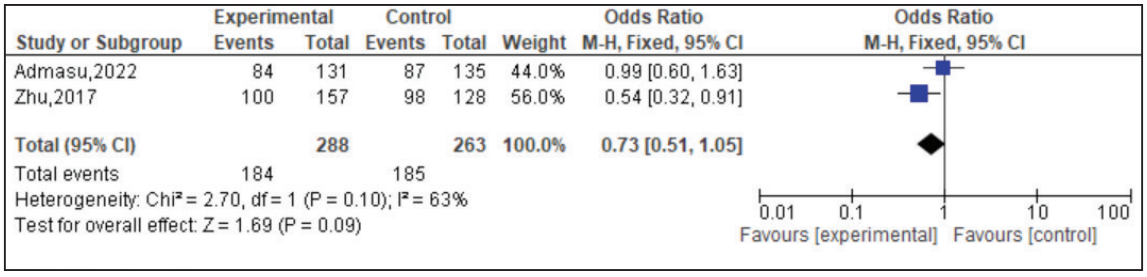

Figure2: Meta-analysis results on the effect of education on the breastfeeding information

3.3.2. Effect on breastfeeding practices

In all studies examined on the effect of instruction-based education on breastfeeding (breastfeeding alone), the authors reported results on the effect of theory-based education on breastfeeding alone. The average pooled results of the studies only show that breastfeeding rates were a significant difference between the groups in the post-training period (OR: 1.80 95% CI: 1.26 to 2.57, Z = 3.23, p: 0.001) (Figure 3).

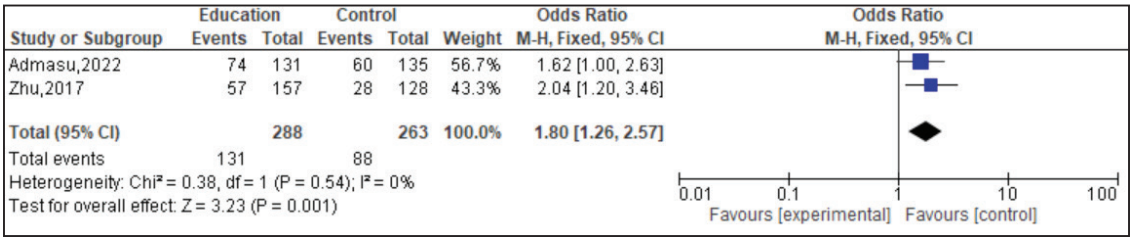

Figure3: Meta-analysis results on the effect of education on only breastfeeding

3.3.3. Breast milk and formula

In all the studies examined on the effect of theory-based education on breast milk and formula giving (mixed type nutrition), the authors reported results on the effect of theory-based education on breast milk and feeding The average pooled results of the studies show that breast milk and feeding rates were a significant difference between the groups in the post-training period (OR: 0.49 95% CI: 0.33 to 0.74, Z = 3.41, p: 0.0007) (Figure 4).

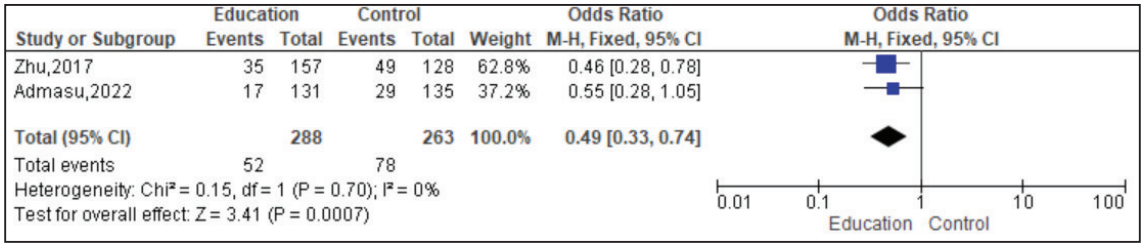

Figure4: Meta-analysis results on the effect of education on breastfeeding and formula ratio

3.3.4. Early start of breastfeeding after childbirth

The effect of instruction-based training on the time to start breastfeeding. In all the studies examined, the authors reported results on the effect of theory-based education on the time to start breastfeeding. The average pooled results of the studies show that there was no significant difference between the groups in the post-training period of early start time to breastfeeding (OR: 1.31 95% CI: 0.91 to 1.90, Z = 1.45, p: 0.15) (Figure 5).

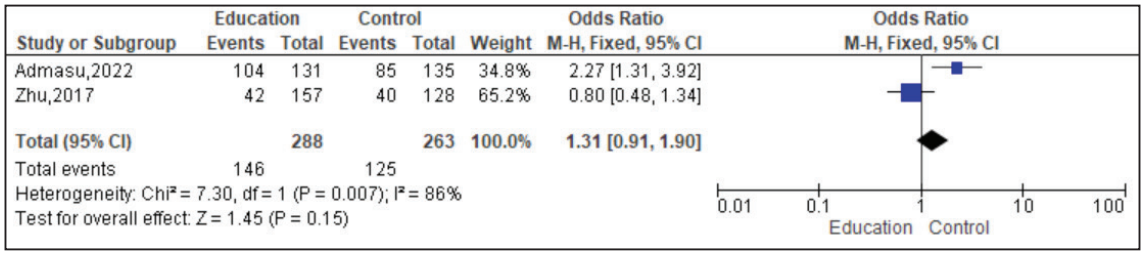

Figure 5: Meta-analysis results on the effect of education on early breastfeeding start

3.4. Risk of bias assessment

All studies identified an adequate method for the random assignment of participants to training groups (11,12). Therefore, these studies in this area were evaluated as low risk of nepotism. Studies were judged to be at risk of uncertainty bias due to insufficient information or lack of mention of factors about randomization or allocation confidentiality (11,12). In the two studies included in the meta-analysis, it was not possible for the participants and researchers who participated in the experiment to be blind to the study, therefore, all studies were evaluated under the risk of bias in blinding the participants and employees and this was taken into account when interpreting the findings (11, 12). Zhu et al. (11), it is at high risk of blinding outcome evaluation. In the study of Admasu et al. (12), it was concluded that there was a risk of uncertainty bias in blinding the outcome assessment and not mentioning the risk of nepotism error. Two studies (11,12) had a low risk of attrition. Because in these two studies, the cessations were balanced between the intervention and control groups, or there were few releases that did not affect the study (11,12). In all studies included in the meta-analysis, they were assessed at risk of reporting low bias because they discussed the reported significant results, including negative outcomes, and matched those reported in their records. For each study included, important concerns about other possible sources of bias that had not previously been addressed in the above categories were disclosed. In particular, a declaration of conflict of interest and a source of funding were sought. None of the included studies reported any other risk of bias (11, 12) (Figure 6).

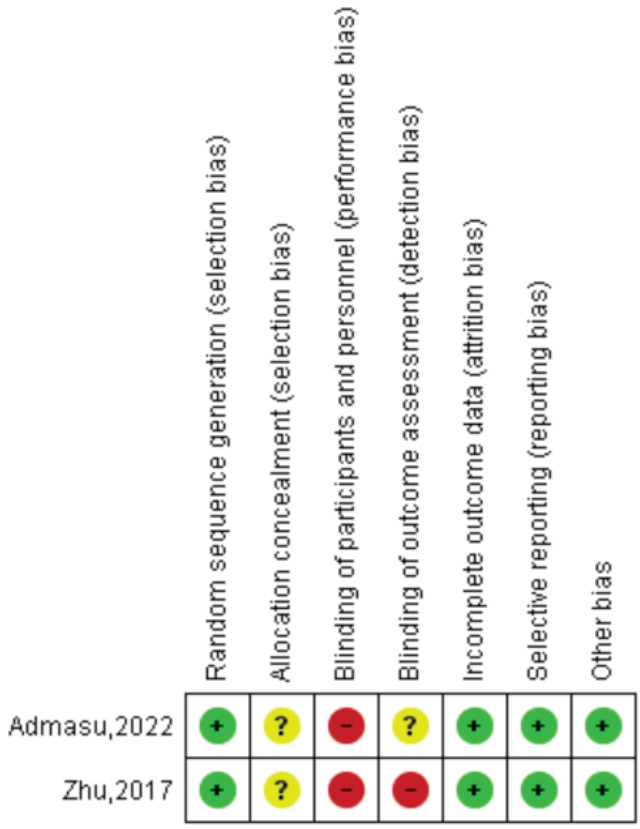

Figure 6. Risk of bias domains: ROB-2 *ROB-2: Risk-of-Bias tool for randomized trials.

4. Discussion

The aim of this study is to systematically review the breastfeeding outcomes of theory-based research and to perform a meta-analysis of the available evidence. As a result of the research, the results of this meta-analysis, which examined the effect of Kurama-based interventions on breastfeeding, found that education increased the knowledge of breastfeeding in mothers and that they showed only breastfeeding attitude. In addition, it was determined that the educational intervention for breastfeeding based on theory would be effective before or after birth.

Breastfeeding is the best way to ensure optimal nutrition for babies. However, many mothers are unable to start breastfeeding early and only breastfeed as recommended due to the lack of necessary information and support. Designing and implementing effective health education programs is essential for successful health interventions. Successful education depends on the correct use of theories and models in health education (13-15). In the studies carried out, the breastfeeding problems experienced by the mother and the breastfeeding attitude affect the way she feeds her baby and the duration of breastfeeding (16,17). According to the results of this metaanalysis, it was found that theory-based interventions increased the knowledge about breastfeeding in mothers and showed only breastfeeding attitude. Karaahmet and Bilgiç (18) In their study, it was reported that breastfeeding education given to mothers positively affected breastfeeding attitude in the intervention group and increased the duration of feeding only with breast milk. It has been reported that the theory-based behavioral intervention made to the mothers of babies fed with formula formula after birth is not effective in formula feeding and formula intake (19). In parallel with the literature, it was seen that theory-based interventions had a positive effect on breastfeeding attitude and breastfeeding alone.

Since breastfeeding rates are still 40% in the first six months globally, the effect of various intervention methods on breastfeeding time is being examined by randomized controlled trials (20). Among the different approaches to intervention, those with prenatal and/or postnatal education and support show positive results in breastfeeding outcomes (21). In the study conducted to inform pregnant women in Germany, it was reported that it was effective on maternal, neoanatal health outcomes and breastfeeding (22). Although postpartum interventions are frequently studied, research on the effect of education given to pregnant women on maternal, neonatal and breastfeeding outcomes is limited (23). In the studies included in the metaanalysis, although one study intervened in the prenatal period (12) and one study intervened in the postpartum period (11), it was found to positively affect breast milk and breastfeeding behaviors in the intervention groups. In a similar meta-analysis study, it was reported that prenatal or/or postpartum breastfeeding education and counseling may positively affect breastfeeding attitude and breastfeeding duration, especially in the first two postpartum months (20). A breastfeeding promotion program that included prenatal education provided by a breastfeeding counselor followed by a peer-led postpartum support group was found to significantly improve continuing to breastfeed alone (24); additional proactive phone-based peer support has been reported to increase breastfeeding rate alone at six months (25). Although the findings of metaanalysis are in parallel with the literature, there is a need for randomized controlled trials examining the effect of educational intervention, especially in pregnancy.

5. Conclusion

In the results of this meta-analysis, which examined the effect of court-based interventions on breastfeeding, it was found that education increased the knowledge of breastfeeding in mothers and that they showed only breastfeeding attitude. In addition, it was determined that the educational intervention for breastfeeding based on theory would be effective before or after birth. The included studies showed that the intervention had no effect on early onset of breastfeeding after birth. Although there are interventions that may be effective in breastfeeding in the literature, it was found that the results of the study examining the effect of theory-based interventions on breastfeeding outcomes were quite limited. Further randomized controlled trials examining the effect of theory-based interventions on breastfeeding outcomes may be proposed.

