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EBELERİN AMNİYOTOMİ İLE İLGİLİ GÖRÜŞ VE UYGULAMALARI: NİTEL BİR ÇALIŞMA

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Özet: Bu araştırmanın amacı doğumhanede çalışan ve doğum deneyimi olan ebelerin amniyotomi ile ilgili görüş ve uygulamalarını incelemektir. Bu araştırma, Aralık 2020 ve Haziran 2021 tarihleri arasında İstanbul İl Sağlık Müdürlüğü'ne bağlı bir şehir hastanesinin doğum kliniğinde yapılmıştır. Çalışmaya 11 ebe dâhil edilmiş ve veriler, tanıtıcı bilgi ve yarı yapılandırılmış görüşme formları ile yarı yapılandırılmış görüşme tekniği kullanılarak elde edilmiştir. Veriler, içerik analizi yöntemi kullanılarak analiz edilmiştir. Araştırmaya katılan ebelerin, amniyotomi ile ilgili görüş ve uygulamalarını belirlemek amacıyla yapılan görüşmelerden elde edilen verilerin içerik analizi sonucunda altı tema ve 16 alt tema altında toplanmıştır. Bu temalar ebelerin amniyotomi ile ilgili görüşleri nelerdir, ebelerin amniyotomi uygulama nedenleri, ebelerin amniyotomi uygularken dikkat ettiği durumlar neler, amniyotomi sonrasında dikkat edilen durumlar, ebelerin amniyotomi uygulaması ile ilgili onam ve yasal süreç ve ebelerin amniyotomi ile ilgili güncel bilgileri kullanma durumunun neler olduğu tespit edilmiştir. Bu araştırmanın sonucunda, araştırmaya katılan bazı ebelerin amniyotominin doğumu kısalttığı ve anne-bebek sağlığına faydalı olduğunu için uygulanması gerektiğini görüşünde olduğu, bazı ebelerin ise amniyotominin doğumun doğal sürecini bozduğu için uygulanmaması gerektiği görüşünde oldukları sonuçları elde edilmiştir. Ayrıca çalışmada ebelerin amniyotomiyi muayene bulgularını Bishop skoru diğer muayene bulgularını göre değerlendirip literatürde yer alan bilgilere uygun zaman ve teknikle, sözel onam alarak uyguladıkları, amniyotomi ile ilgili yasal süreç yaşamadıkları saptanmıştır. Çalışmaya katılan çoğu ebenin amniyotomi uygulaması ile ilgili güncel bilgileri takip etmedikleri tespit edilmiştir. Ebeler intrapartum bakımda amniyotomiden kaçınarak, müdahalesiz doğum yönetimine katkıda bulunabilirler.

Anahtar kelimeler: Amniyotomi, Birinci evre, Doğum eylemi, Ebelik, İntrapartum bakım

Opinions and Practices of Midwives about Amniotomy: A Qualitative Study

Abstract: The aim of this study was to examine the opinions and practices of midwives working in the delivery room and having experience in childbirth about amniotomy. This research was conducted between December 2020 and June 2021 in the maternity clinic of a city hospital affiliated to Istanbul Provincial Health Directorate. Eleven midwives were included in the study and the data were obtained using introductory information and semi-structured interview forms and semi-structured interview technique. The data were analysed using content analysis method. As a result of the content analysis of the data obtained from the interviews conducted to determine the opinions and practices of the midwives participating in the study, they were grouped under six themes and 16 sub-themes. These themes are what are the opinions of midwives about amniotomy, the reasons for midwives to perform amniotomy, what are the situations that midwives pay attention to when performing amniotomy, the situations that are paid attention after amniotomy, the consent and legal process related to the amniotomy application of midwives, and what are the midwives' use of current information about amniotomy. As a result of this study, it was concluded that some midwives who participated in the research thought that amniotomy should be applied because it shortens the birth and is beneficial for mother-baby health, while some midwives thought that amniotomy should not be applied because it disrupts the natural process of birth. In addition, it was determined that the midwives performed amniotomy at the appropriate time by evaluating the examination findings according to the Bishop score, obtained verbal consent, performed it according to the information in the literature, and did not experience a legal process related to amniotomy. It was determined that most of the midwives participating in the study did not follow the current information about amniotomy application. Midwives can contribute to intervention-free labour management by avoiding amniotomy in intrapartum care.

Keywords: Amniotomy, First stage, Labour, Midwifery, Intrapartum care

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1. Giriş

Amniyotomi, doğum eylemini başlatmak, hızlandırmak ve amniyotik mayinin mekonyumlu olup olmadığını tespit etmek amacı ile amniohook (amniyotik kanca) adı verilen, ucu kanca şeklinde uzun plastik bir aletle, servikal kanaldan girilerek amniyotik membranın suni olarak açılmasıdır (Taşkın, 2020). Amniyotomi, ülkemizin de içinde yer aldığı gelişmekte olan birçok ülkede doğum eylemini hem başlatmak hem de hızlandırmak amacı ile yaygın olarak kullanılan bir yöntemdir (Karakoç ve ark., 2020; Şaraldı ve ark., 2023). Dünya Sağlık Örgütü (2018)'yılında yayınladığı pozitif

doğum deneyimi için intrapartum bakım modeli rehberinde amniyotominin, tek başına doğumu hızlandırmak amacıyla kullanılmamasını önermektedir (WHO, 2018). Yine benzer şekilde ülkemizde de anne dostu hastane kriterleri kapsamında rutin amniyotomi bilimsel kanıtları olmadığı için önerilmemektedir (T.C. Sağlık Bakanlığı, 2018).

Ulusal ve uluslararası çalışmalar amniyotominin yaygın olarak kullanıldığını gözlenmektedir. Yapılan çalışmalarda amniyotomi uygulama oranının Yeni Zellanda'da %73,7 (Battarbee ve ark., 2020) ve Amerika Birleşik Devletleri'nde erken amniyotomi uygulama oranının %63,2 ve geç amniyotomi uygulama oranının %89,3 (Varvoutis ve ark., 2020) olduğu rapor edilmiştir. Ülkemizde de benzer bir durum gözlenmektedir. Yapılan üç çalışmada amniyotomin uygulanma oranlarının %78,3 (Karacam ve ark., 2012), %60 (Pınar ve Karaçam, 2018) ve %42,9 (Şaraldı ve ark., 2023) olduğu rapor edilmiştir. Bazı çalışmalarda da amniyotominin, doğum eyleminin süresini kısaltmak amacıyla tek başına olduğu gibi oksitosin ile birlikte de kullanıldığını göstermektedir (Kim ve ark., 2019; Karakoç ve ark., 2020; Bay ve Bulut, 2020).

DSÖ (2018) ve Ulusal Sağlık ve Mükemmellik Merkezi (NICE, 2008), amniyotominin, tek başına ya da oksitosin ve vajinal prostoglandin E2 ile birlikte kullanımı ile ilgili spesifik klinik nedenler olmadıkça ve özellikle uterin hiperstimülasyon riski var ise, doğumun indüksiyonunda birincil bir yöntem olarak kullanılmaması gerektiğini bildirmektedirler. Uygulayıcıların amniyotomi uygulama gerekçeleri, uygulama sırasında ve uygulanmaması ile ilgili dikkat edilmesi gereken durumları bilmeleri gerekmektedir. Serviksin durumu veya uygunluğu amniyotomi için önemlidir. Amniyotominin yapılabilmesi için serviksin değerlendirilmesi ve servikal olgunlaşma olmadan yapılmaması gerekir (Gültekin ve ark., 2016).

Bishop tarafından 1964 yılında doğum indüksiyonu ve amniyotomi başarısını önceden tahmin etmekte kullanılan kantitatif bir yöntem tanımlanmıştır (Bay ve Bulut, 2020). Bishop skoru olarak bilinen bu yöntem ile servikal dilatasyon (açılma) ve efasman (silinme), başın iniş seviyesi, serviksin kıvamı ve pozisyonunu değerlendirilir. Amniyotominin etkili olabilmesi için servikal dilatasyonun 4 cm ve silinmenin %80, serviksin yumuşak ve orta hatta (midpozisyon), fetal oksiputun 0 seviyesinde olması gerektiği kabul bildirilmektedir (WHO, 2018). Diğer yandan amniyotominin kordon prolapsusu riski, erken doğum eylemi, bilinen HIV taşıyıcılığı, polihidroamnios ya da malprezantasyon, plesanta previa ve vasa previa durumlarında uygulanmamalıdır (Öztürk ve ark., 2018).

Amniyotomi yapılma kararı verildiğinde, gebeye uygulama ile ilgili gerekli ve yeterli bilginin verilmesi gerekmektedir. Gebelerden mümkünse yazılı onam alınmalıdır (Öztürk ve ark., 2018). Amniyotomi uygulaması sırasında, yapılması gereken bir dizi işlem bulunmaktadır. Önce gebe monitörize edilmeli, uygulama öncesi ve sonrası fetal kalp atımları değerlendirilmeli ve kayıt edilmelidir. İşlem için gerekli malzemeler (streril eldiven, steril amnioper, underped, katajel) hazırlanmalı ve uygulama steril koşullarda yapılmalıdır (Öztürk ve ark., 2018).

Amniyotomi ile ilgili yapılan araştırmalarda, çoğunlukla amniyotominin doğum süresine, anne-bebek sağlığına ve doğum indüksiyonu ile birlikte uygulandığında doğum sürecine etkisi incelenmiştir. Amniyotominin, doğum süresine etkisini inceleyen araştırmalardan bazılarında doğum süresine etkisinin olmadığı (Karacam ve ark., 2017; De Vivo ve ark., 2020), bazısında ise doğum eyleminin süresini kısalttığı (Ingvarsson ve ark., 2020) sonuçları bildirilmiştir. Retrospektif olarak yapılan bir vaka-kontrol araştırmasında amniyotominin, eylem süresi ve maternal-fetal sonuçlar üzerine etkisi incelenmiştir (Karakoç ve ark., 2020). Bu araştırmada 277 gebenin 76'ına aminiyotomi uygulandığı ve amniyotomin doğum eyleminin süresi ve yenidoğan sağlığına herhangi bir etkisinin olmadığı sonuçlarına varılmıştır. Ancak bu çalışmada, indüksiyon kullanımının annenin ve yenidoğanın hastanede kalış süresi ve laserasyon gelişimini artırdığı bilgileri de rapor edilmiştir (Karakoç ve ark., 2020). Amniyotominin, yenidoğan ve anne sağlığı üzerinde etkisini inceleyen diğer araştırmalarda ise en önemli risklerin kordon prolobsusu, fetal kalp atım hızında yavaşlama ve intrauterin enfeksiyon olduğu bildirilmiştir (Gültekin ve ark., 2016; Bay ve Bulut, 2020). Ayrıca amniyotomi işlemi sırasında damarlarda oluşan travmaya bağlı olarak kanama da gelişebileceği bildirilmektedir (Karakoç ve ark., 2020).

Literatürde amniyotominin rutin olarak uygulanmaması önerilmesine rağmen, ülkemizde ve dünyada yaygın olarak kullanıldığı gözlenmektedir (NICE, 2008; Karaçam ve ark., 2017; WHO, 2018; T.C. Sağlık Bakanlığı, 2018; Karakoç ve ark., 2020). Mevcut kanıtların aksine ülkemizde amniyotominin yaygın biçimde kullanılması, bu konudaki uygulamalarımızı ortaya çıkarabilecek daha fazla bilimsel bilgiye gereksinim olduğunu göstermektedir. Bu nedenle, bu çalışmanın yapılmasına karar verilmiş ve ebelerin amniyotomi ile ilgili görüş ve uygulamalarının belirlenmesi hedeflenmiştir. Elde edilen bilgilerin, ebelerin amniyotomi uygulaması konusundaki klinik çalışmalarının geliştirilmesine ve ilgili literatüre katkı sağlaması beklenmektedir.

1.1. Araştırmanın Amacı ve Soruları

Bu çalışma, doğum salonunda çalışan ebelerin, amniyotomi uygulaması ile ilgili görüş ve uygulamalarının incelenmesi amacıyla yapılmıştır. Araştırmanın soruları;

- Ebelerin amniyotomi ile ilgili görüşleri nelerdir?
- Ebelerin amniyotomi uygulamaları nasıldır?

2. Materyal ve Yöntem

2.1. Araştırmanın Deseni

Bu araştırma, nitel araştırma desenlerinden fenomenoloji yöntemiyle yapılmıştır. Bu araştırma deseni, katılımcılar tarafından tanımlanmış şekliyle bir fenomenle ilgili bireylerin yaşanılan deneyimlerini betimlendiği, kaynağını felsefe ve psikolojiden alan bir araştırma yöntemidir. Bu betimlemeler, söz konusu fenomen ile ilgili bireylerin çeşitli deneyimlerinin özüne ulaşılmasını sağlar (Creswell ve Poth, 2016).

2.2. Araştırmanın Yapıldığı Yer ve Zamanı

Araştırma, 15 Kasım 2020 ve 15 Haziran 2021 tarihleri arasında İstanbul İl Sağlık Müdürlüğüne bağlı bir Şehir Hastanesinde yapılmıştır.

2.3. Araştırmanın Örneklemi

Araştırmanın örneklemine, amaçlı örneklem yöntemi ile İstanbul İl Sağlık Müdürlüğüne bağlı bir Şehir Hastanesinin doğum kliniğinde çalışan 11 ebe oluşturmuştur. Literatürde, niteliksel araştırmaların örneklem hacminin, araştırma sorularına verilen yanıtların doyum noktasına ulaşmasına (tekrarlaması) göre belirlenebileceği (Aksayan ve Emiroğlu, 2002) ve genellikle çalışma grubunda 5-25 kişinin yeterli olduğu (Güler ve ark., 2013) bildirilmektedir. Fenomonolojik araştırmalarda kimin araştırılacağının belirlenmesi önemlidir; çünkü fenomonolojide başlangıç noktası kişisel deneyimler olduğundan bu deneyimleri, tecrübeleri yaşamış veya yaşamakta olan kişiler örneklemi oluşturmaktadır (Baltacı, 2019). Çalışmaya alınan ebelerin amniyotomi deneyiminin olması ve doğumhane biriminde çalışması grubun belirlenmesinde etkili olmuştur.