References

1. Kılıç M. The state of breastfeeding in the world and in Turkey. Özsoy S (eds). Counseling/Current Approaches in Breastfeeding and Breastfeeding. 1st Edition. Ankara: Turkiye Clinics, 2021:p.14-22.
2. World Health Organization. Global breastfeeding scorecard: Tracking progress for breastfeeding policies and programmes. Retrieved from:12.03.2021. Access address: https:// www.who.int/ nutrition/ publications/infantfeeding/ global-bf-scorecard2017.pdf
3. Özkan N. Components of successful breastfeeding. Özsoy S, editor. Counseling/Current Approaches in Breastfeeding and Breastfeeding. 1st Edition. Ankara: Turkiye Clinics; 2021. p.40-9.
4. Ay F. What is a Theory? Professional Theories and Theorists. Basic Concepts and Skills in Health Applications, Fatma Akça Ay (Ed), Nobel Medical Bookstores; Istanbul.2021;p.42-73.
5. Ay F, Bilgiç FŞ. Bibliometric analysis of the use of theories in graduate dissertations: the case of women's health-diseases and obstetrics and gynecology. Fenerbahçe University Journal of Health Sciences, 2021;1(3):281-9.
6. Okuyan YÇ, Tuna N, Can HÖ. Theory and model-based theses in midwifery practice areas. Life Sciences, 2019;14(1):20-9
7. Dündar T, Gerçek E. The use of interaction theory in nursing in the postpartum period: a case report. Ege University Journal of Nursing Faculty,2020;36(1):67-72.
8. Şişman H, Arslan S. Theories and models used in patient care in surgical nursing. Journal of Archival Resource Search, 2020;29(2):150-61.
9. Dağcı M. Nursing researches in Turkey that used models and theories between 2008-2018: Systematic review. Istanbul Gelisim University Journal of Health Sciences, 2019;(9):929-43.

10. Moher D, Shamseer L, Clarke M. PRISMA-P Group Preferred Reporting İtems For Systematic Review And Meta-Analysis Protocols (PRISMA-P) 2015 Statement
11. Zhu Y, Zhang Z, Ling Y, Wan H. Impact of intervention on breastfeeding outcomes and determinants based on theory of planned behavior. Women and Birth, 2017;30(2):146-52.
12. Admasu J, Egata G, Bassore D, Feleke F. Effect of maternal nutrition education on early initiation and exclusive breast-feeding practices in south Ethiopia: A cluster randomised control trial. Journal of Nutritional Science, 2022;11:E37. doi:10.1017/jns.2022.36
13. Woldie TG, Kassa AW, Edris M. Assessment of exclusive breast feeding practice and associated factors in Mecha District, North West Ethiopia. Sci J Public Health, 2014;2:330–6.
14. Hajeebhoy N, Nguyen PH, Mannava P, Nguyen T T, Mai LT. Suboptimal breastfeeding practices are associated with infant illness in Vietnam. International breastfeeding journal, 2014;9(1):1-7.
15. Mukunya D, Tumwine JK, Nankabirwa V, Ndeezi G, Odongo I, Tumuhamye J, Tylleskar T. Factors associated with delayed initiation of breastfeeding: a survey in northern Uganda. Global health action, 2017;10(1):1410975.
16. Bozkurt G, Tanrıverdi FŞ, Tanrıverdi D. Factors affecting mothers' attitudes towards infant nutrition in the postpartum period. Journal of Contemporary Medicine, 2021;11(4):543-9.
17. Victora CG, Bahl R, Barros AJ, França GV, Horton S, Krasevec J, Group, TL. Breastfeeding in the 21st century: epidemiology, mechanisms, and lifelong effect. The lancet, 2016;387(10017):475-90.
18. Karaahmet AY, Bilgiç FŞ. Breastfeeding success in the first 6 months of online breastfeeding counseling after cesarean delivery and its effect on anthropometric measurements of the baby: a randomized controlled study. Revista da Associação Médica Brasileira, 2022;68:1434-40.
19. Lakshman R, Sharp SJ, Whittle F, Schiff A, Hardeman W, Irvine L, Wilson E, Griffin SJ, Ong KK. Randomised controlled trial of a theory-based behavioural intervention to reduce formula milk intake. Arch Dis Child, 2018;103(11):1054-60. doi: 10.1136/archdischild-2018-314784.
20. Wong MS, Mou H, Chien WT. Effectiveness of educational and supportive intervention for primiparous women on breastfeeding related outcomes and breastfeeding self-efficacy: a systematic review and meta-analysis. Int J Nurs Stud. 2021;117:103874. https://doi.org/10.1016/j.ijnurstu.2021.103874
21. Rothstein JD, Caulfield LE, Broaddus-Shea ET, Muschelli J, Gilman RH, Winch PJ. The doctor said formula would help me": health sector influences on use of infant formula in peri-urban Lima, Peru Soc. Sci. Med., 2020;244:112324, 10.1016/j.socscimed.2019.05.029
22. Nawabi F, Alayli A, Krebs F, Lorenz L, Shukri A, Bau AM, Stock S. Health literacy among pregnant women in a lifestyle intervention trial: protocol for an explorative study on the role of health literacy in the perinatal health service setting. BMJ Open. 2021;11(7):e047377. doi: 10.1136/bmjopen-2020-047377.
23. Zibellini J, Muscat DM, Kizirian N, Gordon A. Effect of health literacy interventions on pregnancy outcomes: A systematic review. Women Birth., 2021;34(2):180-6. doi: 10.1016/j.wombi.2020.01.010. Epub 2020 Feb 21. PMID: 32094036.
24. Schreck PK, Solem K, Wright T, Schulte C, Ronnisch KJ, Szpunar S. Both prenatal and postnatal interventions are needed to improve breastfeeding outcomes in a low-income population Breastfeed. Med., 2017;12(3):142-8, 10.1089/bfm.2016.0131
25. Forster DA, McLardie-Hore FE, McLachlan HL, Davey MA, Grimes HA, Dennis CL, Amir LH. Proactive peer (mother-to-mother) breastfeeding support by telephone (ringing up About breastfeeding early [RUBY]): a multicentre, unblinded, randomised controlled trial EClinicalMedicine, 2019;8.

RESEARCH

DETERMINATION OF NUTRITIONAL STATUS IN CHILDREN WITH CYSTIC FIBROSIS

Abstract

Cystic fibrosis is a disease that affects quality of life and life span as a result of mutation in the transmembrane conductivity regulator gene. The aim of this study is to determine the nutritional status of 2–18-year-old children with cystic fibrosis.75 children with cystic fibrosis between the ages of 2-18 were included in the study. The data were obtained online with the "Sociodemographic Form", "Nutrition Evaluation Form" and "24-Hour Food Consumption Record". Dietary quality, energy intake, macro and micronutrient intakes of the participants were determined by taking a 24-hour food consumption record. IBM Statistical Package for Social Sciences Version 24 statistical program and BEBIS 8.2 program were used to analyze the data obtained through the questionnaire.

In this study 32 girls and 43 boys were included. It was determined that the daily energy intake of the girls was 1368 ± 394 kcal, and the boys were 1496 ± 494 kcal. When the z-score values of the participants are examined, the z-score value according to the height is minimum -4.16, maximum 3.05; It has been determined that the z-score value for weight is minimum -3.79 and maximum 2.60. The mean z-score of the participants for height was -0.25; The mean z score according to weight was determined as -0.40. The average weight of the boys is 30 kg, and the girls are 28.4 kg. More studies are needed to determine nutritional status, new nutritional therapies, and supplemental doses in children with cystic fibrosis.

Keywords: Cystic fibrosis, nutrition, nutritional status

Sevcan ARKIN[1],

Berrak BASTURK[2*],

*Sorumlu Yazar e mail: berrakerguden@halic.edu.tr

[1]Freelance Researcher
[2]Department of Nutrition and Dietetics, Halic University, 34445 Istanbul, Turkey

Arkın S, Basturk B. Determination of Nutritional Status in Children with Cystic Fibrosis..Halic Uni J Health Sci. 2023;6(2) 19-25

Arkın S, Basturk B.Kistik Fibrozlu Çocuklarda Beslenme Durumunun Belirlenmesi. Haliç Üniv Sağ Bil Der. 2023;6(2) 19-25

Doi: 10.48124/husagbilder.1297383

Geliş Tarihi: 15.05.2023
Kabul Tarihi: 31.05.2023

KİSTİK FİBROZLU ÇOCUKLARDA BESLENME DURUMUNUN BELİRLENMESİ

Öz:

Kistik fibrozis, transmembran iletkenliğini düzenleyici gende meydana gelen mutasyon sonucu yaşam kalitesini ve yaşam süresini etkileyen bir hastalıktır. Bu çalışmanın amacı 2-18 yaş arası kistik fibrozisli çocukların beslenme durumlarının değerlendirilmesidir. Çalışmaya 2-18 yaş arası kistik fibrozlu 75 çocuk dahil edilmiştir.Çocuklara "Sosyodemografik Form", "Beslenme Değerlendirme Formu" ve "24 Saatlik Besin Tüketim Kaydı" online olarak uygulanmıştır. Katılımcıların diyet kalitesi, enerji alımları, makro ve mikro besin alımları 24 saatlik besin tüketim kaydı alınarak belirlenmiştir. Anket aracılığıyla elde edilen verilerin analizinde ve değerlendirilmesinde IBM Statistical Package for Social Sciences Version 24 istatistik programı ve BEBİS 8.2 programı kullanılmıştır.

Çalışmaya 32 kız ve 43 erkek dahil edilmiştir. Kızların günlük enerji alımlarının 1368 ± 394 kkal, erkeklerin ise 1496 ± 494 kkal olduğu belirlenmiştir. Katılımcıların z-puanı değerleri incelendiğinde boylarına göre z-puanı

değeri en az -4.16, en fazla 3.05; ağırlık için z-skoru değerinin en az -3,79 ve en fazla 2,60 olduğu belirlenmiştir. Katılımcıların boy için ortalama z puanı -0,25; ağırlığa göre ortalama z skoru -0.40 olarak belirlenmiştir. Erkeklerin ortalama ağırlığı 30 kg, kızların ağırlığı ise 28,4 kg'dır. Kistik fibrozlu çocuklarda beslenme durumunu, yeni beslenme tedavilerini ve ek dozları belirlemek için daha fazla çalışmaya ihtiyaç vardır.

Anahtar Kelimeler: Kistik fibrozis, beslenme, beslenme durumu

1. Introduction

Cystic fibrosis (CF) is a disease that affects the quality of life and duration of life as a result of mutation in the cystic fibrosis transmembrane conductivity regulator (CFTR) gene (1-3). Absence, deficiency, or structural and functional abnormalities of the CFTR protein lead to mucosal hyperconcentration in the respiratory, digestive, and reproductive systems and malabsorption of chloride and sodium in the sweat glands (4).

The overall prevalence of CF is thought to be 1/2500 live births in Europe (2;5). As a result of a study conducted in Turkey, it was determined that approximately 7 out of 100 children who applied to the hospital in our country with complaints of lung infection and malnutrition were diagnosed with cystic fibrosis (6).

CFTR protein allows chloride to pass through mucus-producing cells, followed by water and the mucus thins. Defective CFTR results in thick and sticky mucus that blocks pathways, leading to serious lung infections, particularly pseudomonas (7;8). It is recommended that diagnoses associated with CFTR mutations be made by evaluating CFTR function with sweat chloride test in all individuals, from newborn to adult (9). The diagnosis of CF is made within four weeks by sweat testing and/or genetic mutation analysis. Early diagnosis through newborn screening is very important especially in terms of growth-development and nutrition (2).

CF patients usually present to the clinic with complaints of chronic cough, shortness of breath and wheezing. As the disease progresses, patients develop bronchiectasis, a chronic condition of dilatation of the bronchi that develops as a result of recurrent lung infections (10).

A study of impaired gut microbiota in children with cystic fibrosis found that children with CF had significantly different gut microbiota when compared to a healthy control group. In the study, a decrease in the levels of eubacterium rectale, bacteroides uniformis, bacteroides vulgatus, bifidobacterium adolescentis, bifidobacterium catenulatum and faecalibacterium prausnitzii was found in children with CF (11).