Çalışmanın dahil etme kriteri, doğum salonunda en az iki yıl aktif olarak görev yapmış olmak idi. Dışlanma kriteri ise çalışmaya katılmayı kabul etmeme oluşturmuştur. Araştırmaya davet edilen ebelerin tamamı katılımı kabul etmiştir.

2.4. Veri Toplama Aracı

Araştırma verileri, araştırmacılar tarafından konu ile ilgili literatüre dayalı olarak hazırlanan yapılandırılmış ve yarı yapılandırılmış görüşme formu ile toplanmıştır (Çırlak ve Erdemir, 2013; Türkoğlu ve ark., 2014). Görüşme formu ebelerin tanıtıcı özelliklerini sorgulayan yedi, deneyim ve görüşlerini sorgulayan 12 sorudan oluşmaktadır. Görüşme formunun kapsam ve geçerliğini sağlamak için nitel araştırma konusunda deneyimli beş uzmanın görüşleri alınmış ve yapılan öneriler doğrultusunda yeniden düzeltme yapılmıştır.

2.5. Pilot Çalışma

Araştırma kurum izni alınmasından sonra, bu formların anlaşılabilirliği ve uygulanabilirliğini geliştirmek ve görüşmelerin standardizasyonunu sağlamak için ön uygulama yapılmıştır. Ön uygulama daha önce doğum salonunda çalışmış olan ve şu anda başka klinikte çalışan üç ebe ile yapılmıştır. Ön uygulamanın sonucunda, görüşme formunda bazı düzenlemeler yapılmış ve son hali hazırlanmıştır. Ön uygulamada elde edilen veriler analize alınmamıştır.

2.6. Verilerin Toplanması

Araştırma verilerinin elde edilmesi için öncelikle ebelere çalışma hakkında bilgi verilmiş, çalışmaya davet edilmiş ve bilgilendirilmiş sözlü onamları alınmıştır. Daha sonra Ebelere Yönelik Tanıtıcı Bilgi Formu yüz yüze görüşme yöntemi ile doldurulmuştur. Ardından derinlemesine görüşme yöntemi ile ebelerin amniyotomi uygulamasına ilişkin görüşleri sorgulanmış ve bildirilen ifadeler ilgili forma bire bir kayıt edilmiştir. Ayrıca görüşmeler esnasında araştırmacının cep telefonu ile ses kaydı alınmıştır. Görüşme tamamlandıktan sonra her bir soruya ilişkin alınan notlar ebelere okunarak ya da ses kaydını dinlemek isteyenlere dinletilerek, ilave edilmesi ya da çıkarılması gereken bölümler olup olmadığı sorulmuş ve istenen düzenlemelerin yapılması sağlanmıştır. Verilerin toplanması için ebelerle yapılan görüşmeler sorumlu ebe odasında ve ebe odasında yapılmıştır. Görüşme sırasında ortamın sessiz olması sağlanmıştır. Yapılan görüşmeler ebelerin çalışma saatleri dışında yapılmış olup en kısa görüşme sekiz dakika en uzun görüşmede 18 dakikada tamamlanmıştır.

2.7. Verilerin Analizi

Çalışmamızda veri kodlanmasında herhangi bir program kullanılmamış ve yazarlar tarafından içerik analizi ile yapılmıştır. Önce ebelerin deneyim ve görüşleri görüşme sorularına verdikleri yanıtlar kelime kelime Microsoft Word belgesine yazılmış ve 1,5 satır aralığında, Times New Roman, 12 punto büyüklüğünde, sayfa kenar boşluğu 2,5 cm olan 44 sayfa ham veri dökümü hazırlanmıştır. Araştırmada, ebeler için E1, E2, E3… gibi kodlar kullanılmıştır. Hazırlanan word dokümanları araştırmacı tarafından bağımsız olarak tek tek okunmuş ve başlangıç kodları oluşturulmuştur. Oluşturulan başlangıç kodları temalar ve alt temalar altında toplanmıştır. Bu analiz ve kodlama süreci ile kodların uygunluğu, ikinci araştırmacı tarafından "uzman incelemesi" yapılarak kontrol edilmiştir.

2.8. Araştırmanın Geçerlilik ve Güvenirliği

Nitel araştırmalarda elde edilen sonuçların inandırıcılığı ya da kalitesi yönünden geçerlik ve güvenirliğin sağlanması önemlidir (Yıldırım ve Şimşek, 2016). Bu araştırmada güvenirliği geliştirmek için verilerin elde edilmesi ve araştırma raporunun hazırlanması sırasında uluslararası bir kontrol listesinden yararlanılmıştır (COREQ: Consolidated criteria for reporting qualitative studies) (Tong ve ark., 2007). Araştırmanın iç güvenirliği, verilerin kodlanmasında yazarlar arasında tutarlık sağlanarak (uyum oranı %95) elde edilmiştir. Araştırmanın dış güvenirliği (teyit edilebilirlik), uzman ikinci araştırmacı tarafından gerçekleştirilen teyit incelemesi ile sağlanmıştır.

3. Bulgular

3.1. Ebelerin Tanımlayıcı Özellikleri

Doğum salonunda görev yapan ebelerin sosyo-demografik özellikleri incelendiğinde, 27-46 yaş aralığında oldukları, onunun lisans ve birinin de ön lisans eğitim düzeyinde olduğu saptanmıştır. Çalışmaya katılan

dokuz ebenin evli, iki ebenin bekâr, dokuz ebenin kadrolu, iki ebenin sözleşmeli olduğu, çalışma yıllarının 3-30 yıl aralığında değiştiği, 2-21 yıldır doğumhanede çalıştıkları, şu andaki kurumlarında çalışma sürelerinin 2-25 yıl aralığında olduğu belirlenmiştir (Tablo 1).

3.2. Ebelerin Amniyotomi ile İlgili Görüş ve Uygulamaları

Bu bölümde ebelerin amniyotomi ile ilgili görüş ve uygulamalarının ne olduğunu tespit etmek için yapılan nitel çalışmanın bulguları sunulmuştur. Ebelerin araştırmanın sorularına verdiği yanıtlara göre, ebelerin amniyotomi ile ilgili görüşlerine ait bulgular ve ebelerin amniyotomi uygulamalarına yönelik bulgular olmak üzere iki başlık altında sunulmuştur. Her iki başlıkta toplamda altı tema 16 alt tema tespit edilmiştir.

3.3. Ebelerin Amniyotomi ile İlgili Görüşleri

Bu başlıkta ebelerin amniyotomi ile ilgili görüşlerinin nasıl olduğu ile ilgili bulguların sonuçları sunulmuştur. Araştırmada, ebelerin amniyotomi uygulama nedenleri, amniyotominin doğum seyrine etkisi, amniyotominin anne sağlığına etkileri ve amniyotomin bebek sağlığına etkileri sorularına verdikleri yanıtlarda, "amniyotomi ile ilgili görüşleri" teması altında birleştirilmiştir. Bu temaya ait amniyotomi uygulanmalı, amniyotomi uygulanmamalı alt temaları tespit edilmiştir (Tablo 2). Ebelerin amniyotomi ile ilgili görüşler temasına ait bazı ifadeleri şunlardır.

"Doğru zamanda açıldığı zaman kesinlikle doğumu hızlandırdığını düşünüyorum. Doğru zaman hastanın açıklığı iyi, baş basıyor baş mobilse zaten açmıyorum, bebeğin kalp atımları düşükse zaten ya da taşikardikse o zamanda zaten uyguluyoruz. Bir bakıyoruz mekonyumlu mu? Eğer mekonyumlu ise ona göre açıyoruz. Yaptırdığım doğumlarda bu doğru zaman dediğim kriterlerde uyguladığım da ve buscopan ile desteklediğimde doğumların süresi daha kısa oldu." (E4, Yaş, 35, Lisans)

"Amniyotomi uyguladığım bebeklerin sağlık durumu, bence zaten fetal kalp atımları düştüğü için amniyotomi yapıyoruz. Mekonyumlu olabiliyor bebek, amniyotomi tesbit ettiğimiz için bebek için iyi olduğunu düşünüyorum" (E7, Yaş, 30, Önlisans).

3.4. Ebelerin Amniyotomi Uygulamaları

Bu başlıkta ebelerin amniyotomi uygulamadan önce, uygularken, uygulama sonrasında nelere dikkat ettikleri, amniyotomi uyguladıklarında doğumun seyrinde, annede bebekte gelişen durumların neler olduğu, ebelerin amniyotomi ile ilgili yasal süreç yaşayıp yaşamadıkları ve amniyotomi uygulaması için güncel bilgi durumu belirlemek amacıyla yapılmıştır. Ebelerin amniyotomi uygulamalarına ait beş tema ve 14 alt tema altında toplanmıştır.

Tablo 1. Ebelerin tanımlayıcı özellikleri (n=11)

Özellikler	
Yaş	27, 27, 29, 30, 33, 33, 35, 40, 41, 43, 46
Eğitim durumu	
Ön lisans	1
Lisans	10
Medeni durum	
Evli	9
Bekar	2
Çalışma süresi (yıl)	3, 4, 5, 7, 10, 11, 12, 12, 14, 25, 30
Bu kurumda çalışma süresi (yıl)	2, 2, 2, 2, 3,5, 3, 3, 7, 6, 5, 21,
Doğumhanede çalışma süresi (yıl)	2, 2, 2.5, 5, 6, 7, 8, 8, 9, 25, 25,
Çalışma şekli	
Kadrolu	9
Sözleşmeli	2

Tablo 2. Ebelerin amniyotomi ile ilgili görüş ve amniyotomi uygulama nedenleri

Tema	Alt Temalar	Kodlar	n
Amniyotomi ile ilgili görüşler	Amniyotomi uygulanmalı	Anne için faydalı (n=5), bebek için faydalı (n=7), doğum hızlanıyor (n=7).	19
	Amniyotomi Uygulanmamalı	Anne strese girer (n=5), doğum hızlanmıyor (n=4), doğal süreç bozuluyor (n=2), fetal kalp atımı (FKA) düşer (n=5).	16
Amniotomi uygulama nedenleri	Doğumun hızlandırılması	Kontraksiyonu artırmak (n=1), indiksiyonu desteklemek (n=1), erken amniyotomi uygulaması (n=1), iş yükünü azaltmak (n=1) aktif fazda olduğunda (n=3), doğumu hızlandırmak (n=9).	16
	Doğumun başlatılması	Miad aşımı (n=1).	1
	Fetal distress	Mekomyum tespiti (n=3), fetal sıkıntıda (n=8).	11

Bu temalar amniyotomi uygulama nedenleri, amniyotomi uygulaması ile ilgili dikkat edilen durumlar, amniyotomi sonrasında dikkat edilen durumlar, amniyotomi uygulaması ile ilgili onam ve yasal süreç, amniyotomi ile ilgili güncel bilgileri kullanım durumudur.

3.5. Ebelerin Amniyotomi Uygulama Nedenlerine İlişkin Bulgular

Araştırmada ebelerin amniyotomi uygulama nedenlerine yönelik verdikleri yanıtları amniyotomi uygulama nedenleri teması altında birleştirilmiştir. Amniyotomi uygulama nedenleri temasında fetal distress, doğumun hızlandırılması, doğumun başlatılmasından oluşan üç alt tema yer almıştır. (Tablo 2). Ebelerin amniyotomi uygulama nedenlerine yönelik bazı ifadeleri şunlardır;

"Hangi nedenlerle eeee NST de FKA düşme eylemini geçirmişse, anne miad aşımı ise, açarım. Annenin de açıklığı silinmesi uygunsa 5-6 cm üstündeyse silinmesi yüzde ellilerde ise başı oturmuş ise; yani muayenesi uygunsa doğumu hızlandırmak ve indüksiyona destek olması açısından yaparız" (E2, yaş 27, Lisans).

"Doğumu hızlandırmak için kullanıyorum. Yani kullanıyorum kendim. Yani genel olarak doğumu hızlandırmak başın servikse yerleşmesini sağlamak. Uyguladığım doğumlarda etkisini görüyordum. Yani multiparlarda daha çok etkisini hissediyordum. Ama ikisinde de doğumu hızlandırdığını düşünüyorum. Zamanında yapıldığı için" (E11, Yaş, 42, Lisans).

3.6. Ebelerin Amniyotomi Uygulaması ile İlgili Dikkat Ettiği Durumlar ile İlgili Bulgular

Araştırmaya katılan ebelerin, amniyotomi uygulama ile ilgili dikkat ettiği durumlara yönelik verilen yanıtlarından amniyotomi uygularken dikkat edilen durumlar teması oluşturulmuştur. Bu temaya ait uygulama esnasına, anne sağlığına, bebek sağlığına ve destekleyici bakım dört alt tema tespit edilmiştir (Tablo 3). Ebelerin amniyotomi uygulaması ile ilgili dikkat ettiği durumlara yönelik bazı ifadeleri şunlardır;

"Sterilliğe önem veriyorum. Anneye amniyotomi yapacağımı şu şekilde açıklıyorum; doğumun yaklaştı suyunu açmam gerekiyor doğumun bir an önce hızlansın diye. Bebeğin FKA'sına dikkat ediyorum. NST'de reaktif mi? Ona dikkat ederim ona göre açarım. Muayene bulgularımı tekrarda kontrol ederim. Ben uygularken sancı sırasında yani poşh gerginken açmaya dikkat ediyorum. Eee servikal osun altından iki parmağımın arasına amniyoperle işlemi gerçekleştiriyorum ve elimi hemen çekmiyorum. Eeee çünkü kordon sarkması olabiliyor. Bana hiç denk gelmedi ama arkadaşlarımda tanık oldum. Eeee suyunun iyice boşalması özellikle polihidro amniyon suyunun iyice boşalmasına özen gösteriyorum. Sonrasında bebeğin kalp atımını tekrardan takip ediyorum. Eee suyu boşaldıktan sonrada normal doğum eylemine devam ediyorum yani takibe devam ediyorum" (E3 Yaş 27, Lisans).