Cystic fibrosis-related diabetes (CFRD) affects up to 50% of adult patients with CF. Patients with CFRD have a relative insulin deficiency and insulin loses its anabolic effects, causing a catabolic state and consequent significant weight loss. CFRD is associated with significant adverse effects on patients' health, quality of life, and life expectancy (12).

Regular measurements of weight and height in individuals with cystic fibrosis are very important for the prevention or early detection of malnutrition (2). Malnutrition is encountered in people with CF as a result of the combination of malnutrition, energy losses, high energy needs and inadequate nutritional intake (13). Metabolism of fat-soluble vitamins and fats is adversely affected due to pancreatic insufficiency in people with cystic fibrosis (1; 2; 14).

It is recommended that patients with CF meet 120 to 150% of the recommended daily energy intake to compensate for malabsorption and increased caloric needs (15). It is recommended to provide 40% of daily energy from fat (15), 15% from protein and the rest from carbohydrates (16).

Patients with CF, particularly those with pancreatic insufficiency, are at risk for fat-soluble vitamin deficiencies. Especially, fat-soluble vitamin deficiencies may be associated with worse clinical status (3). On the other hand, there is no problem in the absorption of water-soluble vitamins and there is no need for regular supplements (2). As a result of increased sweating, intestinal malabsorption, and chronic inflammation common in CF, patients may have higher-than-normal requirements for sodium, calcium, iron, zinc, and selenium (1).

In cases where nutritional status cannot be provided orally, the transition to enteral nutrition is important in controlling malnutrition and improving clinical symptoms (17; 2).

The aim of this study is to examine the clinical findings seen in individuals with cystic fibrosis, whose nutritional deficiency is common, to look at the nutritional status and to examine the effect of nutritional status on symptoms.

2. Material and Methods

2.1. Study Design and Ethical Considerations

This is a descriptive study. The study was carried out with 75 patients who were diagnosed with cystic fibrosis, between the ages of 2 and 18, registered in KifDer "Cystic Fibrosis Assistance and Solidarity Association", and who were eligible in terms of inclusion and exclusion criteria. This study was carried out between April - June 2022.

Ethical approval of our study was received by the Haliç University Non-Interventional Clinical Research Ethics Committee at the meeting dated 27.04.2022 (Haliç University Non-Interventional Clinical Research Ethics Committee, registration number 2022-83). It was carried out in accordance with the Declaration of Helsinki.

All patients and their family participating in the study were informed in writing about the content of the study and its method of application, participant rights, and the questionnaires to be used.

2.2. Data Collection Tools

The data were obtained online with the "Sociodemographic Form", "Nutrition Evaluation Form" and "24-Hour Food Consumption Record", which were created by the researcher and composed of questions about the sociodemographic data of the volunteers, the amount of food consumption for their nutritional status and their eating habits. The form and questionnaire specified for the purpose of collecting data were prepared online via "Google Forms" and sent to the participants via whatsapp and e-mail.

2.3. Instruments

2.3.1. Sociodemographic Form: It was prepared and presented to the participants in order to obtain information about the age, gender, education level and sibling status of the individuals participating in our study.

2.3.2. Nutrition Evaluation Form: It was prepared and presented to the participants in order to determine the appetite status of the individuals participating in the study, the amount of meals they consume, the amount of water, and the consumption of enteral products.

2.3.4. 24-Hour Food Consumption Record: It is a standard inquiry form that defines the 24-hour period as a standard (from 23:59 at midnight the previous day to 24:00 at midnight last night), facilitating the remembering of the foods and their amounts consumed in this process.

2.4. Evaluation of Data

IBM Statistical Package for Social Sciences Version 24 (SPSS inc, Chicago, IL, USA) statistical program and BEBIS 8.2 program were used to analyze the data.

Continuous variables are given as mean ± standard deviation, qualitative variables as numbers and percentages (%). Comparison of normally distributed bivariate data in terms of means was obtained with Independent Samples T Test, and for non-normally distributed data with Mann Whitney U Test. Comparisons in terms of means were analyzed using the One-Way Analysis of Variance Test for normally distributed data in more than two groups, and the Kruskal-Wallis Test for data from more than two groups that were not normally distributed. Statistical significance level was taken as $p < 0.05$.

3.Results

In this study, 75 patients participated, including 32 girls (42.6%) and 43 (57.4%) boys, between the ages of 2 and 18. The mean age of the individuals participating in the study was 8,900 ± 4,8935. It was determined that the average height of the individuals participating in our study was 128.87 ± 25.244 cm; their average weight was 29.5920 ± 14.94861 kg, and their birth weight average was 3107 ± 529.107 grams.

The average weight of the boys participating in the study is 30 kg, and that of the girls is 28.4 kg. While 29.3% (22 patients) of individuals aged 2-18 years who participated in our study were diagnosed with cystic fibrosis in heel blood screening, 70.7% were diagnosed as a result of tests and scans performed due to disease-specific symptoms in the future.

Individuals of 25.3% (19 patients) participating in our study were diagnosed with another disease in addition to cystic fibrosis disease. In addition to cystic fibrosis, 14 different diseases were diagnosed in the individuals participating in our study. The most frequently diagnosed disease was diabetes (5 patients).

Table 1: Evaluation of Participants' Status of Receiving Dietitian Support

		Enteral Products Use		
		Yes (n)	No (n)	Total
Dietitian Support	Yes(n)	27	18	45
	No(n)	8	22	30
	Total	35	40	75

Table 2: Evaluation of Participants' Food Consumption Records by Gender

	Gender	**Number(n)**	**X ± SD**	**p**
Energy (kcal)	Girl	32	1368± 394,58	0,211
	Boy	43	1496±494,00	
Protein (g)	Girl	32	53,41±15,84	**0,005**
	Boy	43	58,57± 26,50	
Fat (g)	Girl	32	62,41±22,41	0,274
	Boy	43	67,00±27,56	
Carbohydrate (g)	Girl	32	144,46± 54,33	0,707
	Boy	43	161,81±55,44	
Fiber (gr)	Girl	32	13,52± 5,63	0,110
	Boy	43	15,14± 8,49	
Polyunsaturated Fat (g)	Girl	32	11,59± 4,86	0,193
	Boy	43	13,16± 6,36	
SD, standard deviation; X, mean.				

When the energy intake of the participants was evaluated according to the gender parameter, no statistically significant difference was found (p=0.211). When the protein, carbohydrate and fat consumption amount of the participants were evaluated according to the gender parameter, a statistically significant difference was found in the amount of protein consumption between girls and boys (p=0.005), but there was no statistically significant difference in terms of carbohydrate (p=0.707) and fat (p=0.274) consumption. no significant difference was found (Table 2).

Table 3: Evaluation of Daily Vitamin and Mineral Intakes of Participants by Gender

	Gender	Number(n)	X ± SD	p
Vitamin A (µg)	Girl	32	939,73± 637,36	0,547
	Boy	43	977,91± 651,11	
Vitamin E (mg)	Girl	32	10,16± 4,67	**0,010**
	Boy	43	12,91± 7,53	
Sodium (mg)	Girl	32	2250±884,84	0,122
	Boy	43	2441±1316	
Iron (mg)	Girl	32	7,06±3,06	0,394
	Boy	43	7,43± 3,81	
Magnesium (mg)	Girl	32	186,92± 80,23	0,207
	Boy	43	200,03±104,21	
Zinc (mg)	Girl	32	7,05±3,07	**0,005**
	Boy	43	8,57±5,35	
Calcium (mg)	Girl	32	618,74±285,07	**0,026**
	Boy	43	636,19± 416,90	
SD, standard deviation; X, mean.				

Table 4: Evaluation of Participants' Z Score by Height and Weight

	Number(n)	Min	Max	X	SD
Z score by height	75	-4,16	3,05	-0,25	1,39108
Z score by weight	75	-3,79	2,60	-0,40	1,44970
Min-max, minimum-maximum; SD, standard deviation; X, mean					

Table 5: Evaluation of Participants' Z-Score Values According to Age Parameter

	Age	Number(n)	X	SD	p
Z score by height	2 – 10	49	0,056	1,37	0,804
	11 – 18	26	-0,84	1,24	
Z score by weight	2 – 10	49	0,15	1,18	0,107
	10 – 18	26	-1,44	1,33	
SD, standard deviation; X, mean					

4. Discussion

In this study, which aims to determine the nutritional status of children with cystic fibrosis between the ages of 2 and 18, the energy, carbohydrate, protein, fat, fiber, and polyunsaturated intake of the participants; the amount of vitamins and minerals they take with nutrition was examined and evaluated according to the gender parameter. As a result of this evaluation, a statistically significant difference was found only in daily protein intake and zinc intake. Cystic fibrosis is a hereditary disease that causes serious damage to many organs in the body and negatively affects life expectancy and quality (18).

Nutrition is an important component of cystic fibrosis treatment, and the cornerstone of treatment is a high-fat diet. However, adherence to dietary recommendations for cystic fibrosis appears burdensome for most children and adolescents. This leads to malnutrition, growth-development retardation, inadequate lung function and an increased risk of respiratory tract infections (19). In our study, in the evaluation of the z score for height according to age, the mean z score for children aged 2 to 10 was 0.0563 ± 1.37447, while the mean z score for children aged 11 to 18 was -0.8423 ± 1.24579. In the evaluation of the z score according to weight of the participants, the

mean z score for children aged 2-10 was 0.1500 ± 1.18621, while the mean z score for children aged 11-18 was -1.4431 ± 1.33970 and there is no statistically significant difference between the two age groups (p=0.107).In a cross-sectional study of 101 children and adolescents with cystic fibrosis in Brazil, Neri et al. reported adequate calorie and macronutrient consumption and adequate nutritional status in most patients. However, lower BMI z scores were observed in schoolchildren (5 to <10 years) and adolescents (≥10 years) (20). In another study, 76 children with CF in Greece, 9% of boys and 5% of girls were underweight (BMI Z score for age <-2.0) despite patients meeting or exceeding the recommended total energy intake (19). In our study, when the 24-hour food consumption record data of individuals between the ages of 2 and 18 and energy intakes by gender were examined, it was found that the average daily energy intake of girls was 1368,0450 ± 394,58258 kcal, and that of boys was 1496,8128 ± 494,00418 kcal no statistically significant difference is found between the two age groups (p=0.211).With 80 children with cystic fibrosis in 2018, it was determined that the daily energy intake was 3420 kcal/day in male participants and 2866 kcal/day in female participants (21). Poulimeneas et al., including 76 children with cystic fibrosis, when the energy intakes of children and adolescents were examined, it was determined that the daily energy intake of male participants (n= 32) was 2623 ± 654 kcal, and the energy intake of female participants (n=44) was 2486 ± 738 kcal (19). Cystic fibrosis is a disease that causes serious damage to many organs in the body and negatively affects the quality of life.Nutrition is an important component of cystic fibrosis treatment. Cystic fibrosis can cause malnutrition, growth and development retardation. For this reason, patients should be informed that sustainable dietary recommendations are provided by experts and that this adherence is an important factor in the quality and duration of life for most children and adolescents.

Author Contributions: Concept –S.A., B.B;. Design – S.A., B.B; Supervision – S.A., B.B; Resources – S.A., B.B ; Materials – S.A., B.B ; Data Collection and/or Processing – S.A., B.B ; Analysis and/or Interpretation – S.A., B.B ; Literature Search – S.A. Writing Manuscript – S.A., B.B ; Critical Review – S.A.

Acknowledge

We would like to thank the management of KifDer, especially Serap Çöremen, for their contribution to the collection of data.

Funding

No founding received for the present study.

Declaration of Interest

The authors declare that they have no conflicts of interest.