3.7. Ebelerin Amniyotomi Sonrasında Dikkat Ettiği Durumlara İlişkin Bulgular

Ebelerin amniyotomi sonrasında dikkat ettiği durumlara yönelik sorulan sorulara verdikleri yanıtlar amniyotomi sonrasında dikkat edilen durumlar teması altında birleştirilmiştir. Amniyotomi sonrasında dikkat edilen durumlara ait gebede oluşan değişiklikler ve fetal kalp atımları olmak üzere iki alt tema belirlenmiştir (Tablo 3). Ebelerin amniyotomi sonrasında dikkat ettiği durumlara yönelik bazı ifadeleri şunlardır;

"Amniyotomi sonrasında bebeğin kalp atışı iyi mi onun dışında herhangi bir kordon sarkması var mı bunlara dikkat ediyorum. Poşh açıldıktan sonra bunun dışında herhangi bir sıkıntı yoksa tabi devam ediyorum işlemime, doğum yakınsa doğumu yaptırıyorum. Onun dışında yani bebeğin kalp atımlarını takip ediyorum annede herhangi bir şey oldu mu annede kanama artımı doğum hızlanıyor mu, bir kanama oluştumu kordon sarkma olabilir mi bunları takip ediyorum tabi ki bunların kesinlikle takip edilmesi gerektiğini düşünüyorum" (E4, yaş 27, Lisans).

"Amniyotomi sonrası fetal kalp atımları iyi mi, anne de extra anormal bir durum var mı, kanaması var mı kord sarkması gibi bulgular var mı bunları kontrol ediyorum. Eeee Sonrasın da ateş takibi yapıyorum. Gebeyi tekrar muayene ediyorum. Açıklık durumunu yani tekrar gözden geçiriyorum" (E7, yaş 30, Önlisans).

Tablo 3. Ebelerin amniyotomi uygularken ve uygulama sonrası dikkat ettiği durumlara ilişkin bulgular

Tema		Alt Temalar	Kodlar	n
Amniyotomi uygularken dikkat edilen durumlar		Uygulama esnasına	Sancılı iken açmaya (n=1), posh gergin iken açmaya (1), mesanenin boş olmasına (n=2), gebenin klinik bulgularına (n=2), kontrollü açmaya (n=4), muayene bulgularına (n=5), malzemelerin tam olması (n=5), sterilliğe (n =6).	26
		Anne sağlığına	Embolisi (n=1), sancılarda azalma (n=1), sancılarda artma (n=2) kord prolopsusu (n=2), kanama(n=3), anksiye (n=4) enfeksiyon (n=9).	22
		Bebek sağlığına	FKA da düşme (n=3), mekonyum (n=4), kord prolopsusu (n=4), yenidoğan enfeksiyonu (n=4), kötü bir durumla karşılaşmadım (n=4).	19
		Destekleyici bakım	Gebenin mahremiyetine (n=1), gebe ile uyum halinde olmaya (n=2), psikolojik destek (n=2), anneye bilgi vermeye (n=7).	12
Amniyotomi sonrasında dikkat edilen durumlar		Gebede oluşan değişiklikler	Muayene değişikliğ (n=1), FKA da düşme (n=1), vasa previan (n=1), dekolman (n=2), annenin genel durumu (n=3), kanama (n=4), enfeksiyon (n=5), kord prolobsusu (n=5), muayene tekrarı (n=5).	27
		Fetal kalp atımı	Bebeğin FKA takibine (n=10).	10

Tablo 4. Ebelerin amniyotomi uygulamasına yönelik güncel bilgileri kullanma, onam alma ve yasal süreç yaşama durumu

Tema	Alt Temalar	Kodlar	n
Amniyotomi uygulaması ile ilgili onam ve yasal süreç	Olumsuz deneyim yok	Yasal bir süreç yaşamadım (n=11).	11
	Bilgilendirilmiş onam alma	Yazılı onam alıyorum (n=1), sorumluluk paylaşımı (n=2), yazılı onam alınmalı (n=2), sözel onam alıyorum (n=3), doğum onamında tüm riskler alınıyor (n=3), gebeyi bilgilendiriyorum (n=9).	20
	Almama	Yazılı onam almıyorum (n=9).	9
Amniyotomi ile ilgili güncel bilgileri kullanma	Kullanma	Makale takip ediyorum (n=1), DSÖ verilerini takip ediyorum (n=1), kongreleri takip ediyorum (n=1), akademik makaleler (n=1), kurum içi eğitimleri takip ediyorum (n=3).	7
	Kullanmama	Sahadaki deneyimlerimi kullanıyorum (n=1), standart bilgileri kullanıyorum (n=3).	4

3.8. Ebelerin Amniyotomi Uygulaması ile İlgili Onam ve Yasal Süreç ile Karşılaşma Durumu

Ebelerin amniyotomi uygulaması ile ilgili onam alma ve yasal süreç ile karşılama durumlarına yönelik yaptığı açıklamalar amniyomi uygulaması ile ilgili onam ve yasal süreç temasında birleştirilmiştir. Amniyotomi uygulaması ile ilgili onam ve yasal süreç teması olumsuz deneyim yok, bilgilendirilmiş onam alma, almama olmak üzere üç alt temadan oluşmuştur (Tablo 4). Bu temaya yönelik ebelerin bazı açıklamaları;

"Herhangi bir yasal süreç yaşamadım. Ben sözel olarak hastaya anlatıyorum. Amniyotomiyi neden yapacağımızı, bunun ona neden faydalı olacağını anlatıyorum. Doğumun doğal sürecinde izlenmesi gerektiğine inandığım için, gerek duymadıkça yapmıyorum o yüzden yasal bir süreçle karşılaşmadım. Zaten normal doğum onamı alırken tüm riskler içinde yazdığı için yasal bir sıkıntı olabileceğini düşünmüyorum ancak amniyotomi için ayrıntılı bir yazılı onam olması bizi olası yasal süreçlerde koruyacağına inanıyorum" (E5 yaş 33, lisans).

"Tabiî ki. Hiçbir şekilde sadece bu amniyotomi ile ilgili değil herhangi bir uygulama yapmadan önce rıza almak zorundasınız. Çünkü biz insanların bedenlerine kendilerinin rızası olmadan isteği dışında dokunamayız. Bu sizin içinde geçerli benim içinde geçerli. Eğer istemiyorsa da muhtemelen kliniklerde de vardır bizde de vardır. Tedavi ret imzalatırız. Tabi ki yazılı onam oluyor bilgilendirmeyi yapıyoruz. Bu işlem yapılacak böyle olacak. Ama bazı durumlarda dediğim gibi, şimdi eğer bebekle ilgili sıkıntı varsa bu rıza konusu biraz daha yoruma açık. Tıbbi gereklilik bebekte riskli bir durum tamam siz izin vermiyorsunuz, bizde bakmıyoruz bebeğiniz ölsün böyle bir şey yok. Mümkün değil" (E10 yaş 43, lisans).

3.9. Ebelerin Amniyotomi Uygulaması ile İlgili Güncel Bilgileri Kullanma Durumuna İlişkin Bulgular

Ebelerin amniyotomi uygulaması ile ilgili güncel bilgileri kullanımına ilişkin verdikleri yanıtlar "amniyotomi ile ilgili güncel bilgileri kullanma" teması altında birleştirilmiştir. Bu tema altında kullanma (n=7) ve kullanmama (n=4) alt temalarının yer aldığı tespit edilmiştir (Tablo 4). Bazı ebelerin amniyotomi ile ilgili güncel bilgileri kullanma durumuna yönelik ifadeleri şöyledir;

"Açıkçası pek takip etmiyorum. Bazen köreliyoruz ya da nasıl diyeyim el pratiğimize çok çok güveniyoruz ve takip etmeyi bırakıyoruz ben kendi açımdan en azından böyle diyebilirim. Ama hastanenin vermiş olduğu hizmet içi eğitimler oluyor, ondan faydalanıyorum tabi ki. Yani yüksek lisans ya da başka eğitimler alsaydık daha iyi olurdu ancak sahadaki tecrübelerden faydalanıyorum genellikle" (E8, yaş 41, lisans).

"Yani çok güncel bilgi bilmiyorum açıkçası standart öğrendiğimiz ve daha çok yaşadığın olaylara karşın verdiğim tepki ile yapıyorum. Hani çok güncel bilgi bilmiyorum" (E10, yaş 43, lisans).

4. Tartışma

Bu çalışma ebelerin, amniyotomi ile ilgili görüşlerini ve uygulamalarını ortaya koymak amacıyla 11 ebe ile görüşme yapılmıştır. Bu görüşmelerin sonucunda elde edilen bilgiler, ebelerin amniyotomi uygulaması konusundaki mevcut durumlarını açığa çıkarması bakımından önemlidir.

Bu çalışmada ebelerin amniyotominin uygulanmasına ilgili görüşlerinin uygulanmalı ve uygulanmamalı şeklinde iki farklı biçimde olduğu, bazı ebelerin amniyotominin doğumu hızlandırdığı, anne ve bebek sağlığı bakımından risklerinin olmadığı ve bu yüzden rutin olarak uygun muayene koşullarında uygulanması gerektiği görüşünde oldukları belirlenmiştir. Diğer ebelerin de amniyotomiyi hem doğum sürecine hem anne hem de bebek sağlığı acısından riskli olduğunu düşündükleri ve zorunlu olmadıkça uygulanmaması görüşünde oldukları bildirilmiştir. İsviçre'deki ebelerin amniyotomi ile ilgili deneyim ve görüşlerinin incelendiği bir nitel çalışmada da ebelerin amniyotomi ile ilgili olarak, anne ve bebeğin sağlığında bir sıkıntı olmadığı sürece doğumu hızlandırmak için uygulanabileceğini görüşünde oldukları rapor edilmiştir. Yine bu çalışmada ebeler amniyotomiyi basit bir uygulama olarak görseler de, uygun ve güvenli koşullar altında yapılmazsa gebe ve

bebek için hem riskli hem de karmaşık hale gelebileceğini belirtmektedirler (Ingvarsson ve ark., 2020). Bu sonuçlar ebelerin amnitomiye ilişkin görüşlerinin kişiye göre değiştiğini göstermektedir. Bu sonuç uygulamalarda bir standardın olmamasını açıklayabilir.

Bu çalışmada, ebelerin amniyotomi uygulama nedenlerinin fetal distres, doğumun hızlandırılması ve başlatılması olduğu saptanmıştır. Benzer şekilde Şaraldı ve ark. (2023)'nin çalışmasında da amniyotominin doğumu başlatmak ve hızlandırmak amaçlı olarak uygulandığı rapor etmişlerdir. Ayrıca literatürde yer alan bir diğer çalışmada da amniyotominin doğum eyleminin süresini kısalmada etkili olduğu belirtilmiştir (Karakoç ve ark., 2020; Zeidi ve ark., 2024). Bu sonuçlara göre ebelerin görüşlerinin litaretür de yer alan bilgiler ile uyumlu olduğu söylenebilir.

Çalışmada, ebelerin amniyotomi uygulama ile ilgili destekleyici bakıma, uygulama zamanına, anne ve bebek sağlığına dikkat ettikleri saptanmıştır. Ülkemizde yapılan bir çalışmada da amniyotomi uygulamadan önce vajinal muayene yapılması, açıklık, efasman ve fetal başın seviyesinin değerlendirmesi ve muayene bulguları uygunsa, amniyotominin uygulanması gerektiğini bildirilmiştir (Karakoç ark., 2020). Yine bu çalışmada da ebelerin amniyotomi uygulamadan önce gebenin muayene bulgularını değerlendirdikleri, gebeyi bilgilendirdikleri ve rahatlattıkları sonucuna belirtilmiştir. Bir diğer araştırmada da ebelerin amniyotomi uygulaması ile ilgili gebeye bilgi vermesi, rahatlatması, genel durumunu izlemesi, fetal kalp atımlarını takip etmesi, yazılı ve sözlü onamlarını alması gerektiği belirtmişlerdir (Jamaluddin ve ark., 2023). Bu sonuçlara göre ebelerin amniyotimi uygulamalarında gerekli hassasiyeti gösterdikleri söylenebilir.

Araştırmada ebelerin amniyotomi uygulaması ile ilgili onam ve yasal süreç ile ilgili, olumsuz deneyim yaşamadıkları, yasal süreçle karşılaşma durumunda da tek sorumluluğun kendilerinde olmadığını, tüm ekibin sorumlu olduğunu (hekim, ebe) ifade etmişlerdir. İsviçre'deki ebelerin amniyotomi ile ilgili deneyim ve görüşlerini ortaya koymak için 2020 yılında yapılan nitel bir çalışmada, ebelerin amniyotomi uygulaması ile ilgili oluşabilecek olumsuz tüm durumların yasal süreçleri ile ilgili sorumlulukları üstlendiklerini ifade etmişlerdir (Ingvarsson ve ark., 2020). Bu araştırmada, bazı ebelerin amniyotomi uygulaması ile ilgili güncel bilgileri kullandıkları ve bazılarının da kullanmadıklarını belirmişlerdir. Güncel bilgileri takip eden ebeler makale, DSÖ verilerini, kongreler ve kurum içi eğitimler yoluyla amniyotomi konusundaki gelişmeleri takip ettiklerini söylemişlerdir. Amniyotomi ile ilgili güncel bilgileri takip etmeyen ebeler mevcut bilgi ve deneyimleri ile uygulamaları sürdürdüklerini ifade etmişlerdir. Literatürde ebelerin amniyotomi ile ilgili güncel bilgi kullanım durumuna ilişkin bilimsel bir çalışma bulunamamıştır. Bu konuda çalışma yapılmasına gereksinim bulunmaktadır.

5. Sonuç

Bu araştırmada ebelerin çoğunluğu, amniyotomi uygulamasının doğumu hızlandırdığı, doğum sürecini kısalttığı için anne ve bebeğin yararına olduğunu ve bu yüzden uygun servikal muayene koşullarına göre rutin olarak yapılması gerektiği, bir kısmının da amniyotomi uygulamasının doğum süresine etkisinin olmadığı, risklerinin yüksek olduğu ve bunun da anne-bebeğin sağlığını olumsuz etkileyeceği, doğumun doğal bir süreç olduğu ve amniyotominin bu doğal sürece bir müdahale ettiği için rutin olarak yapılmaması gerektiği ve uygulanacak ise yazılı onam alınması gerektiği görüşlerinde oldukları sonuçları elde edilmiştir. Yine bu çalışmada ebelerin, amniyotomi uygulamadan önce gebeleri bilgilendirdikleri ve sözel onam aldıkları, mahremiyeti korudukları, annenin genel durumunu ve fetal kalp atımlarını değerlendirdikleri, gebeyi rahatlatıcı yaklaşımlarda bulundukları, uygulama sürecinde malzemelerin tam olmasına ve sterilite koşullarına dikkat ettikleri, uygulama kararı almadan önce servikal muayene ile Bishop skor değerlendirmesi yaptıkları, amniyotomiyi kontrollü bir biçimde uyguladıkları ve uygulama sonrasında anne ve bebek sağlığını takip ettikleri sonuçlarına ulaşılmıştır. Çalışmada ebelerin amniyotomi uygulaması ile ilgili en fazla kord prolopsusu ile karşılaştıkları, ancak herhangi bir yasal süreç yaşamadıkları sonuçlarına varılmıştır.

Bu sonuçlara dayalı olarak kliniklerde çalışan ebelerin anne ve bebekle ilgili bir endikasyon olmadıkça rutin olarak amniyotomi uygulamamaları ve doğumu doğal süreçte takip etmeleri, sahadaki deneyimlerine ilave olarak amniyotomi ile ilgili güncel bilgileri takip etmeleri önerilebilir. Sağlık eğitimcilerinin örgün ve yaygın eğitim süreçlerinde amniyotomi uygulaması ile ilgili güncel bilgilere yer vermeleri ve eğitim içeriğini son güncel bilgilere göre hazırlanmaları, kurum yöneticilerinin amniyotomi uygulaması ile ilgili yazılı bir onam protokolu hazırlamaları, uygulanmasını sağlamaları ve desteklemeleri yararlı olabilir. Ayrıca amniyotomi ile ilgili uygulamaların kanıta dayalı biçimde geliştirilmesini sağlayabilecek, konuya ilişkin daha kapsamlı ulusal verileri açığa çıkarabilecek niceliksel ve niteliksel çalışmaların yapılması önerilebilir.

Katkı Oranı Beyanı

Yazar(lar)ın katkı yüzdesi aşağıda verilmiştir. Tüm yazarlar makaleyi incelemiş ve onaylamıştır.

	P.E.	Z.K.
K	50	50
T	50	50
Y	50	50
VTI	50	50
VAY	50	50
KT	50	50
YZ	50	50
KI	50	50
GR	50	50
PY	50	50
FA	50	50

K= kavram, T= tasarım, Y= yönetim, VTI= veri toplama ve/veya işleme, VAY= veri analizi ve/veya yorumlama, KT= kaynak tarama, YZ= Yazım, KI= kritik inceleme, GR= gönderim ve revizyon, PY= proje yönetimi, FA= fon alımı.

Çatışma Beyanı

Yazarlar bu çalışmada hiçbir çıkar ilişkisi olmadığını beyan etmektedirler.

Etik Onay/Hasta Onamı

Araştırmanın yapılabilmesi için "Bir Devlet Üniversitesinin Sağlık Bilimleri Fakültesi Girişimsel Olmayan Klinik Araştırmalar Etik Kurulu'ndan etik kurul izni alınmıştır (onay tarihi: 15 Haziran 2019, onay numarası: 2019/055). Araştırma verisinin toplanması için, İstanbul İl Sağlık Müdürlüğünden kurum izni alınmıştır (onay tarihi: 15 Haziran 2019, onay numarası: 2020/47). Araştırmaya dâhil edilme kriterlerine uyan ve çalışmaya katılmayı kabul eden ebelere araştırma hakkında bilgi verilerek sözlü onamları alınmıştır. Araştırma Helsinki Bildirgesi'ne uygun olarak yürütülmüş ve katılımcı bildirimleri isim belirtilmeksizin E1, E2, E3… şeklinde kodlar kullanılarak rapor edilmiştir.

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COMPARISON OF HPV AND CERVICAL CANCER AWARENESS OF MALE AND FEMALE UNIVERSITY STUDENTS

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Abstract: Cervical cancer is one of the most important types of cancer that is caused by the Human Papilloma Virus and affects women. HPV is one of the most common sexually transmitted diseases among young women and men. This study aimed to compare the knowledge of male and female university students studying in the field of health about cervical cancer, HPV infection, and their awareness of HPV vaccine. A cross-sectional questionnaire was used, which was appropriate for both male and female students separately. A total of 100 university students attending a foundation university were asked to fill out a questionnaire by taking a consent form. It was observed that sexually transmitted diseases, HPV, HPV vaccine, cervical cancer and risk factors, and PAP smear awareness were not very high. These findings showed that it is important to provide education to both male and female university students to increase their awareness about cervical cancer, risk factors, diagnosis and treatment methods, and the HPV vaccine.

Keywords: Awareness, Cervical cancer, HPV, University students

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1. Introduction

Cervical cancer is one of the most common cancer types among female cancers. According to the data from the World Health Organization (WHO), cervical cancer is the fourth most common type of cancer in women. In 2018, approximately 570,000 cases of cervical cancer were diagnosed worldwide, of which an estimated 311,000 died. Cervical cancer constitutes approximately 50% of reproductive system cancers in women and is more common in women aged 40-55 years. However, it has been reported that it has recently started to be seen more frequently in lower age groups. The recent onset of cervical cancer at an early age brings to mind the developments in early diagnosis methods (Jemal et al., 2010). Cervical cancer is the earliest diagnosed cancer type among genital cancers. Risk factors for cervical cancer include Human Papilloma Virus (HPV) infection, an excessive number of sexual partners, smoking, dietary habits, high fertility, early sexual intercourse, long-term contraceptive use, immune system deficiency, and genetic factors. However, about 95% of this type of cancer is caused by the oncogenic HPV. HPV is a very common and contagious sexually transmitted virus that is very common in sexually active populations and can cause infections in the vaginal area in women. While these infections can resolve spontaneously, persistent infections can cause cervical cancer. This type of cancer can be controlled when a detailed prevention, screening and treatment approach is used. The most effective methods in preventing cervical cancer are the HPV vaccine, which is the primary prevention method (especially against HPV 16 and HPV18 types, which WHO recommends for girls aged 9 -14 years), and a secondary prevention method screening and treatment of precancer lesions. WHO adopted the global strategy for cervical cancer in 2020. This strategy has an approach in the form of effective screening, treatment and early diagnosis, and palliative care to prevent precancerous lesions (WHO, 2021). Pap smear test has an important place in the early diagnosis of cervical cancer. Cervical cancers can be detected at an early stage with the Pap smear test. Some of the studies in the literature contain data on the level of knowledge and application of the Pap smear screening test by the masses (Karabulutlu and Pasinlioglu, 2016). At the same time safe sexual intercourse, condom use during sexual intercourse, regular testing after the age of 30, quitting smoking and eating a balanced diet are also defined as ways to protect against cervical cancer (Medeiros and Ramada, 2011; Bray et al., 2018).

Studies in Western countries show that despite the high prevalence of HPV among young women, most studies show that these women have little knowledge about HPV (Wong and Sam, 2010). As in the world, the prevalence of cervical cancer is quite high in Türkiye. According to the data of the Ministry of Health, cervical cancer ranks 9th among cancer types in Türkiye and in 2019, 212 thousand women died due to cervical cancer. However, HPV infection, cervical cancer, and prevention methods

are still poorly understood among young women and men. Desire to get the HPV vaccine depends on factors such as education, beliefs, and lifestyle. Many studies have been conducted worldwide to measure the knowledge of women and men about HPV and cervical cancer (Pitts et al., 2009). Especially in the literature, there are few studies conducted to measure the level of awareness of sexually active university students about cervical cancer. One of the most common sexually transmitted infections among university students is HPV (Pitts et al., 2009). For this reason, it is an important element to evaluate the awareness of women and men in this group. Although HPV is observed in men as asymptomatically, men are also in the risk group regarding the carrier (Mehu-Parant et al., 2010).

There are few studies conducted to understand the awareness of university students studying in the field of Health in Türkiye about HPV infection, vaccination, and screening tests. It will be a pioneer in understanding and preventing cervical cancer if young women and men who will work in the health sector in the future have knowledge about HPV and cervical cancer. The aim of this study is to determine the awareness of male and female university students studying in the field of health about cervical cancer, ways of prevention, and health strategies.

2. Materials and Methods

2.1. Participants

The research was conducted among volunteers to fill out the questionnaire before the cervical cancer awareness conference organized for students studying at Toros University Vocational School of Health Services in Mersin. The universe of the study was determined as 150 people who were trained in Health Services, and who were expected to attend the conference, and the p value of 0.05 was calculated statistically at the 95% confidence level. A total of 100 people, 50 women, and 50 men, were randomly selected among the volunteers participating in the conference. The ages of the students range from 17 to 30. In addition, the participants were informed about whether or not to participate in the research voluntarily. Consent forms received. It has been announced that the questionnaires will be filled in anonymously. Volunteers filled out the questionnaires and put them in the box in front of the conference room.

For the research, two separate questionnaires were prepared for male and female students who will participate in the conference. In the prepared survey questions, the demographic characteristics of the participants were asked in common. There were 12 questions in the questionnaires distributed to the women. The questions included information about sexually transmitted diseases, HPV and cervical cancer, prevention, and screening methods, and awareness about vaccination. There were 9 questions in the questionnaires distributed to male students. These questions were aimed at determining their knowledge about sexually transmitted diseases and HPV and their awareness of the HPV vaccine.

2.2. Statistical Analysis

Analyses were performed on SPSS (IBM SPSS Statistics 24). The degree of statistical significance between the groups was accepted as $P<0.05$. Frequency tables and descriptive statistics were used to interpret the findings. "Fisher-Exact" or "Pearson-$\chi 2$" crosstabs were used according to the expected value levels in examining the relations between two qualitative variables.

3. Results

There was no statistically significant relationship between gender and sexually transmitted disease knowledge, disease knowledge level, need for education, sexual intercourse age and HPV vaccination status ($P>0.05$). The groups are independent and homogeneous in terms of the specified characteristics. A statistically significant relationship was found between gender and sexual intercourse ($\chi 2=33.101$; $P=0.000$). It was determined that 33 women (66.0%) had not had sexual intercourse before, and 30 men (60.0%) had previously had sexual intercourse. Women predominantly did not engage in sexual intercourse, while men predominantly engaged in sexual intercourse. A statistically significant relationship was found between gender and diagnosed disease status ($\chi 2=5.828$; $P=0.016$). It was determined that 16 women (32.0%) had a diagnosed disease and 44 men (88.0%) did not have a diagnosed disease. It was determined that those with a diagnosed disease were predominantly female, and those without a diagnosed disease were predominantly male. A statistically significant relationship was found between gender and reproductive tract disease status ($\chi 2=38,000$; $P=0,000$). When the diseases in the breeding areas are examined; It was determined that the most common disease in women was infection with 13 people (41.9%), and warts in the genital area with 6 people (85.7%) in men (Table-1).

In addition, it was determined that 45 (90.0%) of the women had heard of cervical cancer before, 40 (80.0%) had information about cervical cancer, and 18 (36.0%) of them got information about cervical cancer from internet sites. social media/health personnel and 50 (100.0%) did not have PAP-smear. It was determined that 26 (68.4%) of 36 men who had sexual intercourse used condoms against the risk of sexually transmitted diseases (Table-2).

Table 1. Examining the relationships between gender and some characteristics

Variable	Women (n=50)		Men (n=50)		Statistical analysis*
	n	%	n	%	Possibility
Sexually Transmitted Disease Information					
Available	38	76.0	39	78.0	χ^2=0.056
Not available	12	24.0	11	22.0	P=0.812
Sexually Transmitted Disease Knowledge					
Has no information	1	2.0	6	12.0	χ^2=4.842
Has little knowledge	10	20.0	12	24.0	P=0.184
Has/insufficient knowledge	26	52.0	19	38.0	
He has enough knowledge	13	26.0	13	26.0	
Need For Sexually transmitted disease education					
Yes	33	66.0	23	46.0	χ^2=4.102
No	7	14.0	12	24.0	P=0.129
No idea	10	20.0	15	30.0	
Having sexual intercourse					
Yes	5	10.0	30	60.0	χ^2=33.101
No	33	66.0	8	16.0	P=0.000
Unanswered	12	24.0	12	24.0	
Sexual intercourse age					
12-18	2	40.0	19	63.3	P=0.369
19-29	3	60.0	11	36.7	
Diagnosed sexually transmitted disease					
Available	16	32.0	6	12.0	χ^2=5.828
Not available	34	68.0	44	88.0	P=0.016
Reproductive tract disease**					
wart in genital area	-	-	6	85.7	
Painful swelling in the hand	-	-	1	14.3	
Infection	13	41.9	-	-	
ovarian cyst	10	32.3	-	-	χ^2=38.000
sore on the cervix	1	3.2	-	-	P=0.000
Other	7	22.6	-	-	
Getting the HPV vaccine					
Yes	2	4.0	2	4.0	χ^2=0.000
No	48	96.0	48	96.0	P=1.000

**More than one answer was given to the question and the percentages were determined according to the total number of samples.

Table 2. Distribution of some findings of men and women

Variable	Women	
	n	%
Hear about cervical cancer		
Yes	45	90.0
No	5	10.0
Knowledge about cervical cancer		
Yes	40	80.0
No	10	20.0
Where to get information about cervical cancer*		
websites	18	36.0
Social media	18	36.0
Health personnel	18	36.0
During training at school	16	32.0
Friends and social circle	15	30.0
Family members	13	26.0
Books	3	6.0
PAP-smear		
No	50	100.0
	Men	
	n	%
Using condoms in case of sexually transmitted disease risk		
Yes	26	68.4
No	12	31.6

*More than one answer was given to the question and the percentages were determined according to the total number of samples.

4. Discussion

Although there are many studies on cervical cancer, prevention methods, and early diagnosis and treatment, there are very few studies examining the knowledge of university students studying in the field of health services, who will be the health workers of the future. Knowledge and awareness are believed to influence sexual behavior.