References

1. Turck D., Braegger C.P., Colombo C., Declercq D., Morton A., Pancheva R., Robberecht E., Stern M., Strandvik B., Wolfe S., Schneider S.M., Wilschanski M. (2016) ESPEN-ESPGHAN-ECFS Guidelines on Nutrition Care for Infants, Children, and Adults with Cystic Fibrosis. Clinical Nutrition, Volume 35, Issue 3, Pages 557-577, ISSN 0261-5614.
2. Shaw V. (2019) (ed) Cystic Fibrosis, Clinical Pediatric Nutrition, 4 th edition, WILEY Blackwell, p: 222-41.
3. Saxby N., Painter C., Kench A., King S., Crowder T., Van der Haak N. (2017). and the Australian and New Zealand Cystic Fibrosis Nutrition Guideline Authorship Group. Nutrition guidelines for Cystic Fibrosis in Australia and New Zealand. Bell S, editor, Sydney: Thoracic Society of Australia and New Zealand.
4. Radlović N. (2012) Cystic Fibrosis. Srp Arh Celok Lek., Mar-Apr;140(3-4):244-9. PMID: 22650116.
5. Scotet V., Gutierrez H., Farrell P.M. (2020) Newborn Screening for CF Across the Globe—Where Is It Worthwhile? International Journal of Neonatal Screening; 6(1):18.
6. Cesur Y., Dogan M., Arıyuca S., Peker E., Okur M., Akbayram S., Dogan S.Z (2010) The Evaluation of Cystic Fibrosis Frequency in Children with Malnutrition and/ or Recurrent Pulmonary Infection, Selcuk University Medicine Journal, 26(4), 138-41.

7. Griese M., Kappler M., Gaggar A., Hartl D. (2008) Inhibition of Airway Proteases in Cystic Fibrosis Lung Disease. Eur Respir J. Sep;32(3):783-95.
8. Rafeeq M.M., Murad H.A.S. (2017) Cystic Fibrosis: Current Therapeutic Targets and Future Approaches. J Transl Med. Apr 27;15(1):84.
9. Farrell P.M., White T.B., Ren C.L., Hempstead S.E., Accurso F., Derichs N., Howenstine M., McColley S.A., Rock M., Rosenfeld M., Sermet-Gaudelus I., Southern K.W., Marshall B.C., Sosnay P.R. (2017) Diagnosis of Cystic Fibrosis: Consensus Guidelines from the Cystic Fibrosis Foundation, The Journal of Pediatrics, Volume 181, Supplement, Pages S4-S15.e1, ISSN 0022-3476.
10. Mahan L.K., Raymond J.L. (2017) (eds) Medical Nutrition Therapy for Pulmonary Disease. Food & The Nutrition Care Process. 14 th edition, 681-99.
11. Bruzzese E., Callegari M.L., Raia V., Viscovo S., Scotto R., Ferrari S., Morelli L., Buccigrossi V., Vecchio A.L., Ruberto E., Guarino A. (2014) Disrupted Intestinal Microbiota and Intestinal Inflammation in Children with Cystic Fibrosis and Its Restoration with Lactobacillus GG: A Randomised Clinical Trial, PLoS One; 9(2): e87796.
12. Potter K. J., Boudreau V., Shohoudi A., Mailhot M., François Tremblay F., Lavoie A., Carricart M., Senior P.A., Rabasa-Lhoret R. (2021) Influence of Pre-diabetic and Pancreatic Exocrine States on Pulmonary and Nutritional Status in Adults with Cystic Fibrosis, Journal of Cystic Fibrosis, Volume 20, Issue 5, 2021, Pages 803-809, ISSN 1569-1993.
13. Culhane S., George C., Pearo B., Spoede E. (2013) Malnutrition in Cystic Fibrosis: A Review, Nutrition in Clinical Practice 28, Pages 676-683.
14. Calvo-Lerma J., Boon M., Colombo C., de Koning B., Asseiceira I, Garriga M., Roca M., Claes I., Bulfamante A, Walet S., Pereira L., Ruperto M., Masip E., Asensio-Grau A., Giana A., Affourtit P., Heredia A., Vicente S., Andrés A., de Boeck K., Hulst J., Ribes-Koninckx C. (2021) Clinical Evaluation of An Evidence-Based Method Based on Food Characteristics to Adjust Pancreatic Enzyme Supplements Dose in Cystic Fibrosis, Journal of Cystic Fibrosis, Volume 20, Issue 5, Pages e33-e39, ISSN 1569-1993.
15. Brownell J.N., Bashaw H., Stallings V.A. (2019) Growth and Nutrition in Cystic Fibrosis. Semin Respir Crit Care Med. Dec;40(6):775-91.
16. Koksal, G., Ozen, H. (2010). Cystic Fibrosis and Nutrition, Pediatric Respiratory Diseases and Cystic Fibrosis Society, Ankara.
17. Erskine J.M., Lingard C., Sontag M. (2007) Update on Enteral Nutrition Support for Cystic Fibrosis. Nutr Clin Pract. Apr;22(2):223-32.
18. El-Koofy N., El-Mahdy M., Fathy M., El Falaki M., El Dine Hamed D. H. (2020) Nutritional Rehabilitation for Children with Cystic Fibrosis: Single Center Study. Clinical Nutrition ESPEN, 35, 201–6.
19. Poulimeneas D., Grammatikopoulou M.G., Devetzi P., Petrocheilou A., Kaditis A.G., Papamitsou T., Doudounakis S. E., Vassilakou T. (2020) Adherence to Dietary Recommendations, Nutrient Intake Adequacy and Diet Quality Among Pediatric Cystic Fibrosis Patients: Results from the GreeCF Study. Nutrients, 12(10), 3126.
20. Neri L.C.L., Bergamaschi D.P., Silva Filho L. (2019) Evaluation of Nutritional Status in Patients with Cystic Fibrosis According to Age Group. Rev Paul Pediatr. 37:58-64.
21. Sutherland R., Katz T., Liu V., Quintano J., Brunner R., Tong C.W., Collins C. E., Ooi, C.Y. (2018) Dietary Intake of Energy-Dense, Nutrient-Poor and Nutrient-Dense Food Sources in Children with Cystic Fibrosis. Journal of Cystic Fibrosis: Official Journal of the European Cystic Fibrosis Society, 17(6), 804–10.

RESEARCH

WHY DON'T WOMEN PREFER VAGINAL BIRTH?: THE CASE OF TURKEY

Abstract

This study was aimed to determine the reasons why women did not prefer Vaginal Delivery. This is research cross-sectional in descriptive type. The STROBE statement was used in the planning, implementation, and reporting of the study design. The research was carried out in a private hospital in Turkey, between April 2021-2022. It was conducted with 347 women aged 18-45 years who were not pregnant, and who wanted Caesarean section for their planned pregnancy. The data were obtained by "Obtaining Information Form" and the "The Vaginal Delivery Preference Inventory-TVDPI". The TVDPI score was found to be correlated with education status, previous delivery, the effect of obtaining information about cesarean section, and the effect of witnessing vaginal delivery. It was determined that a one-unit increase in the age and number of the delivery parameters would lead to a decrease of 0.025 points in the probability of affecting TVDPI scores. Women's education level, previous delivery, and obtaining information about delivery patterns affect their delivery preferences. The education level of women, their previous births and their knowledge about the mode of delivery affect their birth preferences. In the choice of birth, the woman should be considered as a whole with her environment and the culture in which she lives.

Keywords: Cesarean section; delivery preference; vaginal delivery.

ARAŞTIRMA

KADINLAR VAJİNAL DOĞUMU NEDEN TERCİH ETMEZ?: TÜRKİYE ÖRNEĞİ

Öz

Bu çalışmada, kadınların vajinal doğumu tercih etmeme nedenlerinin belirlenmesi amaçlandı. Bu, tanımlayıcı tipte kesitsel bir araştırmadır. Çalışma tasarımının planlanması, uygulanması ve raporlanmasında STROBE bildirimi kullanıldı. Araştırma, Nisan 2021-2022 tarihleri arasında Türkiye'de özel bir hastanede gerçekleştirildi. 18-45 yaş arası gebe olmayan, gebeliği planladığı için sezaryen isteyen 347 kadın ile yapılmıştır. Veriler "Bilgi Alma Formu" ve "Vajinal Doğum Tercih Envanteri-TVDPI" ile elde edildi. TVDPI puanının eğitim durumu, önceki doğum, sezaryen hakkında bilgi alma etkisi ve vajinal doğuma tanık olma etkisi ile ilişkili olduğu bulundu. Yaş ve doğum sayısı parametresindeki bir birimlik artışın TVDPI puanlarını etkileme olasılığında 0,025 puanlık bir azalmaya yol açacağı belirlendi. Kadınların eğitim düzeyi, önceki doğumları ve doğum şekli hakkında bilgi sahibi olmaları doğum tercihlerini etkilemektedir. Doğum tercihinde kadının çevresi ve içinde yaşadığı kültür ile bir bütün olarak ele alınmasıdır.

Anahtar Kelimeler: Sezaryen; doğum tercihi; vajinal doğum

Ayşenur TURAN[1], **Fatma Şule BİLGİÇ**[2*], **Aysu Yıldız KARAAHMET**[2]

*Sorumlu Yazar e mail: sulebilgic@halic.edu.tr

[1]Midwifery Department, Medipol University, İstanbul
[2]Midwifery Department, Halic University, Istanbul, Turkey

Turan A, Bilgiç FŞ, Karaahmet AY. Why Don't Women Prefer Vaginal Birth?: The Case of Turkey. Halic Uni J Health Sci. 2023;6(2) 27-34

Turan A, Bilgiç FŞ, Karaahmet AY. Kadınlar Vajinal Doğumu Neden Tercih Etmez?: Türkiye Örneği. Haliç Üniv Sağ Bil Der. 2023;6(2) 27-34

Doi: 10.48124/husagbilder.1294466

Geliş Tarihi: 09.05.2023
Kabul Tarihi: 23.05.2023

1. Introduction

Vaginal Delivery (VD) is a mode of delivery used by all mammals to continue their lineage. VD has many maternal-fetal-neonatal benefits (1). Cesarean section (C/S) is an emergency surgical operation applied to maintain maternal-fetal-neonatal health. The most common indications for C/S are, dystocia, multiple pregnancy, fetal distress, fetal malpresentation, fetal macrosomia (2). In the presence of medical indication, C/S can effectively prevent maternal-fetal-neonatal mortality-morbidity. There is no evidence on obstetric benefit in the absence of indication for C/S (3,4). As with any surgical operation, C/S is associated with short-long term risks. World Health Organization (WHO) suggests that C/S should be performed only when medically necessary (3).

World Health Organizations (WHO) have stated that the ideal C/S rate should be between 10-15% since 1985 (3). Although C/S can be lifesaving, the rapid increase in the rate of C/S without accompanying evidence of concomitant reductions in maternal-neonatal morbidity-mortality raises significant concerns about the overuse of C/S (2). The C/S rates were reported as 24.5% in Western Europe, 32% in North America, 41% in South America.4,5 According to Population Health Studies 2018 data of our country, 52% of deliveries are C/S (6). Considering the C/S rates per 1000 live delivery in Organization for Economic Co-operation and Development (OECD) countries, it is seen that the first three countries with the highest C/S rates are Turkey (549), Korea (452), Poland (389), respectively. In this respect, it is concluded that the C/S rates performed in our country are considerably higher than the goaled level (7).

Preventable causes that increase C/S without medical indication are; fears of VD, lack of sufficient knowledge, the perception of VD as unbearable and difficult, the traumatic VD scenes shown in the media, hearing stories of negative/traumatic vaginal delivery experiences (1,8,9). As a controversial finding, in the Population Health Studies 2018 data of our country report, it was found that C/S rates increased as the mother's education level increased, and the C/S decision was made mostly (62.6%) in mothers with high school or higher education level (6). The primary target for reducing C/S ratios is; It should be enough to inform pregnant women about the birth patterns with the right resources. The other target is; Midwives who are with the woman during vaginal delivery should have interventions to prevent elective C/S (1,8). Although the birth preferences of pregnant women are examined, the literature on birth preference and the factors affecting this choice in women who are not yet pregnant and planning a pregnancy is very limited. In this study, it was aimed to determine the reasons why women did not prefer VD.