Considering the average age of university students in Türkiye, most of them are of sexually active age. Although the risk of cervical cancer is a disease that only affects women, especially the young male population is a carrier of HPV infection. Therefore, in this study where we compared HPV and cervical cancer awareness levels of young women and young men, it was reported that most of the male students had sexual intercourse experiences, while only 5 of the female students had sexual intercourse. Twelve of the women did not answer the question. It has been observed that there is a significant difference between women and men in terms of experiencing sexual intercourse, and men experience more sexual intercourse than women. At the same time, it has been observed that 80% of women have knowledge about cervical cancer. In a study conducted among university students studying in the field of health in Portugal, it was observed that most of the students experienced sexual intercourse, but it was stated that their awareness about cervical cancer and HPV was low (Medeiros and Ramada, 2011). In another study conducted at a university in Europe, it was reported that only 17.7% of students had heard of HPV (Wong and Sam, 2010). In our study, we noticed that 76% of female students studying in the field of Health had knowledge about sexually transmitted diseases. In a study conducted at a university in Florida, USA, it was reported that 78% of female students had only heard of HPV (Gerend and Magloire, 2008). In a study conducted to show the cervical cancer information of Singaporean men, it was observed that men had moderate knowledge about cervical cancer and poor knowledge about HPV. They heard about HPV in general through the media, but it was reported that they misunderstood and thought that it was transmitted through skin contact (Pitts et al., 2009). In another study, it was reported that men see HPV as less risky for themselves but higher risk for their female partners, and they aim to reduce the number of sexual partners (McPartland et al., 2010). In our study, it was seen that 78% of male university students had knowledge about HPV and sexually transmitted diseases. This is a relatively high awareness and it was determined that 68.4% of them used condoms to protect themselves from sexually transmitted diseases. From two separate studies conducted in Canada and Australia, it has been shown that approximately 51% and 51.2% of women have only heard of HPV, respectively. However, some of the women thought that the infection was transmitted through skin contact (Sauvageau et al., 2007; Pitts et al., 2007). In our study, we observed that women and men have moderate knowledge about sexually transmitted diseases. Participants stated that they accessed this information at a higher rate through the internet, social media, and health personnel. In addition, it was stated that information was obtained during the education at the school and during the conferences organized for the students receiving education in the field of health services. In addition, it has been observed that the information learned from friends and social environment, and family members is insufficient. This makes us think that it is related to the conservative society's reluctance to talk about such information, especially among women. In a study among women in England, it was reported that they had little idea about understanding and prevention of cervical cancer and its risk factors. HPV is poorly understood. And only 30% of respondents reported that they had only heard of HPV. However, it was stated that they were not aware that HPV affects both men and women. It has been reported that only 11.3% are aware that HPV may be a cancer risk (Pitts and Clarke, 2002). In our study, we compared how many young women and young men knew about HPV and cervical cancer. And we did not find any significant difference in awareness between men and women in this regard. The awareness of male and female university students was moderate and numerically similar. The reason why some of the students do not want to answer the survey questions may be due to their conservative family structure. In addition, the fact that there are internet sites and social media in terms places where information about cervical cancer among young people may be due to conservatism.

However, the fact that some diseases (such as warts, and painful swelling in the genital area) seen in the reproductive region of men in our study were significantly higher than women, supports the fact that men are carriers. In addition, 13 women who participated in the survey reported infections in the reproductive region, ovarian cysts in 10 women, and wounds on the cervix in 1 woman. Several recent studies have questioned the number of sexual partners as a risk factor for HPV infection (Mehu-Parant et al., 2010). And it has been reported that even condoms are not fully protective. It is estimated that 10% of the population in the United States has an active HPV infection. And the most common type of this infection is HPV16. They emphasized that it is not appropriate to develop a vaccination strategy by targeting risk factors with the data obtained, but a systematic vaccination policy can be developed (Winer et al., 2003; Ault 2006; Dempsey 2008). In a study by Mary et al. (2011), in which they examined HPV awareness of young individuals, they observed that vaccine interest was higher among sexually active women, women with multiple partners, and women who felt vulnerable to HPV infection. At the same time, other studies have also found findings that support this (Kahn et al., 2005; Zimet 2005). In a study conducted by Kasymowa (2019) to demonstrate HPV

awareness among university students in South Carolina, it was shown that they obtained information from university-mediated healthcare sources. For this reason, they stated that there is a need for health assistance programs throughout the campus in order to increase HPV awareness. In our study, it was reported that only 2 of both male and female university students studying in the field of health and in the age range of being sexually active had the HPV vaccine. This low rate, when the knowledge and awareness rates are taken into consideration, creates a thought such as being ashamed of sexuality and being socially afraid of the people around them. However, the fact that 4% of both men and women have had the HPV vaccine has shown that men have the same level of awareness as women, even if the rate is low. For this reason, we think that universities should encourage them to use their access to information on health services.

HPV16 type is one of the most persistent HPV types and is known to be responsible for 60% of invasive cancers worldwide. In addition, it is estimated that HPV infection is incubated for 7-12 years without showing any symptoms until carcinoma is in situ. Therefore, cervical cancer screening (PAP-smear) is routinely recommended. In this way, invasive lesions can be detected before they progress to cancer (Ylitalo et al., 2000; Moscicki, 2005). In our study, it was reported that no woman had ever been screened for cervical cancer. This is thought-provoking that young women especially worry about going to the gynecologist.

Few studies have so far questioned men's awareness of HPV and whether they agree to get vaccinated. Generally, most of these studies were conducted to assess women's knowledge and awareness. In fact, especially young men have a serious role in the transmission of HPV, because they often do not have symptoms and therefore do not get tested, causing them not to realize that they have the infection (CDCP. 2021). Awareness of HPV infection in young women and men who are of university age and considered sexually active in Türkiye is not sufficient. It is very important for people who are educated in the field of health and who will be health informants in the future, to increase their awareness of sexually transmitted diseases. For this reason, university students should receive training on this subject frequently. For this, as the right way, both men and women should be given trainings to increase their awareness about the relationship between sexually transmitted diseases and cancer.

5. Conclusion

It has been determined that the knowledge and awareness of young female and male university students studying in the field of health are not sufficient. Within the framework of this information, it will be important to provide education about cervical cancer, PAP-smear, HPV, prevention methods, and HPV vaccine to these people, who will be health personnel of the future, in order to raise awareness.

Author Contributions

The percentage of the author(s) contributions is presented below. All authors reviewed and approved the final version of the manuscript.

	T.A.	E.O.G.
C	50	50
D	100	
S		100
DCP	50	50
DAI	50	50
L	50	50
W	50	50
CR	50	50
SR	50	50
PM	50	50

C= concept, D= design, S= supervision, DCP= data collection and/or processing, DAI= data analysis and/or interpretation, L= literature search, W= writing, CR= critical review, SR= submission and revision, PM= project management.

Conflict of Interest

The authors declared that there is no conflict of interest.

Ethical Approval/Informed Consent

The Ethics Committee of Toros University Scientific Ethics Committee approved this study e (approval date: 28 January, 2022, protocol code: 5197). The research was conducted in accordance with the Principles of the Declaration of Helsinki.

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ASSESSMENT OF CARDIAC ANOMALIES IN PEDIATRIC PATIENTS WITH PECTUS CARINATUM

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Abstract: Pectus carinatum (PC) is an anterior thoracic visible deformity manifested by protrusion of the sternum. It can be an isolated chest deformity or it can be seen together with genetic pathologies. We analyzed the cardiac findings of 40 children who were diagnosed with pectus carinatum at Kahramanmaras Sutcu Imam University's Thoracic Surgery Outpatient Clinic between 1 February 2021 and 1 February 2022 and 97 healthy controls in similar age groups. The Pectus Carinatum patients had higher rates of cardiac malposition, MVP (Mitral valve prolapse), MI (mitral insufficiency), TVP (tricuspid valve prolapse), CHD (congenital heart disease), and aortic valve pathology**.** Our study showed that the prevalence of cardiac pathologies in the pediatric PC patients was higher than that in the control group consisting of healthy children. Thus, it may be recommend the referral of pediatric PC patients to cardiology outpatient clinics for the early diagnosis of potential cardiac pathologies.

Key words: Pectus carinatum, Mitral valve prolapse, Cardiac anomaly, Mitral insufficiency

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1. Introduction

PC, which is a congenital deformity of the anterior chest wall, is a deformity that involves the protrusion of the sternum and generally results in the prominence of the 3rd-7th ribs, which also results from excessive growth of the costal cartilages relative to the ribs. PC is the second-most prevalent anterior chest wall deformity after pectus excavatum (Park et al., 2013; Martinez et al., 2019; Pink et al., 2021)

PC can be bilateral or unilateral, and the sternum is usually displaced towards the side of the deformity. It can be an isolated chest deformity, or it can often be seen together with genetic pathologies such as Marfan syndrome and Noonan syndrome (Dogan and Sert, 2023). Approximately 25% of cases have genetic predisposition in their families (Fonkalsrud and Beanes, 2000). In some cases, chest pain and shortness of breath with physical activity may be seen (Balcı and Cakmak, 2018). There is a congenital heart disease in approximately 18% of cases (Blanco et al., 2011)

We observed that valve anomaly rates are high in patients who presented to the thoracic surgery outpatient clinic due to PC. Therefore, in this study, we aimed to compare the echocardiographic findings of pediatric PC patients to healthy controls without chest deformity and discuss the results in light of the literature.

2. Materials and Methods

This study was conducted in compliance with the Declaration of Helsinki. Before starting the study, ethical approval was obtained from the Ethics Committee for Noninterventional Clinical Studies of Kahramanmaras Sutcu Imam University on January 25, 2021 (Meeting No. 2021/04, Decision No. 03). Additionally, informed consent was obtained from the families of the participants.

2.1. Design

The study was initiated by examining cardiac findings in 40 children diagnosed with PC and 97 healthy children in similar age groups as controls between 1 February 2021 and 1 February 2022, in the University's Thoracic Surgery Outpatient Clinic. Routine posteroanterior (PA) and lateral chest X-rays of all patients were taken. Each patient was examined for cardiac pathologies by a Pediatric Cardiology specialist using echocardiography (ECHO). The demographic characteristics, admission complaints, and ECHO findings of the patients were recorded.

The echocardiographic examinations of all patients were made using a Vivid 7 Pro echocardiography device (GE Healthcare, Vingmed Ultrasound AS, California, United States) with a suitable cardiac sector probe based on the age and weight of the patient when the patient was laid in the left lateral decubitus position. Offline analysis was carried out using the workstation Echopac PC'08 version

7.0.0 GE Vingmed Ultrasound (GE Healthcare, California, United States), and the measurements were consistently obtained by the same physician. The patients were examined using conventional ECHO methods according to the pediatric ECHO guidelines of the American Society of Echocardiography (Lai et al., 2006). Patients who were being followed up for congenital heart disease diagnosed before the start of the study were excluded.

2.2. Statistical Analyses

The SPSS (IBM, Armonk, New York, United States, version 22) for Windows software was used for statistical analysis. The variables are presented as frequency (n) — percentage (%) and mean ± standard deviation values. The normal distribution of the variables was tested using the Kolmogorov-Smirnov test. The normally distributed parameters were analyzed using one-way analysis of variance or Student's t-test, while the Kruskal-Wallis test or the Mann-Whitney U test was used for the numeric variables that did not show normal distribution. The risk factors were evaluated with univariate and multivariate logistic regression models. The variables that were found to be significant in the univariate analyses were included in the logistic regression analysis. A P value smaller than 0.05 was considered statistically significant.

3. Results

The study included a total of 137 patients, including 39 (28.5%) female and 98 (71.5%) male patients. The mean age of the patients was 10.51 ± 4.19 (3.21–17.9) years. There was no statistically significant difference between the PC and control groups in terms of sex and age (respectively, P=0.265 and P=0.506) (Tables 1 and 2). Male patients accounted for 80% of the PC group and 68% of the control group. While 24 of the PC patients (60%) did not report a complaint at the time of presenting to the hospital, 10 (25%) reported chest pain, and 6 (15%) reported palpitations. Among the PC patients, 37 (92.5%) had chondrogladiolar-type prominence, 2 (5%) had mixed-type prominence, and 1 (2.5%) had chondromanubrial-type prominence.

In the comparison of the cardiac findings of the PC patients and the healthy control group, we determined significantly higher rates of cardiac pathologies in the PC group (P<0.001). The PC group had significantly higher rates of cardiac malposition, mitral valve prolapse (MVP), mitral insufficiency, tricuspid valve prolapse (TVP), congenital heart disease, and aortic valve pathology than the control group (respectively, P<0.001, P<0.001, P<0.001, P<0.001, P=0.041, and P=0.012) (Table 1).

Table 1. Comparison of the cardiological findings of the pectus carinatum patients and the healthy controls

		Control (97) n–%	Pectus Carinatum (40) n–%	P
Sex	Female	31–32	8–20	0.158
	Male	66–68	32–80	
Cardiac pathology		7–7.2	23–57.5	< 0.001
Cardiac malposition		0–0	5–12.5	< 0.001
MVP		5–5.2	18–45	< 0.001
Mitral regurgitation		3–3.1	13–32.5	< 0.001
TVP		0–0	9–22.5	< 0.001
CHD		1–1	3–7.5	0.041
Aortic valve pathology		2–2.1	5–12.5	0.012

MVP= mitral valve prolapse; TVP= tricuspid valve prolapse; CHD= congenital heart disease.

In the comparison of the ECHO findings, no significant difference was found between the PC and control groups in terms of their age, right ventricle end-diastole Z-score, diastolic interventricular septum diameter Z-score, end-diastolic left ventricle posterior wall thickness Z-score, ejection fraction, shortening fraction, main pulmonary artery diameter Z-score, mitral annulus Z-score, tricuspid annulus Z-score, left atrium diameter Z-score, tricuspid annular plane systolic excursion Z-score, or pulmonary blood flow velocity (respectively, P=0.151, P=0.248, P=0.098, P=0.884, P=0.120, P=0.097, P=0.628, P=0.429, P=0.807, P=0.732, P=0.118, and P=0.169). The left ventricle end-diastole internal diameter Z-score, left ventricle end-systole internal diameter Z-score, aortic sinus Z-score, and ascending aorta Z-score values of the PC group were significantly higher than those of the control group (respectively, P=0.005, P=0.001, P=0.013, and P=0.031) (Table 2).

In the results of the risk analysis that we conducted with the logistic regression analysis method for MVP and TVP development in the PC patients, we found that MVP development increased 15.05-fold, and TVP development increased 27.87-fold in the PC patients (respectively, P<0.001 and P<0.001) (Table 3).

Table 2. Comparison of echocardiographic findings of the pectus carinatum patients and the healthy control group

	Control (97) χ ± SD	Pectus carinatum (40) χ ± SD	P
AGE	0.18 ± 4.21	11.32 ± 4.07	0.151
RVDD ZS	0.958 ± 0.385	1.055 ± 0.431	0.248
IVSd ZS	0.390 ± 0.440	0.535 ± 0.5 15	0.098
LVIDd ZS	-0.318 ± 0.535	0.039 ± 0.711	0.005
LVPWd ZS	0.314 ± 0.499	0.330 ± 0.599	0.884
LVIDS ZS	-0 .590 ± 0 .574	-0.241 ± 0 .585	0.001
EF	72.50 ± 3 .73	71.55 ± 3 .24	0.120
FS	41.41 ± 3.27	40.42 ± 2.80	0.097
Ao rt ZS	-0 .588 ± 0.734	0.033 ± 1.352	0.013
MPA ZS	-0 .142 ± 0.583	-0.207 ± 0 .715	0.528
Mannulus ZS	-0 .475 ± 0 .454	-0.374 ± 0.745	0.429
Tannulus ZS	-0 .489 ± 0.484	-0.455 ± 0. 544	0.807
LA ZS	0.554 ± 0.584	0.704 ± 0.509	0.732
TAPSE ZS	-0.298 ± 0.821	-0.537 ± 0.750	0.118
Ascending Aorta ZS	-0 .395 ± 0 .814	0.023 ± 1.119	0.031
Pulmonary flow	1.050 ± 0.055	1.032 ± 0.071	0.159

RVDD ZS= end-diastole right ventricle diameter Z-Score; IVSd ZS= diastolic interventricular septum diameter Z-Score; LVIDd ZS= end-diastole left ventricle diameter Z-Score; LVPWd ZS= left ventricular posterior wall thickness Z score; LVIDS ZS= end-systole left ventricle diameter Z-Score; EF= ejection fraction; KF= shortening fraction; Aort ZS= aortic sinus Z-Score; MPA ZS= main pulmonary artery diameter Z-Score; LA ZS= left atrium diameter Z-Score; TAPSE ZS= tricuspid annular plane systolic excursion Z-Score.

Table 3. Risk analysis for mitral and tricuspid valve prolapse in the pectus carinatum patients

	OR	95% CI	P
MVP	15.05	5.039–44. 981	< 0.001
TVP	27.87	3.395–228 .805	< 0.001

MVP= mitral valve prolapse; TVP= tricuspid valve prolapse, OR= odds ratio CI= confidence interval.

4. Discussion

PC, which has one-fifth of the prevalence of pectus excavatum, is the second most prevalent chest wall deformity (Yuksel et al., 2018). The prevalence of PC among all thoracic deformities was reported as approximately 16%. It is seen 4 times more frequently in male patients (Martinez et al., 2019). In this study, similar to the cited previous study, 80% of the pediatric PC patients consisted of males.

Although there is no clear information about its etiology, it is known that the excessive growth of the ribs is responsible for the pathogenetic mechanism of PC (Haje et al., 1999). Furthermore, the chondrogladiolar form of PC is also accompanied by the dislocation of the anterior of the sternal corpus and usually that of the lower costal cartilages. In the mixed type, both pectus excavatum and PC are seen together. The characteristic feature of the chondromanubrial type is that the protrusion of the manubrium second and third costal cartilage and the sternal corpus are relatively compressed (Fonkalsrud and Beanes, 2000).

The chondrogladiolar type is the most frequently encountered form of PC. In this study, the result was compatible with the results of previous studies, and 92.5% (n = 37) of the patients with PC were found to have the chondrogladiolar type.

In contrast to pectus excavatum, it is very rare for PC to emerge right after birth. It is generally seen in later periods of life, in preadolescence or during puberty, but it may sometimes be seen in infants and children. The incidence of PC has a tendency to increase in the period where growth occurs fast (Colombani, 2009).

Most patients do not have clinical symptoms or discomfort. However, aesthetic concerns are among main complaints. Additionally, some patients have respiratory symptoms, palpitations, and skeletal complaints (Hebra et al., 2000). In our study, most patients (60%, 24 patients) consisted of those who were asymptomatic, while among the ones who had symptoms, the most frequently reported symptoms were chest pain in 10 patients (25%) and palpitations in 6 patients (15%).

PC can be seen bilaterally or unilaterally, and the sternum is usually displaced towards the side of the deformity. PC may be an isolated deformity or may be accompanied by cardiovascular diseases (Wang et al., 2022). To examine the structure and function of the heart, pediatric cardiologists routinely utilize ECHO (Sigalet et al., 2003). Congenital heart diseases or other malformations can be encountered in addition to these deformities. Echocardiographic anomalies are frequent,

and these anomalies develop due to the abnormal formation of the chest wall and the displacement of the heart towards the left chest wall. Studies have shown that the incidence of congenital heart disease is 20% in children with PC, and an atrial septal defect is the most frequently encountered (18%) cardiac anomaly in these patients (Frick, 2000; Ercapan and Sisli, 2020). In our study, congenital heart diseases were found in three patients (bicuspid aortic valve in two patients and secundum atrial septal defect in one). The rate of cardiac pathologies that was 7.2% in the healthy control group was 57.5% in the PC group. In terms of the rates of aortic valve pathologies, in comparison to the healthy control group (2.1%), the rate in the PC group was approximately seven times as high (12.5%). There was also malposition in the standard ECHO examination of five patients (12.5%).

In agreement with the literature, in the PC group, the cardiac pathology, malposition, aortic valve pathology, and congenital heart disease rates were higher than those in the control group. Accordingly, we believe that it is highly important to examine PC patients in a multidisciplinary manner at thoracic surgery and pediatric cardiology outpatient clinics during their diagnoses and follow-ups so that congenital heart diseases can be detected, and their treatment can be started in the early period.

The prevalence of mitral valve prolapse in PC patients can be higher than that in the general population (Huang et al., 2023). According to the results of the risk analysis in our study that was conducted with the logistic regression analysis method, in comparison to the control group, the risk of MVP development increased 15.05-fold, and the risk of TVP development increased 27.87-fold in the PC group.

As our hospital is a tertiary referral hospital, there might have been a higher rate of patients with severe chest deformities included in the sample rather than mild PC deformities. Moreover, the fact that our study was conducted in a relatively short period of 12 months did not allow us to investigate the effects of chest deformities in long-term follow-ups. In addition to these issues, a limitation of this study was that the genotypic characteristics of the PC patients were not studied. Despite all these factors, this article is valuable in that it is one of the rare studies conducted for the cardiac assessment of pediatric PC patients in the literature.

5. Conclusion

Consistently with previous literature findings, our study revealed higher rates of cardiac pathologies in the pediatric PC patients compared to the healthy control group. Hence, we suggest, it is important to refer pediatric PC patients presenting to outpatient clinics to pediatric cardiology outpatient clinics for the early diagnosis of potential cardiac pathologies in this patient group.

Author Contributions

The percentage of the author(s) contributions is presented below. All authors reviewed and approved the final version of the manuscript.

	A.A.	U.U.G.	Ş.G.
C	40	30	30
D	40	30	30
S	40	30	30
DCP	40	30	30
DAI	40	30	30
L	40	30	30
W	40	30	30
CR	40	30	30
SR	40	30	30
PM	40	30	30
FA	40	30	30

C=Concept, D= design, S= supervision, DCP= data collection and/or processing, DAI= data analysis and/or interpretation, L= literature search, W= writing, CR= critical review, SR= submission and revision, PM= project management, FA= funding acquisition.

Conflict of Interest

The authors declared that there is no conflict of interest.

Ethical Approval/Informed Consent

The study is approved by Kahramanmaras Sutcu Imam University Clinical Research Local Ethics Committee (approval date: January 25, 2021, protocol code: 03). The research was conducted in accordance with the Principles of the Declaration of Helsinki.

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AN EXAMINATION OF THE ATTITUDES AND BEHAVIORS OF TURKISH DOCTORS AND MEDICAL STUDENTS TOWARDS EMIGRATION

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Abstract: The aim of this study was to investigate the attitudes and behaviours of doctors and medical students towards brain drain. This study was executed in Afyonkarahisar Health Sciences University (AFSU) between 14.11.2022 - 31.12.2022. It was conducted among 1st-6th grade students of the faculty of medicine and doctors of AFSU faculty of medicine. The sample of the study consisted of 691 students and 110 doctors. Data analysis was done in the SPSS 26.0 statistical package program. Descriptive statistics and Chi-square analysis were used. There were 784 (97.9%) Turkish citizens and 17 (2.1%) foreign nationals in the study. It is seen that 491 (61.3%) of the participants were female and 691 (86.3%) were students. When the opinions of the participants about working abroad were analyzed, 429 (53.6%) stated that they wanted to work abroad, 123 (15.4%) stated that they did not want to work abroad, and 249 (31.1%) stated that they were undecided. In response to the question "Would you consider returning if you want to practice medicine abroad?" 180 (42%) said yes, 114 (26.6%) said no, and 135 (31.5%) were undecided. Do you think language exams are an obstacle for you to go abroad? To the question "Do you think language exams prevent you from going abroad?", 315(39%) of the participants answered yes, 388 (49%) said no, while 98 (12%) stated that they were undecided. Higher income, better behavior (respect, love, understanding ...), insecurity are among the reasons why doctors want to go abroad. Other reasons include working conditions, technologically equipped health systems abroad, traveling opportunities, and career and further education opportunities. It has been observed that the rate of those who want to practice medicine abroad and those who want to return when they go abroad is high. It was determined that the foreign language problem is an important obstacle to brain drain. It has been understood that if the working fees in Türkiye increase, both students and doctors may give up going abroad.

Key words: Brain drain, Doctor, Student, Health, Migration, Human resources

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1. Introduction

Migration is a sociologically complex concept that affects both the migrant and the migrated places/cities/villages from the moment it emerges. Migration can occur for many reasons. Brain drain constitutes a large part of migration. The migration of people who have received higher education or who have advanced in their profession, who have more creative and research power, to economically developed countries to work or settle is called brain drain (Atılgan, 1986). While the development of underdeveloped/developing countries, which lose their qualified manpower with limited resources for a long time due to brain drain, slows down further, developed countries accelerate their development with the qualified manpower they have and increase their advantages in global competition (Babataş, 2007). The concept of brain drain was first used in history for individuals migrating from Europe to America (Bakırtaş and Kandemir, 2010). It is seen that brain drain policies in developed countries are particularly employment-oriented.

The main points that draw attention are sector-based, employer-oriented and capital-oriented (Başaran, 1972). Brain drain has an effect that decreases the capital of the emigrating countries and increases the emigrating country socially and economically (Elbek et al., 2012). It has been observed in studies that the reason for migration in international movements is mostly in the form of brain drain and the highest working group consists of healthcare professionals (Emine et al., 2018;

Gökbayrak, 2008). Health services have a very complex structure. In order for a health system to achieve its main purpose, that is, to produce health, it must have sufficient number and quality of health manpower capacity. The development of this capacity is possible by employing the appropriate health workers at the right time and in the right place. Creating this whole in the most efficient and effective way and ensuring the continuity of the system is possible with the health policies to be determined by the countries. Migration is defined as the movement of individuals or groups within the social structure from one place to another for economic, cultural and social reasons. Migration, which is the cause of many problems for Türkiye , has an undeniable impact on the health sector and is considered as an important social phenomenon affecting the health of individuals (Güngör, 2004; Kolb, 2010; Gümüş, 2015; Korku, 2022).

The key point of the health sector can be considered important in terms of the health capability of doctors (treating, protecting and improving the health of patients); it is essential to have sufficient number and quality of facilities and motivation. If these possibilities are not fulfilled, migration is inevitable. Although it is an important issue, the importance of migration for a country or a nation depends on the quality of the labour force. While the departure of unskilled and non-essential labour force from the country sometimes provides relief to governments in terms of employment, it is not desirable for highly skilled labour force to leave the country (Kurtuluş, 1988). Migration of health workers means that highly skilled labour force leaves the country by closing the education gap. It requires a huge investment (Özkan and Hamzaoğlu, 2008). Adequate and qualified labour force is one of the cornerstones of the health system. Among the main reasons for the migration of doctors; higher income, better treatment, insecure working conditions, better career, further education opportunities, travel opportunities (Kolb, 2010; Özveri et al., 2018; Korku, 2022). In recent years, the severe working conditions brought about by the COVID-19 pandemic have caused doctors' salaries and payments to become increasingly inadequate (Panescu, 2004).

This situation is also closely followed by medical students. In a study, it was shown that exposure to news about unhealthy behaviours towards doctors in the media decreased the motivation of students and negatively affected their perspectives on the profession and patients (Tansel and Güngör, 2004). There are many studies on brain drain in the literature. Some of them are Bakırtaş and Kandemir (2010), Başaran (Başaran, 1972), Yılmaz (2019), Tansel and Güngör (2004), Kurtuluş (1988). In this article, the attitudes and behaviours of students graduating from medical faculties and working doctors towards brain drain are investigated. The study is analysed in detail with all sub-dimensions. At the same time, the reasons underlying the idea of working abroad are investigated by asking questions with positive and negative statements to both those who accept the idea of working abroad and those who do not.

2. Materials and Methods

This study was carried out between 14.11.2022 - 31.12.2022 between 14.11.2022 and 31.12.2022 among medical school students (1st-6th grade) and doctors of AFSU Faculty of Medicine. The questionnaire form developed by the researchers as a result of the literature review was used as a data collection tool. Informed consent is obtained at the beginning of the survey. SPSS 26.0 statistical package programme was used to analyze the data. Descriptive statistics were obtained and Chi-square analysis was performed. Statistically significant $P<0.05$ value is accepted in all tests. The sample size of the questionnaire was calculated using G. Power 3.1.9.4 programme. Considering $\alpha=0.05$, Power=0.95 and effect size 0.5 in the calculations, 691 students and 110 doctors were completed.