2. Material and Method

The research is cross-sectional type. The STROBE statement was used in the study design.[10] The research was carried out in the Obstetrics and Gynecology Clinic of a Private Hospital in Istanbul between April 2021-2022. The sample of the study consisted of women who were between 18-4 years, not pregnant, planning a pregnancy, and wanted a C/S for their planned pregnancy. The sample size was calculated as 344 with the sample formula of the unknown universe [n=(1.962)*(0.34*0.66)/(0.052)]. The study was completed with 347 participants. Post-hoc analysis was performed with the G-Power 3.1. A medium effect size of 0.30, a significance level of 0.05, and a power of 0.996% were determined.

2.1. Data collection

Obtaining Information Form-OIF and The Vaginal Delivery Preference Inventory-TV-DPI were used to obtain data, by face-to-face interview method. The "OIF " consists of 23 questions about women's socio-demographic characteristics, obstetric history, and delivery experience-preferences. For TVDPI, an item pool was created by researchers by making use of the variables in the studies in the literature (1,8,9,11-13). As a result of the pilot study, 30% of the items were eliminated, and 13 items remained. "TVDPI" is a 5-point likert type "1=strongly disagree", "2=disagree", "3=undecided", "4=agree", "5=strongly agree". TVDPI is a single

dimension and the sum of the item scores varies between 13-65. As the total score increases, it is seen that women prefer VD less. For the internal consistency of the question items, Cronbach's alpha (α) coefficient was calculated for each item (α:.083). As a result of the factor analysis, the adequacy of the sample and the sphericity of the data were found to be significant (KMO:0.829 $\chi 2(78)=1360.94$; Bartlett Test of Sphericity p=0.000).

2.2. Statistical analysis

The data were evaluated with the statistical package program (SPSS). Results from descriptive statistics were presented as mean, number, percentage. It was determined that the data had a normal distribution (Shapiro-Wilk; p:.065;.080, respectively). In parametric comparisons, Independent Sample t-Test was used for the comparison of two independent groups, One Way Anova test was used for the comparisons of the and more independent groups. Pearson correlation analysis was used to examine three levels of correlation between continuous data. The statistical significance level was accepted as $p<0.05$. Two-way regression analysis was performed on normally distributed variables.

2.3. Ethical Consideration

Institutional permission was obtained from the local Ethics Committee (14.03.2018-E.4646). Declaration of Helsinki was followed. The research was initiated after obtaining a verbal-written Informed Consent Form.

3. Results

The research was carried out with 347 participants. While the mean age of the participants was 27.65±5.55, 79.8% had a university and/or higher education level, 65.4% were nulliparous, 55% of those who gave delivery before had preferred C/S after VD, 80% of those who gave delivery before had a positive effect on their last delivery, 78.7% obtained information about VD, 86.1% of those had a positive effect. 83% of those who obtained information about C/S, 54.9% of those had a positive effect. It was determined that 74.9% watched videos about VD, and 54.6% of those had a positive effect. It was found that 72.6% watched a video about C/S, and 60.7% of those had a negative effect. It was determined that 45.8% had witnessed a VD before, and 52.2% of those had a positive effect. 41.8% witnessed a C/S, and 51.7% of those had a negative effect. While TVDPI score was found to be associated with education status, previous delivery status, the effect of obtaining information about C/S, the effect of witnessing VD ($p<0.05$), last delivery type, time since last delivery, place of last delivery, the effect of last delivery, the status of obtaining information about VD, the effect of knowledge obtained with VD, the status of obtaining information about C/S, video viewing status of VD, the effect of watched video on VD, video viewing status regarding C/S, the effect of the video watched about C/S, witnessing VD, the status of witnessing C/S, impact of witnessing C/S, the preferred delivery mode was not found to be associated ($p>0.05$) (Table 1).

Table 1. Comparison of women's sociodemographic and delivery-associated information and TVDPI* score (N=347)

Variables			**X±SD(min-max)**		
Age			27.65±5.55(18-45)		
Number of deliveries			0.54±0.83(0-3)		
Variables	**n**	**%**	**Min-Max (Median)**	**X± SD**	**F/t;p**
Education Status (n=347)					
Primary & Secondary Education	70	20.2	13-60(32.50)	32.72±8.40	-4.018;.**000**
University and beyond	277	79.8	15-60(37)	36.99±7.81	t;p
Working Status (n=347)					
Working	317	91.4	13-60(36)	36.10±8.14	-.234;.815
Not working	30	8.6	20-51(38)	36.46±7.92	t;p
Living Place (n=347)					
Village/ County	51	14.7	13-52(38)	37.39±8.43	1.413;.245
City	137	39.5	15-60(35)	35.32±7.90	F;p
Metropolitan City	159	45.8	13-60(36)	36.43±8.16	
Birth Status (n=347)					
Yes	120	34.6	13-60(33)	34.19±8.18	-.3.291;**.001**
No	227	65.4	13-60(38)	37.16±7.89	t;p
Last Birth Type (n=120)					
Vaginal birth	11	9.2	22-44(34)	32.81±7.48	.349;.790
Cesarean delivery (Optional)	15	12.5	24-60(35)	36.00±9.48	F;p
Cesarean section (Physician Request)	28	23.3	20-49(33)	34.03±7.42	
Cesarean delivery after vaginal delivery	66	55	13-57(32)	34.07±8.40	
Time Since Last Birth (n=120)					
In the last year	33	27.5	13-50(32)	33.87±8.05	.125;882
Between one and two years	18	15	24-48(33.50)	35.05±7.90	F;p
Two years and above	69	57.5	15-60(33)	34.11±8.41	
Place of Last Birth (n=120)					
Public Hospital	22	18.3	13-49(31.50)	31.59±7.93	1.395;.252
University Hospital	15	12.5	20-60(32)	34.33±9.42	F;p
Private Hospital	83	69.2	15-57(34)	34.85±7.98	
Effect of Last Birth (n=120)					
Positive	96	80	15-60(33)	34.83±8.05	1.732;.086
Negative	24	20	13-52(31.50)	31.62±8.37	t;p
Status of Obtaining Information about Vaginal Birth (n=347)					
Yes	273	78.7	13-60(36)	35.87±8.15	-1.131;.259
No	74	21.3	22-60(36.50)	37.08±7.94	t;p
The Effect of Knowledge Obtained with Vaginal Birth (n=273)					
Positive	235	86.1	13-60(36)	35.79±8.14	-.441;.659
Negative	38	13.9	14-52(35.50)	36.42±8.28	t;p
Status of Obtaining Information about Cesarean (n=347)					
Yes	288	83	13-60(36)	35.85±8.07	-1.412;.159
No	59	17	22-60(38)	37.49±8.23	t;p
Effect of Information Obtained About Cesarean Section (n=288)					
Positive	158	54.9	13-57(35)	34.93±8.65	-2.148;.**033**
Negative	130	45.1	20-60(36)	36.97±7.17	t;p
Video Viewing Status of Vaginal Birth (n=347)					
Yes	260	74.9	13-57(36)	35.98±8.08	-.583;.560
No	87	25.1	20-60(36)	36.57±8.22	t;p

Variables			X±SD(min-max)		
Age			27.65±5.55(18-45)		
Number of deliveries			0.54±0.83(0-3)		
Variables	**n**	**%**	**Min-Max (Median)**	**X± SD**	**F/t;p**
The Effect of Watched Video on Vaginal Birth (n=260)					
Positive	142	54.6	13-57(36)	35.21±8.14	-1.691;.092
Negative	118	45.4	14-57(37)	36.91±7.94	t;p
Video Viewing Status Regarding Cesarean Section (n=347)					
Yes	252	72.6	13-57(36)	35.92±8.14	-.803;.423
No	95	27.4	20-60(36)	36.70±8.03	t;p
The Effect of the Video Watched About Cesarean Section (n=252)					
Positive	99	39.3	13-57(36)	35.66±8.70	-.397;.691
Negative	153	60.7	13-53(36)	36.08±7.79	t;p
Witnessing Vaginal Birth (n=347)					
Yes	159	45.8	13-57(36)	36.36±8.01	.484;.629
No	188	54.2	13-60(35)	35.94±8.20	t;p
The Effect of Witnessing Vaginal Birth (n=159)					
Positive	83	52.2	13-57(35)	34.95±7.89	-2.205;**.029**
Negative	76	47.8	20-57(38)	37.72±8.02	t;p
Status of Witnessing Cesarean Birth (n=347)					
Yes	145	41.8	13-57(36)	36.01±8.00	-.236;.813
No	202	58.2	13-60(36)	36.22±8.20	t;p
Impact of Witnessing Cesarean Birth (n=145)					
Positive	70	48.3	13-57(36)	34.82±8.32	-1.734;.085
Negative	75	51.7	16-52(36)	37.12±7.58	t;p
Preferred Birth Method (n=347)					
Optional CS	141	40.6	14-60(35)	36.38±8.44	.608;.545
CS Due to Medical Indication	160	46.1	13-57(37)	36.26±7.96	F;p
Depends on Being Secondary-Former CS	46	13.3	13-52(34)	34.91±7.61	

t: t test in independent groups. F: One Way Anova.* The Vaginal Delivery Preference Inventory

There was a statistically weak-negative correlation between the age and number of deliveries and the average score from the TVDPI (r:-.106, -.175; p<0.05) (Table 2). In addition, there was a statistically high-positive significant correlation between age and the number of delivery (r:.550 p<0.05) (Table 2).

Table 2. Correlation of vaginal fear of delivery inventory score by age and number of deliveries (N=347)

	Age		**Number of deliveries**	
	r	**p**	**r**	**p**
TVDPI* Score**	-.106*	**.049**	-.175**	**.001***
Number of deliveries	.550*	**.000**	1	**-**

Pearson Correlation test

Table 3 shows the effects of age and number of deliveries on the total scores TVDPI. According to the results of the regression analysis, when the significance level corresponding to the F value is considered, it was determined that the established model is statistically significant (F=5.440; p<0.05). Two independent variables explain 2.5% of the variance in the dependent variable, the regression model is statistically significant (p<0.05) (Regulated R^2=0.025). The age and number of delivery affected TVDPI scores (B=-0.014, -.167, p<0.05). As a result, it was found that a one-unit increase in the age and number of delivery will lead to a decrease of 0.025 points in the probability of TVDPI scores. There is no autocorrelation problem in the established model. Durbin W value is between 1.5-2.5 (DW=1.768) (Table 3).

Table 3. Multiple regression analysis of TVDPI** score by age and number of delivery (N=347)

Dependent variable	Independent variable	β	Standard Error	Beta	t	p	VIF	F	Model (p)	R2	Durbin Watson
	Constant	37.589	2.436	-	15.431	.000*	-				
TVDPI Score**	**Age**	-.021	.093	-.014	-.223	.049*	1.434	5.440	0.005*	.025	1.768
	Number of deliveries	-1.625	.619	-.167	-2.626	.009*	1.434				

Abbraviations: r*= Pearson's correlation. ** p ≤ 0.01.*** The Vaginal Delivery Preference Inventory *p<0.05.** The Vaginal Delivery Preference Inventory

4. Discussion

Vaginal delivery is a mode of delivery that has been going on for years. Generally, the physiological structure of the female body is suitable for VD. With adequate support and appropriate intervention, delivery can be successfully performed. Although C/S, which is a surgical intervention, is life saving for mother-baby when necessary, it can increase maternal mortality-morbidity rates four times when compared to VD. Despite its disadvantages, today's C/S rates have increased rapidly almost all over the world. There are many factors that cause this increase. One of the most important ones is the elective C/S after C/S (9,11-13).

Especially primiparous whose delivery is approaching are worried about determining the mode of delivery (1,8). Women's birth choices are affected by their families, women who have given birth before, and the information they get from social media (14). It was reported that watching the delivery contributes to male nurses' understanding of women, positive gains after watching delivery, and that students after graduation will be effective in determining the needs of women in their professional lives (15). In another study, it was reported that VD preferences and readiness of pregnant women who were given birth preparation training were positively affected, but women's fears about VD were not affected (12). In this study, it was determined that the vast majority of the participants had a relationship with the knowledge they had acquired and the video they had watched about the birth before, and

their TVDPI score. Our research findings show parallelism with the literature. In addition to social, and psychological-environmental factors, medical indications affect the delivery patterns that expectant mothers will prefer. Support/information to be given to expectant mothers will help pregnant women to decide on the appropriate delivery mode (16). Some women, for reasons such as having a positive experience of their previous delivery, positive delivery experiences and recommendations of their relatives, satisfaction with the midwife and the hospital, the influence of the media, the belief that VD is healthier, that there are no surgical complications such as C/S, stated that they perceived and preferred VD positively within the scope of a qualitative study (1). In this study, it was observed that the TVDPI Score of women was associated with the effect of giving delivery before, obtaining information about C/S, and witnessing VD. In addition, nearly half of those who had given delivery before reported that they preferred C/S after VD. In this study, it was seen that the majority of the women had a similar last mode of delivery with their preference for the next mode of delivery. Previous experiences and witnessing someone else's delivery may cause women's preference of delivery mode (1,17). Similar and different study results were found in the literature with our research findings. It can be said that the perception of delivery is affected by the multifactorial reason and the preference of delivery is shaped by the effect of the environment and other situations.

Women may be affected by many factors when deciding on the mode of delivery, but the important thing is that pregnant women had informed sufficiently by the truthful sources for healthy mother-baby. It was found that health professions preferred C/S at a high rate, but there was no difference between professions, and it was reported that as the age of first-time pregnancy increases, the preference for C/S increases, and VD decreases. In another study, it was shown that there was a statistically significant relationship between the age and the mode of delivery they preferred, and the preference for C/S increased as the age increased. In the same study, as the number of parity increases, the demand for C/S also increases (17). In this study, it was found that the preference for VD was affected by the age and number of deliveries. It is determined that our results are similar to the literature. It may be recommended to conduct an informative about delivery preference program, especially in multiparous and advanced age pregnancies. Women's education level, giving delivery before, and obtaining information about delivery patterns affect their delivery preferences. In this study, it was observed that the preference for VD was affected by the age and number of deliveries. In addition, it was found that women had access to videos and information about delivery patterns, whether safe or not, and it was associated with the TVDPI score.

The limitations of the study are that the study was conducted in a single clinic and could not be generalized to pregnant women since it was conducted with non-pregnant women. At the same time, the strengths of the study are that only women who do not prefer VD and who are pregnant/planning pregnancy are included in the sample, and the sample was found to be sufficient for generalization in the post-hoc analysis. Another strength of the research is that it is quite sufficient to measure the situation of not preferring VD in the analysis of the inventory used, and it can be said that the data is examined with advanced analysis techniques.

5. Conclusions

The education level of women, their previous births and their knowledge about the mode of delivery affect their birth preferences. It can be thought that more studies should be conducted to value the effectiveness and to provide education about the delivery patterns of women of childbearing age starting from the pre-pregnancy period. It is especially important that midwives support women in every period about their childbearing age and provide consultancy in terms of obtaining true information. In addition, considering the woman as a whole with her environment and the culture in which she lives in the choice of delivery, which is an important part of women's life, can increase vaginal deliveries.

References

1. Aktaş S. Yilar Z. Investigation of the reasons why mothers prefer vaginal delivery: a qualitative research example. Gumushane University Journal of Health Sciences 2018;111-124.
2. American College of Obstetricians and Gynecologists (ACOG). Safe prevention of the primary cesarean delivery. Obstetric care consensus No. 1. Obstet Gynecol 2014;123:693–711.
3. World Health Organization (WHO). Statement on Caesarean Section Rates. 2015. https://apps.who.int/iris/bitstream/handle/10665/161442/WHO_RHR_15.02_eng.pdf?sequence=1
4. Keag OE, Norman JE, Stock SJ. Long-term risks and benefits associated with cesarean delivery for mother, baby, and subsequent pregnancies: Systematic review and meta-analysis. PLoS Med. 2018;15:e1002494.
5. Betran AP, Ye J, Moller AB, et al. The increasing trend in caesarean section rates: Global, regional and national estimates: 1990–2014. PLoS ONE. 2016;11:e0148343.
6. Hacettepe University Institute of Population Studies. Turkey Demographic and Health Survey 2018. 2019. http://www.hips.hacettepe.edu.tr/tnsa2018/rapor/TNSA2018_ana_Rapor.pdf
7. Organisation for Economic C0-operation and Development (OECD) Caesarean sections (indicator). 2021. https://data.oecd.org/healthcare/caesarean-sections.htm
8. Yüksel D, Yüce T, Kalafat E et al. The views of nulliparous pregnant women on the types of delivery. Turk J Obstet Gynecol. 2016;13:127-131.
9. Chen SW, Hutchinson AM, Nagle C, et al. Women's decision-making processes and the influences on their mode of delivery following a previous caesarean section in Taiwan: a qualitative study. BMC Pregnancy Childdelivery 2018;18:1-13.
10. Strengthening the Reporting of Observational Studies in Epidemiology (STROBE). STROBE checklist. 2022. Available from: URL: https://www.strobe-statement.org/checklists/
11. Yanıkkerem DE. Women's thoughts about birth methods and vaginal delivery after cesarean section. Journal of Continuing Medical Education, 2018;27:27-36.
12. Mete S, Çiçek Ö, Aluş Tokat M et al. The effect of childbirth preparation classes on fear of childbirth, birth preference and readiness for birth. Turkiye Klinikleri Journal of Nursing Sciences, 2017;9:201-206.
13. Gözükara AGDF, Eroğlu PDK. One way to prevent the increase in cesarean delivery: vaginal delivery after caesarean section and the roles of the nurse instead of the "once caesarean section is always a caesarean section" approach. Hacettepe University Journal of Nursing Faculty, 2011:18:89-100.
14. İlhan G, Atmaca FVF, Eken M et al. What is Turkish women's opinion about vaginal delivery?. Journal of Turkish Society of Obstetrics & Gynecology. 2015;2:75-78.
15. Avcı SÇ, Işık G, Çetişli NE. Experiences of male nursing students who had a vaginal birth for the first time: a qualitative study. Ordu University Journal of Nursing Studies, 2020;3:235-243.
16. Akyol A, Yağcı Ş, Tekirdağ A. The comparison of type and properties of delivery between health workers and non health workers. JOPP Derg. 2011;3:55-63.
17. Ünay V. Birth style preferences of health professionals and influencing factors. Journal of Continuing Medical Education,2018;27:190-6.

HALİÇ ÜNİVERSİTESİ SAĞLIK BİLİMLERİ DERGİSİ YAZIM KURALLARI VE YAZARLAR İÇİN TALİMATLAR

Birinci YAZAR[1]*

İkinci YAZAR[2],

Üçüncü YAZAR[1]

*Sorumlu Yazar e mail: .....@..... .com

[1]Üniversite, Fakülte ve/veya Bölüm, Şehir, Ülke
[2]Üniversite, Fakülte ve/veya Bölüm, Şehir, Ülke

Birinci Yazar, İkinci Yazar, Üçüncü Yazar. Çalışmanın Türkçe İsmi Her Kelimenin İlk Harfi Büyük (Bağlaçlar Hariç) ve "Times New Roman" Fontunda 14 Punto Olacak Şekilde. Haliç Üniv Sağ Bil Der. 2023;6(2) .....-.....

Birinci Yazar, İkinci Yazar, Üçüncü Yazar. Çalışmanın İngilizce İsmi Her Kelimenin İlk Harfi Büyük (Bağlaçlar Hariç) ve "Times New Roman" Fontunda 14 Punto Olacak Şekilde. Halic Uni J Health Sci, 2023;6(2) .....-.....

Geliş Tarihi: ...../...../20.....
Kabul Tarihi: ...../...../20.....

Başlık Sayfası

Yazarların isimleri, yazarların katkılarına göre sıralayarak yazılmalıdır. Her yazarın kurum bilgisi verilmelidir. Sorumlu yazar yıldız sembolü ile belirtilmelidir. Sorumlu yazarın e-mail bilgisi yer almalıdır. Yazarların isim ve kurum bilgileri ana metne yazılmamalı, sadece başlık sayfasına yazılmalıdır. Yapılan çalışma daha önce bir kongrede sunulmuşsa başlık sayfasında bilgisi verilmelidir. Ana metinden ayrı bir dosya olarak sisteme yüklenmelidir.

Başlık

Çalışmanın Türkçe ismi, her kelimenin ilk harfi büyük (bağlaçlar hariç), İngilizce ismi ise İngilizce yazım diline uygun "times new roman" fontunda 14 punto olacak şekilde yazılmalıdır.

Öz

Özet kısmı hem Türkçe hem İngilizce olarak yazılmalıdır. Özette, çalışmanın yenilikleri ve temel bulguları vurgulanmalıdır. Türkçe ve İngilizce özet kısımları Times New Roman yazı tipi ile yazılmalı ve 10 punto büyüklüğü seçilmelidir. Yazım metni iki tarafa yaslanmalıdır. Özet bölümünün yazımında tek satır aralığı seçilmelidir. Makale özetinin 250 kelimeyi geçmemesine dikkat edilmelidir. Türkçe ve İngilizce özetlerin 1 (bir) sayfayı geçmemesi gerekmektedir.

Anahtar Kelimeler: Anahtar kelime sayısı en az 3 en fazla 6 olmalıdır. Anahtar kelimeler virgül ile ayrılmalıdır.

YAYIN KURALLARI

- Türkçe makalelerde Türk Dil Kurumunun Türkçe sözlüğü veya www.tdk.org.tr adresi, ayrıca Türk Tıbbi Dernekleri'nin kendi branşlarına ait terimler sözlüğü esas alınmalıdır.
- Biyoistatistiki veri içeren araştırma makalelerinde, yazarlardan biyoistatistiki uygunluk için onay almış olmaları istenmeli, ayrıca dergi tarafından kontrol edilmelidir. Bu konuda ek bilgi almak için yazarların www.icmje.org adresine ulaşmaları önerilebilir.

YAZI ÇEŞİTLERİ

Yayımlanmak üzere dergilere gönderilecek yazı çeşitleri aşağıdaki kategorilerde olmalı ve belirtilen yapılarda hazırlanmalıdır:

Orijinal Araştırma: Kliniklerde yapılan prospektif-retrospektif ve her türlü deneysel çalışmalardır.

Yapısı:

- Özet (maksimum 250 kelime Türkçe ve İngilizce)
- Giriş
- Gereç ve Yöntem
- Bulgular
- Tartışma
- Sonuç
- Teşekkür
- Kaynaklar

Derleme: Doğrudan veya davet edilen yazarlar tarafından hazırlanmalıdır. Tıbbi özellik gösteren her türlü konu için son tıp literatürünü de içine alacak şekilde hazırlanabilir. Yazarın o konu ile ilgili basılmış yayınlarının olması özellikle tercih nedeni olmalıdır.

Yapısı:

- Özet (maksimum 250 kelime Türkçe ve İngilizce)
- Konu ile ilgili başlıklar
- Kaynaklar

Olgu Sunumu: Nadir görülen, tanı ve tedavide farklılık gösteren makalelerdir. Yeterli sayıda fotoğraflarla ve şemalarla desteklenmiş olmalıdır.

Yapısı:

- Özet (Ortalama 100-150 kelime, Türkçe ve İngilizce)
- Giriş
- Olgu Sunumu
- Tartışma
- Kaynaklar

Editöre Mektup: Nadir görülen, tanı ve tedavide farklılık gösteren makalelerdir. Yeterli sayıda fotoğraflarla ve şemalarla desteklenmiş olmalıdır.

Yapısı:

- Özet (Ortalama 100-150 kelime, Türkçe ve İngilizce)
- Konu ile ilgili başlıklar
- Kaynaklar

Bilimsel Mektup: Genel tıbbi konularda okuyucuyu bilgilendiren, basılmış bilimsel makalelere de atıfta bulunarak o konuyu tartışan makalelerdir.