3. Results

When the demographic characteristics of the participants are examined, there are 784 (97.9%) citizens of the Republic of Türkiye and 17 (2.1%) foreign nationals. Data showed that 491 (61.3%) of the participants are women and 691 (86.3%) are students. The high number of students paved the way for the answers of marital status single (91.9%), married (7.2%) and number of children 0 (92.9%). When the titles of doctors are examined, the majority of the participants are 70 (63.6%) research assistants and 20 (18.2%) doctors. Considering the working period, it is determined that there are 57 (51.8%) working period of 5 years, 18 (16.4%) working period of 6-10 years and 21 or more years . 23.6% of the students are 1st grade, 20.1% are 3rd grade, 11.2% are 4th grade. 7.2% of the participants are married and 3% have 2 children (Figure 1).

When our participants' opinions about considering working abroad were examined, 429 (54%) stated that they wanted to work, 123 (15%) did not want to work, and 249 (31%) were undecided. When asked whether they would consider returning if they wanted to practice medicine abroad, 180 (42%) said yes, 114 (27%) said no, and 135 (31%) were undecided. To the question "Do you think language exams prevent you from going abroad?", 315(39%) of the participants answered yes, 388 (49%) said no, while 98 (12%) stated that they were undecided. To the question of whether the socio-economic characteristics of the place where you work/will work affects your decision to go abroad, 628 (79%) of the participants answered yes, 99 (12%) answered no, and 74 (9%) answered (Figure 2).

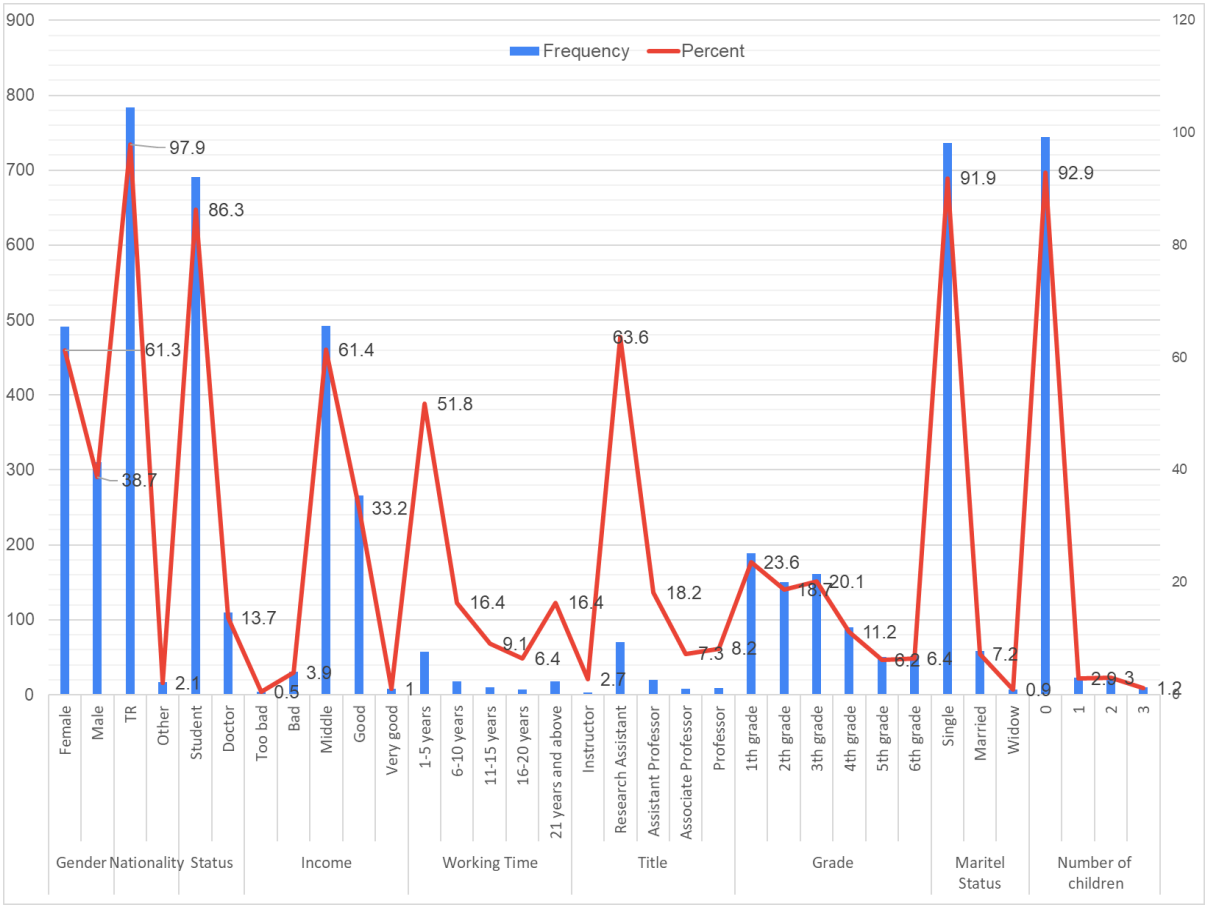

Figure 1. Demographic characteristics of the participants.

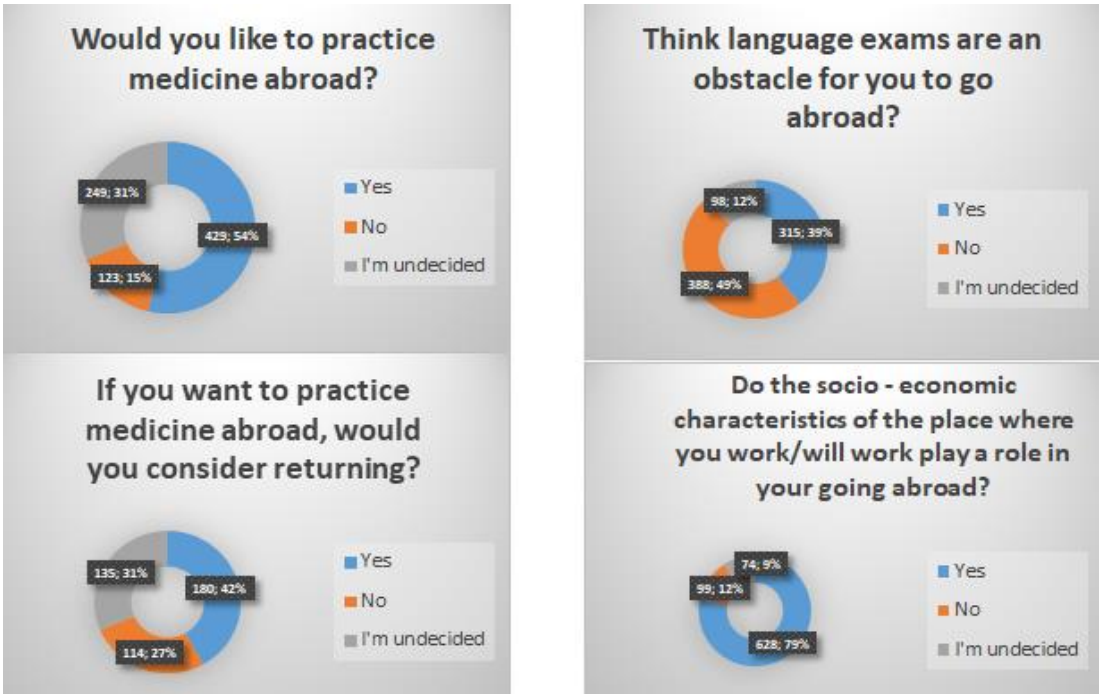

Figure 2. Some thoughts of the participants about the idea of abroad.

"Do you want to practice medicine abroad?" When the participants who answered yes to the question were examined, the variables with the highest average were as follows. I would like to go for career and further education opportunities (4.3683±0.9665), I would like to go to be treated better (Respect, love, understanding,..) (4.4336±0.9340), My working wage in Türkiye It does not change my mind about working abroad (3.0326±1.1102), I want to go because I think the vocational training period is not enough for me to

become a professional (3.0839 ±1.2427) (Figure 3).

For those who answered yes to the question "Would you like to practice medicine abroad?" When the descriptive statistics including negative statements are examined, it is seen that the variables with the highest mean ; As a doctor, I do not want to go because I want to serve my country (2.9767±1.1436), I do not want to go because I do not want to be away from my family (2.8718±1.1957), I don't want to go because I don't want to disturb my established order (2.4965± 1.1553) It can be seen that expressions such as (Figure 4).

"Do you want to practice medicine abroad" in Figure 5; When the descriptive statistics including negative statements are examined, it is seen that the averages are generally high and their answers are consistent with not wanting to go abroad. The variable with the highest mean is I do not want to go because I want to serve my country as a doctor (4.2033 ± 1.0555) (Figure 5).

Would you like to practice medicine abroad? When the answers given to the question are examined according to demographic variables, we see differences according to all variables. Gender, status as a medical student or doctor, nationality, title, class, marital status, number of children, and income status vary (P<0.05) (Table 1).

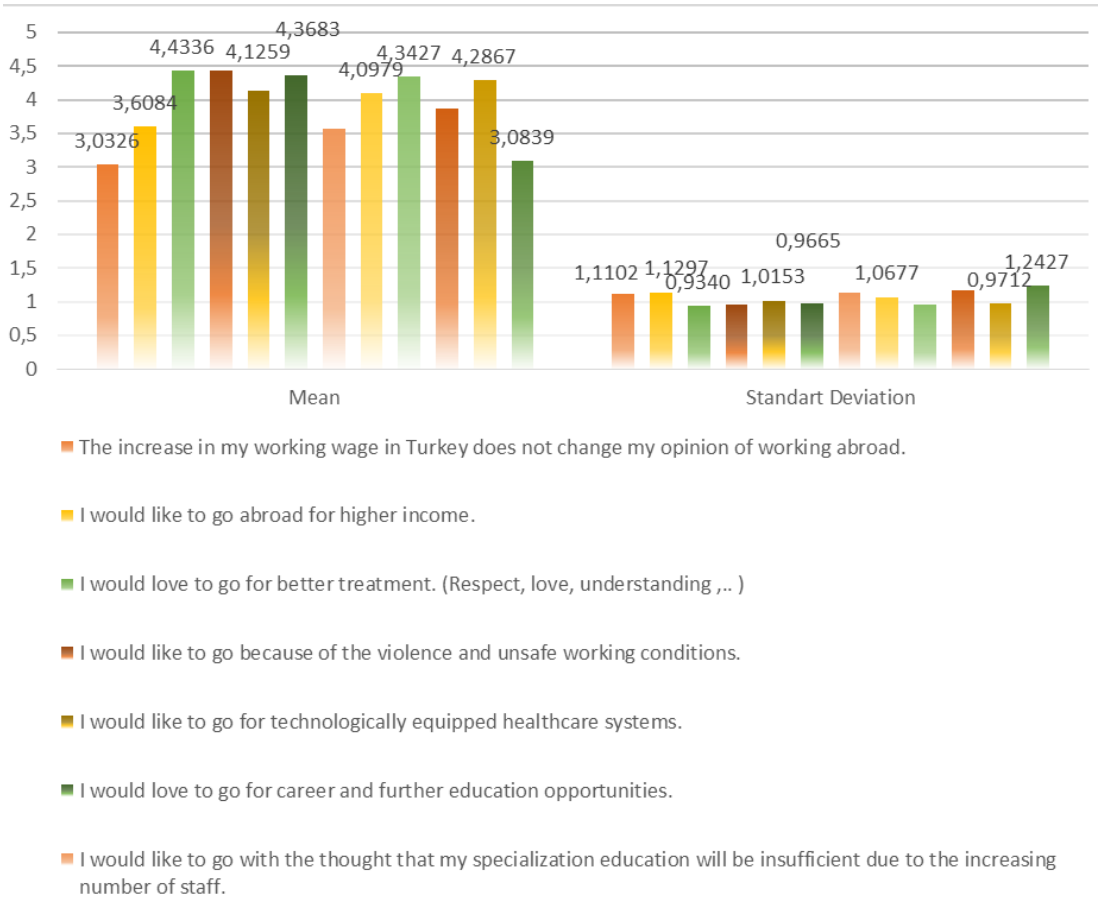

Figure 3. Descriptive statistics for those who answered yes to the question "Would you like to practise medicine abroad?

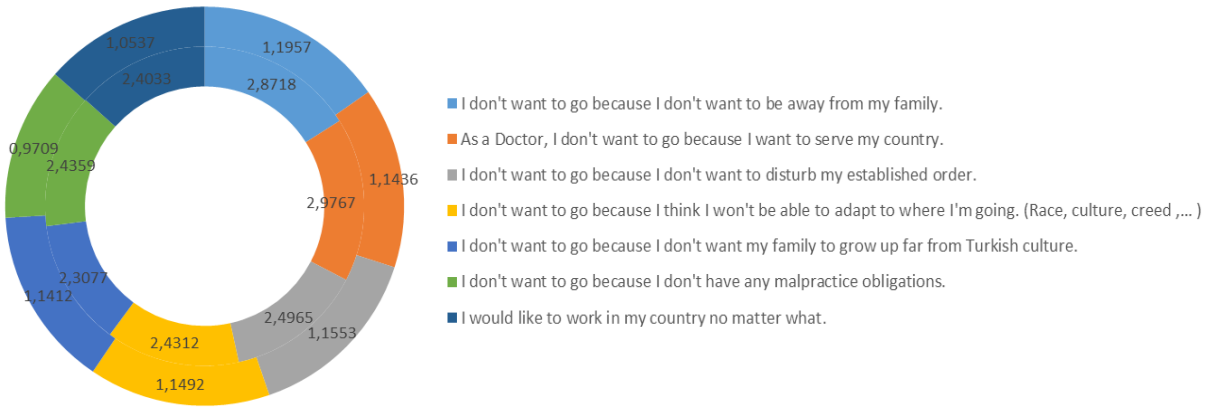

Figure 4. Descriptive statistics including negative statements of those who answered yes to the question "Would you like to practice medicine abroad?