Yapısı:

- Özet (Ortalama 100-150 kelime, bölümsüz, Türkçe ve İngilizce)
- Konu ile ilgili başlıklar
- Kaynaklar

YAZIM KURALLARI

Başlık Sayfası

1. Yazarların ad-soyad bilgileri verilmelidir (yazarların katkılarına göre sıralayarak yazılmalıdır)
2. Her yazarın kurum bilgisi verilmelidir (numaralandırılarak)
3. Yazarların Orcid numaraları yazılmalıdır.
4. Araştırmacıların Katkı Oranı beyanları yazılmalıdır
5. Sorumlu yazar yıldız sembolü ile belirtilmelidir. Sorumlu yazarın e-mail bilgisi yer almalıdır.
6. Çalışmaların varsa, clinical trial veya prospero numaraları yazılmalıdır
7. Varsa destek ve teşekkür beyanı, çatışma beyanına yer verilmelidir.
8. Yapılan çalışma daha önce bir kongrede sunulmuşsa başlık sayfasında bilgisi verilmelidir

Yazarların isim ve kurum bilgileri ana metne yazılmamalı, sadece başlık sayfasına yazılmalıdır. Başlık sayfası ana metinden ayrı bir dosya olarak sisteme yüklenmelidir.

Başlık

Çalışmanın Türkçe ismi, her kelimenin ilk harfi büyük (bağlaçlar hariç), İngilizce ismi ise İngilizce yazım diline uygun "times new roman" fontunda 14 punto olacak şekilde yazılmalıdır.

Özet

Özet kısmı hem Türkçe hem İngilizce olarak yazılmalıdır. Özette, çalışmanın yenilikleri ve temel bulguları vurgulanmalıdır. Türkçe ve İngilizce özet kısımları Times New Roman yazı tipi ile yazılmalı ve 10 punto büyüklüğü seçilmelidir. Yazım metni iki tarafa yaslanmalıdır. Özet bölümünün yazımında tek satır aralığı seçilmelidir. Makale özetinin 250 kelimeyi geçmemesine dikkat edilmelidir. Türkçe

ve İngilizce özetlerin 1 (bir) sayfayı geçmemesi gerekmektedir.

Anahtar Kelimeler: Anahtar kelime sayısı en az 3 en fazla 6 olmalıdır. Anahtar kelimeler virgül ile ayrılmalıdır. İngilizce anahtar kelimeler "Medical Subject Headings (MESH)"e uygun olarak verilmelidir (www.nlm.nih.gov). Türkçe anahtar kelimeler Türkiye Bilim Terimleri (TBT)'ne uygun olarak verilmelidir (www.bilimterimleri.com).

Giriş

Ana metin, A4 kâğıt boyutuna 2 cm kenar boşlukları ile 12 punto yazı büyüklüğünde Times New Roman yazı tipi ile 1 satır aralığı ve her iki yana yaslı şekilde yazılmalıdır. Ana bölüm başlıkları numaralandırılmalı, kelimelerin ilk harfleri büyük olmalı ve **koyu (bold)** karakterde yazılmalıdır. Ana bölüm başlığından sonra 1,5 satır aralıklı boşluk bırakılarak metne geçilmelidir. Çalışmanın İngilizce olarak sunulmak istenmesi durumunda bölüm başlığı "**Introduction**" olarak verilmelidir.

Bu bölümde çalışmayla ilgili yeterli literatür bilgisi verilmeli ve çalışmanın gerekçesi belirtildikten sonra amacı vurgulanmalıdır.

Gereç ve Yöntem

Bu bölümde, uygulanan yöntemler ve teknikler anlaşılır bir şekilde verilmeli ve metin "Times New Roman" yazı tipinde 12 punto büyüklüğünde ve tek satır aralıkla yazılmalıdır. Etik kurul iznine ait bilgilere bu bölümde yer verilmelidir. Çalışmanın İngilizce olarak sunulmak istenmesi durumunda bölüm başlığı "**Material and Method**" olarak verilmelidir. Bölüm içerisinde alt bölüm başlıkları açılması mümkündür. Alt başlıklar numaralandırılmalıdır.

Bulgular

Bu bölümde çalışma sonucunda elde edilen bulgular çalışma sırasına göre sunulmalıdır. Çalışmanın İngilizce olarak sunulmak istenmesi durumunda bölüm başlığı "**Results**" olarak verilmelidir. İstatistik için kullanılan analizler detaylı olarak anlatılmalıdır. İstatistiksel anlamlılık durumunu belirtmek için kullanılan "p" değerinin gerçek değeri verilmelidir.

3.1. Şekiller, Tablolar ve Grafikler

Şekiller grafik, diyagram, fotoğraf, resim şeklinde olabilir. Şekil yazısı şeklin alt kısmına yazılmalıdır. Hem şekil hem de şekil yazısı sayfaya ortalanmalıdır. Şekil yazıları okunaklı olmalıdır. Şekil ile üst metin arasında 1 satır boşluk bırakılmalıdır. Şekil yazısı ile alt metin arasında da 1 satır boşluk bırakılmalıdır. Şekil yazısı 11 punto olarak yazılmalıdır. Metin içerisinde şekillere atıfta bulunulmalıdır. Şekiller grafik, diyagram, fotoğraf ve resimler sayfanın en altına konulmalıdır.

Tablolar kapalı çerçeveli tercih edilebilir. Tablo yazısı tablonun üst kısmına yazılmalıdır. Hem tablo hem de tablo yazısı sayfanın soluna hizalanmalıdır. Tablo yazısı ile üst metin arasında 1 satır boşluk bırakılmalıdır. Tablo ile alt metin arasında 1 satır boşluk bırakılmalıdır. Tablo yazıları tercihen 11 punto ile yazılmalı ve tek satır aralığı seçilmelidir. Metin içerisinde tablolara atıfta bulunulmalıdır.

Tablo 1. Tablo başlığı.

Sütun Başlığı	Sütun Başlığı	Sütun Başlığı
Bilgi satırı	Bilgi satırı	Bilgi satırı
Bilgi satırı	Bilgi satırı	Bilgi satırı
Bilgi satırı	Bilgi satırı	Bilgi satırı
Bilgi satırı	Bilgi satırı	Bilgi satırı

Tartışma

Bu bölümde, yapılan çalışmadan elde edilen bulgular bilimsel ilkelerin ışığı altında önceki verilerle karşılaştırılarak irdelenmelidir. Çalışmanın İngilizce olarak sunulmak istenmesi durumunda bölüm başlığı "**Discussion**" olarak verilmelidir. Çalışmanın limitasyonları ve gelecek çalışmalar için önerilere tartışmanın son paragrafında yer verilmelidir.

Sonuç

Bu bölümde çalışmadan elde edilen özgün sonuçlar bir sıra dâhilinde sunulmalıdır. Çalışmanın İngilizce olarak sunulmak istenmesi durumunda bölüm başlığı "**Conclusions"** olarak verilmelidir.

Teşekkür

Bu bölümde, çalışmada yardım ya da destekleri bulunan kişi veya kişilere ya da kurum yetkililerine teşekkür edilebilir. Çalışmanın İngilizce olarak sunulmak istenmesi durumunda bu bölümün başlığı "**Acknowledgment**" olarak verilmelidir.

Kaynaklar

Çalışmada yararlanılan kaynaklar kullanım sırasına göre numaralandırılarak verilmelidir. Ancak Özet bölümünde kaynak gösterilmez. Kaynak numaraları parantez içerisinde gösterilmelidir. Aynı anda birden fazla kaynağa atıf yapılıyorsa, kaynak numaraları küçükten büyüğe (1, 5, 8, 12 gibi) sıralanmalı ve virgül ile ayrılmalıdır. İkiden çok ardışık kaynağa değinildiğinde, ilk kaynak ve son kaynak numaralarının arasına tire konularak gösterilmelidir.

Kaynakların tamamı çalışmanın son sayfasındaki "Kaynaklar" başlığı altında, makale içerisindeki kullanım sırasına göre verilmelidir. Kaynak sayısı 50'yi geçmemelidir.

Kaynakların gösterilmesi ve künye düzeni ile ilgili kurallar "**Vancouver**" sistemine uygun olarak verilmelidir. Kaynak gösterme ve kaynakça hazırlanmasında EndNote ya da Reference Manager gibi standart yazılım paketlerinin kullanılması önerilmektedir.

Kaynaklar "Times New Roman" fontunda 10 punto olarak yazılmalıdır. Kaynak numaraları otomatik numaralandırma ile eklenmelidir. Çalışmanın İngilizce olarak sunulmak istenmesi durumunda bölüm başlığı "**References**" olarak verilmelidir.

Periyodik yayınlar:

-Huth EJ. Guidelines on authorship of medical papers. Ann Intern Med. 1986;104(2):269-74. - Lee MR, Ho DD, Gurney ME. Functional interaction and partial homology between human immunodeficiency virus and neuroleukin. Science. 1987;237(4818):1047-51.

-Castell-Auví A, Cedó L, Pallares V, Blay M, Ardévol A, Pinent M. The effects of a cafeteria diet on insulin production and clearance in rats. Br J Nutr. 2012;108(7):1155-62.

6 ve daha fazla yazar:

- Rose ME, Huerbin MB, Melick J, Marion DW, Palmer AM, Schiding JK, et al. Regulation of interstitial excitatory amino acid concentrations after cortical contusion injury. Brain Res. 2002;935(1):40-6.

Kitaplar:

Yazar A, Yazar B, Yazar C, Yazar Ç, Yazar D, Yazar E ve ark. Kitap adı. Baskı sayısı (1.'den sonrakiler için). Yayın yeri: Yayınevi; Yayın Yılı.

Örnek:

- Carlson BM. Human embryology and developmental biology. 3th ed. St. Louis: Mosby; 2004.

Sempozyum, Kongre, Bildiri:

Konuşmacı A. Bildiri Adı [Bildiri]. Toplantı Adı; Toplantı tarihi; Toplantı Yeri.

Örnek:

- Tonta Y. Bilgi Yönetiminde Son Gelişmeler, İşbirliği ve Açık Erişim [Bildiri]. Akademik Bilişim; 06 Şubat 2006; Gaziantep, Türkiye.

Tez:

Yazar A. Tez Adı [Yüksek lisans/Doktora/ Sanatta yeterlik tezi]. Yer: Üniversite Adı; Yayın Yılı.

Örnek:

-Özbaş ZY. Acıdophilus'lu Yoğurt Üretim Teknikleri [Doktora tezi]. Ankara: Hacettepe Üniversitesi; 1991.

Web adresi:

Yazar, A. (varsa), Konu başlığı [Internet]. Yayın yılı [Erişim Tarihi]. Erişim adresi:

Örnek:

- Atherton, J. Behaviour modification [Internet]. 2008 [Erişim Tarihi 10 Nisan 2010].

Erişim adresi: http://www.learningandteaching.info/learning/behaviour_mod.htm

Yazarlar için Gönderim Öncesi Kontrol Listesi

- Ana metinden ayrı bir dosyada başlık sayfası yüklenmesi
- Ana metinde kurum ve yazar adının bulunmaması
- Prospektif ve retrospektif klinik çalışmalar ve deneysel araştırmalar için etik kurul onayı
- Yayın etiği kurallarına uygunluk
- İnsan çalışmaları için hasta onayı
- Yazının dergi yazım kurallarına uygunluğu
- Tüm yazarlar için İmzalanmış Telif Hakkı Devir Formu

INSTRUCTIONS FOR AUTHORS

The Haliç University Journal of Health Sciences is the scientific periodical of Journal which is published three times a year in order to reach both local and global medical circle. Retrospective, prospective or experimental trials, reviews, case reports, editorials, commentaries, letters to the editor, medical book reviews relevant to hot topics of medicine are all welcome.

The journal pays regard to the highest ethical and scientific standards and absence of commercial concerns among the articles. Neither the editor (s) nor the publisher guarantees, warrants or endorses any product or service advertized in this publication.

Articles are accepted for publication on the condition that they are original, are not under consideration by another journal, or have not been previously published. Direct quotations, tables, or illustrations that have appeared in copyrighted material must be accompanied by written permission for their use from the copyright owner and authors.

All articles are subject to review by the editor and two or more referees if they are convenient to stylistic rules and published following the revisions made by the authors if needed.

SCIENTIFIC RESPONSIBILITY

All authors should have contributed to the article directly either academically or scientifically. All persons designated as authors should meet all of the following criteria:

- Planned or performed the study,
- Wrote the paper orreviewed the study,
- Approved the final version It is the authors' responsibility to prepare a manuscript that meets scientific criteria.

ETHICAL RESPONSIBILITY

The Journal adheres to the principles set forth in the Helsinki Declaration (https://www.wma.net/policies-post/wma-declarationof-helsinki-ethical-principles-for-medical-research-involving-human-subjects/) and holds that all reported research involving 'Human beings' conducted in accordance with such principles.

Reports describing data obtained from research conducted in human participants must contain a statement in the "Material and Methods" section indicating approval by the ethical review board and affirmation that "Informed Consent" was obtained from each participant.

All papers reporting experiments using animals must include a statement in the "Material and Methods" section giving assurance that all animals have received humane care in compliance with the Guide for the Care and Use of Laboratory Animals (https://www.nap.edu/catalog/5140/guide-for-the-care-and-use-of-laboratory-animals) and indicate approval by the animal experiment ethical review board. Case reports should be accompanied by "Informed Consent" whether the identity of the patient is disclosed or not. It is the authors' responsibility to obtain and present the consent to the authorities if requested in accordance with the Personal Data Preservation code.

If the proposed publication has a commercial interest or a funder directly or indirectly, the author must include in the cover letter a statement indicating that the author(s) has (have) no financial or other interest in the product or explain the nature of any relation (including consultancies) between the author(s) and the manufacturer or distributor of the product. Name of the ethical review board, approval date and number should be indicated in the "Materials and Methods" section if needed for that type of article. It is the authors' responsibility to prepare a manuscript that meets ethical criteria

EPIDEMIOLOGICAL AND STATISTICAL ANALYSIS

All manuscripts (retrospective, prospective or experimental) with statistical analysis are required to undergo biostatistical review in terms of validity and power analysis to ensure appropriate study design, analysis, interpretation and reporting.

LANGUAGE

The official languages of the Journal are Turkish and English. Turkish Dictionary of Turkish Language Association or online dictionary which belongs to Turkish Medical Foundations must be taken into consideration in Turkish articles. Manuscripts and abstracts in English must be checked for language by an expert or a native speaker prior to submission and

his/her name should be indicated in the "Acknowledgements" section in case he/she is not one of the authors.

PUBLICATION PLATFORM

The Haliç University Journal of Health Sciences is published in electronic form via DERGİPARK online (www.dergipark.gov.tr). Manuscript submission and process follow-up are carried out through DERGİPARK system. In order to submit an article, you must first to be a member of DERGİPARK platform.

COPYRIGHT STATEMENT

The publisher owns the copyright of all accepted articles. Statements and opinions expressed in the published material herein are those of the author(s). All manuscripts submitted must be accompanied by the "Copyright Transfer Form" and peer reviewing will proceed thereafter.

ARTICLE TYPES

The Journal publishes the following types of articles:

Editorial Commentary/Discussion: Usually written by experts other than the authors of a published original article manuscript and published before the manuscripts.

Original Research Articles: Original prospective or retrospective studies of basic or clinical investigations are welcome. They should be composed of the following sections:

Abstract: Maximum 250 words (in Turkish and English respectively); the structured abstract should contain the following sections: purpose, material and methods, results, conclusion. Turkish and English abstracts should not exceed 1 (one) page.

Keywords: Three to five words in accordance with "Medical Subject Headings (MeSH)", Turkish and English, respectively.

Introduction: Clear explanation of the background and purpose of the study. It should be written on A4 paper size with 2 cm margins and 12-point Times New Roman font with 1 line spacing and justified on both sides. Main and sub section titles should be numbered, the first letters of the words should be capitalized and written in bold characters. After the main section title, 1.5 line spacing should be left and the text should be passed.

Material and Method: Material, methods and statistical analyses are explained in detail. Informed consent and ethical approval should be clearly indicated in this section.

Results: Findings of the study are presented in detail. The true value of the "p" value should be given to indicate statistical significance.

Figures, Tables and Charts

Figures can be in the form of photographs, pictures. Diagrams should be uploaded in pdf or picture format. Figure caption should be written at the bottom of the figure. Both the figure and the figure text should be centered on the page. Figure captions must be legible. There should be 1 line space between the figure and the superscript. There should be 1 line space between the figure caption and the subtext. Figure text should be written in 11 points and given as in the example below (Figure 1). Figures should be cited in the text. Figures, graphics, diagrams, photographs and pictures should be placed at the bottom of the page.

Tables can be preferred with closed frames. Table caption should be written above the table. Both the table and the table caption should be aligned to the left of the page. There should be 1 line space between the table text and the superscript. There should be 1 line space between the table and the subtext. Table texts should preferably be written in 11 points and single line spacing should be chosen. Tables should be cited in the text.

Table 1. Table title.

Column Title	Column Title	Column Title
Information	Information	Information
Information	Information	Information
Information	Information	Information
Information	Information	Information

Discussion: Findings of the study are discussed in light of the recent literature. Limitations of the study and suggestions for future studies should be included in the last paragraph of the discussion.

Conclusions are presented according to the results and discussion sections.

References in the text should be numbered and listed serially with parentheses. If more than one source is cited at the same time, reference numbers should be listed in ascending order (such as 1, 5, 8, 12) and separated by commas. When more than two consecutive references are cited, they should be indicated with a hyphen between the first and last reference numbers.

All of the references should be given under the "References" heading on the last page of the study, in the order of use in the article. The number of sources should not exceed 50. References should be listed according to the order of mentioning on a separate page, double-spaced, at the end of the paper in numerical order. All authors should be listed if six or fewer, otherwise list the first three and add the et al.

The rules regarding references and imprint order should be given in accordance with the "Vancouver" style. It is recommended to use standard software packages such as EndNote or Reference Manager for citing and preparing bibliography.

TITLE PAGE

A concise, informative title (Turkish and English) should be provided. The names of the authors should be written in order of their contributions. Affiliations and orcid numbers of each author should be given. Author contributions should be given. The corresponding author should be indicated with an asterisk. The e-mail information of the corresponding author should be included. The names and institutions of the authors should not be written in the main text, they should only be written on the title page. If the study has been presented in a congress before, information should be given on the title page. It should be uploaded to the system as a separate file from the main text.

Yayın Politikası

Haliç Üniversitesi Sağlık Bilimleri Dergisi, fizyoterapi ve rehabilitasyon, beslenme ve diyetetik, ebelik, hemşirelik, tıp bilimleri, beden eğitimi ve spor ile diğer sağlık alanlarındaki akademik, bilimsel ve araştırmaya dayalı makaleleri yayınlamaktadır. Derginin amacı, sağlık bilimlerine ilişkin bilgilerin paylaşılması, gelişmelerin takip edilmesi, alandaki profesyonellerin gelişmesinin desteklenmesi, nitelikli bir kaynak oluşturması ve akademik yayınların ülkemizdeki gelişimine destek olmasıdır.

Derginin yayın dili **Türkçe** ve **İngilizce**'dir. Dergiye erişim ve makale yükleme/basma ücretsizdir. Dergimize yüklenen her makale en az 2 kör hakem tarafından değerlendirilir. Her hakem makale atandıktan sonra 15 gün içerisinde ilk değerlendirmelerini tamamlar. Hakemler ve editörlerden gelen düzeltme talepleri yazarlara revizyon olarak gönderilir. Revizyonu yapılmış ve yüklenmiş makale tekrardan hakem değerlendirmesine alınır.

Dergide aşağıda belirtilen özellikleri taşıyan yazılar yayımlanabilir:

- **Araştırma Makalesi:** Özgün araştırmaları ve sonuçlarını sunan bilimsel formatta yazılmış makale.
- **Derleme:** Belli bir konuda son literatür ağırlıklı olarak yapılmış bilimsel çalışmaların kapsamlı derlemesi.
- **Olgu/vaka sunumları:** Belirli bir konuda ilginç vakaların değerlendirilmesi.
- **Editöre mektup:** Dergide daha önce yayınlanmış yazılara eleştiri getiren/ya da katkı sağlayan yazılardır.

Etik Kurul Ve Onam Izinleri

Dergi, insan öğesinin içinde bulunduğu tüm çalışmalarda Helsinki Deklarasyonu Prensipleri'ne uygunluk kabul eder. Bu tip çalışmaların varlığında yazarlar, makalenin "Gereç ve Yöntemler" bölümünde bu prensiplere uygun olarak çalışmayı yaptıklarını, etik kurul onayı ve çalışmaya katılmış insanlardan "Bilgilendirilmiş onam (informed consent)" aldıklarını belirtmek zorundadırlar.

Çalışmada 'hayvan' öğesi kullanılmış ise yazarlar, makalenin Gereç ve Yöntemler bölümünde, Guide for the Care and Use of Laboratory Animals prensipleri doğrultusunda hayvan deneyleri etik kurulu onayı aldıklarını belirtmek zorundadırlar.

Olgu sunumlarında hastanın kimliğinin ortaya çıkmasına bakılmaksızın hastalardan "Bilgilendirilmiş onam (informed consent)" alınmalı ve makale içinde bu durum belirtilmelidir. Kişisel Verilerin Korunması Hakkında Kanun Çerçevesinde onam alınması ve yetkili merciiler tarafından talep edilmesi halinde sunulması, yazarların sorumluluğundadır.

Eğer makalede doğrudan veya dolaylı ticari bağlantı veya çalışma için maddi destek veren kurum mevcut ise yazarlar; kullanılan ticari ürün, ilaç,

firma ile hiçbir ticari ilişkilerinin olmadığını ve varsa nasıl bir ilişkisinin olduğunu (konsültan, diğer anlaşmalar, vb), editöre başlık sayfasında bildirmek zorundadır. Çalışma için Etik Kurul Onayı alınması gerekli ise; makalenin "Gereç ve Yöntemler" bölümünde onay alınan etik kurulun ismi, onay tarih ve sayısı açık olarak belirtilmelidir. Makalelerin etik kurallara uygunluğu yazarların sorumluluğundadır.

Derlemeler ve meta analizler etik kurul iznine tabi değildir. Derleme veya meta analiz çalışması yükleyen yazarlar, 'Bu çalışma derleme/meta analiz çalışması olması nedeniyle etik kurul iznine tabi değildir' cümlesinin yazdığı bir dosyayı ıslak imza ile imzaladıktan sonra taratıp, pdf formatında yüklemelidir.

Etik Kurul izni gerektiren araştırmalar aşağıdaki gibidir;

- Anket, mülakat, odak grup çalışması, gözlem, deney, görüşme teknikleri kullanılarak katılımcılardan veri toplanmasını gerektiren nitel ya da nicel yaklaşımlarla yürütülen her türlü araştırmalar
- İnsan ve hayvanların (materyal/veriler dahil) deneysel ya da diğer bilimsel amaçlarla kullanılması,
- İnsanlar üzerinde yapılan klinik araştırmalar,
- Hayvanlar üzerinde yapılan araştırmalar,
- Kişisel verilerin korunması kanunu gereğince retrospektif çalışmalar,

Ayrıca;

- Olgu sunumlarında "Aydınlatılmış onam formu"nun alındığının belirtilmesi,
- Başkalarına ait ölçek, anket, fotoğrafların kullanımı için sahiplerinden izin alınması ve belirtilmesi,
- Kullanılan fikir ve sanat eserleri için telif hakları düzenlemelerine uyulduğunun belirtilmesi