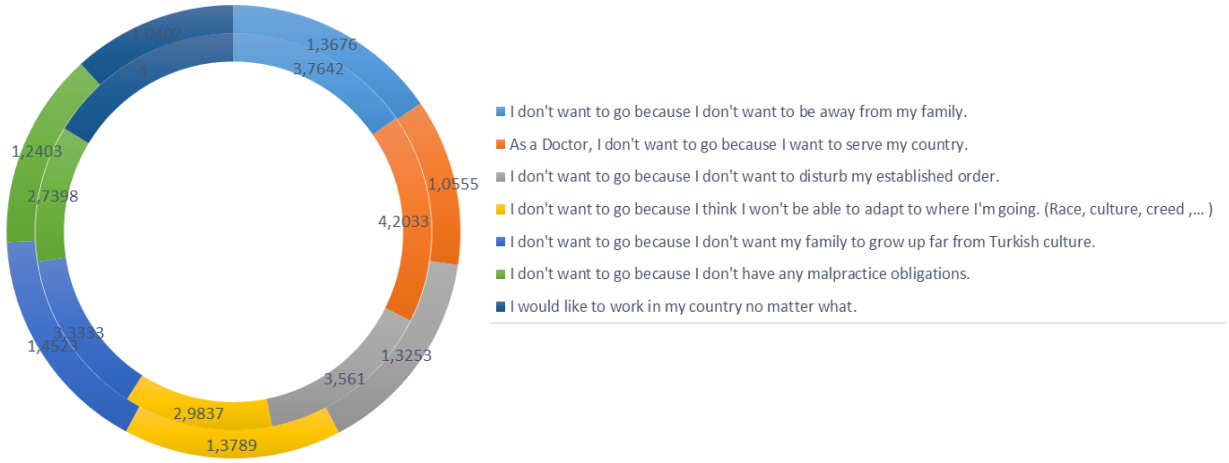

Figure 5. Would you like to practice medicine abroad? Descriptive statistics including negative statements for those who said no to the question.

Table 1: Would you like to practice medicine abroad? comparison of expression with demographic variables

Variables	Yes n(%)	No n (%)	Undecided n(%)	P value
Female	251 (51.1)	69 (14.1)	171 (34.8)	
Male	178 (57.4)	54 (17.4)	78 (25.2)	0.014*
Student	385 (55.7)	85 (12.3)	221 (32.0)	
Doctor	44 (40)	38 (34.5)	28)25.5)	<0.000*
TR	416 (53.1)	122 (15.6)	246 (31.4)	
Other	13 (76.5)	1 (5.9)	3 (17.6)	0.016*
Instructor	2 (66.7)	0 (0.0)	1 (33.3)	
Research Asst .	32 (45.7)	19 (27.1)	19 (27.1)	
Assist.Prof	7 (35)	7 (35)	6 (30)	0.035*
Assoc.Prof	2 (25)	4 (50)	2 (25)	
Prof.	1 (11.1)	88.9	0 (0)	
1th grade	106 (56.1)	19 (10.1)	64 (33.9)	
2th grade	91 (60.7)	12 (8)	47 (31.3)	
3th grade	99 (61.5)	19 (11.8)	43 (26.7)	0.027*
4th grade	45 (50.6)	19 (21.3)	25 (28.1)	
5th grade	22 (44)	8 (16)	20 (40)	
6th grade	21 (41.2)	8 (15.7)	22 (43.1)	
Single	406 (55.2)	95 (12.9)	235 (31.9)	
Married	19 (32.8)	27 (46.6)	12 (20.7)	<0.000*
Widow	4 (57.1)	1 (14.3)	2 (28.6)	
0	406 (54.6)	100 (13.4)	238 (32)	
1	10 (43.5)	10 (43.5)	3 (13)	<0.000*
2	8 (33.3)	11 (45.8)	5 (20.8)	
3	5 (50)	2 (20)	3 (30)	
Too bad	3 (75)	0 (0)	1 (25)	
Bad	16 (51.6)	2 (6.5)	13 (41.9)	0.033*
Middle	259 (52.6)	65 (13.2)	168 (34.1)	
Good	145 (54.5)	55 (20.7)	66 (24.8)	
Very good	6 (75)	1 (12.5)	1 (12.5)	

*P<0.05 statistical significant

If you want to practice medicine abroad, would you consider returning? The answers to the question were examined according to demographic variables; It was determined that there was a difference according to the status of being a medical student or doctor and nationality variables (P<0.05). Doctors' gender and title variables do not differ (P>0.05) It was determined that the student's class status and the income of the participants or their family differed according to the variables (P<0.05). Marital status and number of children variables do not show any difference (P>0.05) (Table 2). The socio-economic characteristics of the place where

you work/will work play a role in your going abroad? When the answers given to the question are examined; It has been determined that it varies according to the variables of being a medical student or a Doctor and income status (P<0.05). Gender and nationality variables did not show any difference in the answers given to this question (P>0.05) (Table 3).

Table 2: If you want to practice medicine abroad, would you consider returning? comparison of expression with demographic variables

Variables	Yes n(%)	No n (%)	Undecided n(%)	P value
Female	99(39.4)	64(25.5)	88(35.1)	0.161
Male	81(45.5)	50(28.1)	47(26.4)	
TR	179(43.0)	110(26.4)	127(30.5)	0.021*
Other	1(7.7)	4(30.8)	8(61.5)	
Student	171(44.4)	93(24.2)	121(31.4)	0.001*
Doctor	9(20.5)	21(47.7)	14(31.8)	
Instructor	1(50.0)	0(0.0)	1(50.0)	
Research Asst .	6(14.6)	16(39.0)	19(46.3)	
Assist.Prof	1(10.0)	6(60.0)	3(30.0)	0.417
Assoc.Prof	1(50.0)	1(50.0)	0(0.0)	
Prof.	1(50.0)	1(50.0)	0(0.0)	
1th grade	50(47.2)	28(26.4)	28(26.4)	
2th grade	48(52.7)	8(8.8)	35(38.5)	
3th grade	46(46.5)	24(24.2)	29(29.3)	0.001*
4th grade	15(33.3)	13(28.9)	17(37.8)	
5th grade	9(40.9)	7(31.8)	6(27.3)	
6th grade	3(14.3)	12(57.1)	6(28.6)	
Single	2(7.4)	13(48.1)	12(44.4)	
Married	6(23.1)	9(34.6)	11(42.3)	0.145
Widow	2(50.0)	2(50.0)	0(0.0)	
0	4(11.8)	15(44.1)	15(44.1)	
1	3(25.0)	4(33.3)	5(41.7)	0.579
2	2(22.2)	5(55.6)	2(22.2)	
3	1(50.0)	0(0.0)	1(50.0)	
Too bad	0(0.0)	1(33.3)	2(66.7)	
Bad	6(37.5)	9(56.3)	1(6.3)	
Middle	112(43.2)	72(27.8)	75(29.0)	0.044*
Good	60(41.4)	31(21.4)	54(37.2)	
Very good	2(33.3)	1(16.7)	3(50.0)	

*P<0.05 statistical significant.

Table 3: Do the socio-economic characteristics of the place where you work/will work play a role in your going abroad? comparison of expression with demographic variables

Variables	Yes n (%)	No n (%)	Undecided n (%)	P value
Female	394(80.2)	50(10.2)	47(9.6)	0.062
Male	234(75.5)	49(15.8)	27(8.7)	
TR	616(78.6)	94(12.0)	74(9.4)	0.054
Other	12(70.6)	5(29.4)	0(0.0)	
Student	561(81.2)	66(9.6)	64(9.3)	<0.001*
Doctor	67(60.9)	33(30.0)	10(9.1)	
Too bad	3(75.0)	1(25.0)	0(0.0)	
Bad	25(80.6)	4(12.9)	2(6.5)	
Middle	400(81.3)	43(8.7)	49(10.0)	0.01*
Good	196(73.7)	48(18.0)	22(8.3)	
Very good	4(50.0)	3(37.5)	1(12.5)	

*P<0.05 statistical significant.

4. Discussion

Karatuzla (2024), in his article examining the tendency of health professionals in Türkiye to migrate abroad, analyzes the general reasons for this migration and the reasons behind it. Gençbaş et al. (2024) reported that the majority of nursing students seek better study and work opportunities abroad, and the main factors influencing students' decisions include economic reasons, career development opportunities and academic motivation. Yiğit et al. (2024) found that nursing students have a high tendency to go abroad, but academic motivation and self-efficacy levels affect this tendency. It was stated that students with high academic motivation and self-efficacy beliefs had a more positive view of pursuing a career in the country. Similar findings were observed in our study.

The high number of participants caused the status of being single and childless to come to the forefront. When the income status was analyzed, it was determined that the middle-good class was predominant among the participants and there was no financial deficit, but it is thought that this cannot be used as a definitive parameter as it shows the situation of the students' families. The study revealed that a small number of participants wanted to stay in the country, while the majority wanted to work abroad. However, it was determined that almost half of those who wanted to go abroad responded positively about returning to the country, although they were undecided about returning home. Although almost half of the participants did not see the language barrier as an insurmountable obstacle, they revealed that they were confident in this regard. Nevertheless, it was determined that the number of those who considered this as an obstacle was high. Based on the correlation in the yes rate to the question "Would you consider practicing medicine abroad?", we can conclude that this issue causes indecision but does not prevent going abroad.

Almost all of the participants attach importance to the socio-economic characteristics of the place where they will work, and this was found to be one of the most influential criteria in choosing the place of work. Doctors who want to work abroad are hesitant to go abroad if the wages in Türkiye increase. One of the reasons why doctors want to go abroad is higher income. In addition, the idea of being treated better (respect, love, understanding, etc.) also makes practicing abroad attractive. Insecure working conditions are also among the reasons for wanting to go. Another reason is the technologically equipped health systems abroad. Career and further education opportunities are among the reasons for doctors who want to go abroad. Doctors who think that specialty training will be insufficient with the increasing number of personnel want to go abroad with this in mind. A large proportion of those who want to go abroad also want to go abroad for travel opportunities. Those who want to go abroad think that they can offer their families a quality life abroad. Doctors are hesitant to go abroad because they think that the duration of their professional education is not enough to become a professional.

For doctors who want to go abroad, the thought of serving their country is not a deterrent to going abroad. At the same time, it is stated that disrupting their order here is not a reason for doctors not to go abroad. Doctors think that they can adapt to the places they will go in terms of race, culture and belief and that they can establish order abroad or keep up with the order there. They stated that an increase in salaries would change their minds, but they do not want to go abroad for higher income. The reasons for not wanting to go abroad have nothing to do with career training opportunities, increasing staff numbers, travel opportunities, providing a better future for the family, political and economic instability. Those who disagree with the question "Would you like to practice medicine abroad?" state that they do not want to go because they do not want to be away from their families and they want to serve their country as doctors. At the same time, it is clear from the survey results that they do not want to disrupt their established order.

However, they do not think that they will not be able to adapt if they go. While students mostly want to practice abroad, the proportion of doctors who want to practice abroad is very close to the proportion of those who do not want to practice abroad. One of the reasons for this is that doctors have an established routine and most of them are married and have children. Among non-Turkish citizens, 76.5% would like to practice medicine abroad. Those who are foreign nationals may have thought that they would not have difficulties in this regard since they have studied/worked outside their home country. 67% of doctors with more than 21 years of experience do not want to work abroad. At the same time, 89% of professors did not want to work abroad. It can be thought that they do not want to work as a doctor abroad because they have served the country for many years and their retirement rights have come. The proportion of students who wanted to work as a doctor abroad was mostly in the 1st, 2nd and 3rd grades. The reason for this may be the increasing news on violence against doctors and the gradual decrease in the prestige of doctors in the society. The rate of practicing medicine abroad is higher for single and childless respondents than for married and childless respondents. It has been found that having an established order, being married and having children affect doctors' unwillingness to work abroad. In terms of men and women, 35.1% of women are undecided about returning to the country. While 43% of Turkish citizens wanted to return, 61.5% of non-Turkish citizens were undecided. It can be said that the reason for this is the love for the country and the desire of Turkish citizens to serve their country. In this case, it can be said that married and separated people are more likely to consider returning than single and married people. Those with 3 children are the most likely group to consider returning, while those without children are the least likely group. In

addition, it can be said from the data that those with very poor financial situation do not want to return if they work as a doctor abroad.

5. Conclusion

Immigration, which has been seen as a problem throughout history, is a phenomenon that significantly affects people, cities, countries and everything it touches in all societies. In this phenomenon, the concept of brain drain has emerged with the development of science and technology. Brain drain generally occurs from developing countries to developed countries. Among the reasons for migration: economic, sociological, cultural, political and many other reasons. As in other countries, with the pandemic, there was a significant amount of migration in the healthcare field, especially doctors, in Türkiye . This article examines the reasons why medical students and currently working doctors want or do not want to work abroad. As a result, it was seen that the rate of those who wanted to practice medicine abroad and those who planned to return when they went was high. Participants see the language score as an obstacle for them. Higher income, better treatment (respect, love, understanding,..), insecurity is one of the reasons why doctors want to go abroad. These include working conditions, technologically equipped healthcare systems abroad, career and advanced education opportunities. As the number of personnel increases, doctors think that their specialist training will be insufficient, and with this in mind, doctors want to go abroad. Most of those who want to go abroad also want to go abroad for travel opportunities. Those who want to go abroad think that they can offer their families a quality life abroad. Moreover; When the responses to the statement "I want to serve my country no matter what" are examined, it is seen that the rate of agreement with this statement is high among those who want to go abroad. This may be the idea that doctors and doctor candidates do not want to leave their country even if they want to go abroad. In conclusion; Today, increasing welfare is one of the most important factors that will stop the migration of educated people. Economic, social, cultural etc. If more precautions are taken in these areas, talented people will not want to go abroad and will be encouraged to return.

In light of the findings of this study, it is recommended that health workforce planning should be strengthened, working conditions and salaries should be improved, career development and family support should be provided to reduce the tendency of doctors in Türkiye to migrate abroad. It is also emphasized that communication and cooperation between health institutions, universities and sector stakeholders should be increased. These measures aim to increase doctors' motivation to stay in the country.

Recommendations

"In light of the findings of this study conducted on the tendency of doctors in the healthcare sector in Türkiye to migrate abroad, the following recommendations are presented to authorities and relevant stakeholders:

- Strengthen Healthcare Workforce Planning,
- Healthcare workforce planning should be based on current data to determine doctor needs and specialization areas,
- Long-term plans should be made considering doctors' educational processes, post-graduation employment expectations, and specialization training,
- Improve Working Conditions and Employment Terms,
- Improving working conditions and salaries for doctors can help reduce the inclination to migrate abroad,
- Providing job security and career opportunities can encourage doctors to stay in the country,
- Support Career Development: Offering opportunities for doctors to enhance their careers locally can be an effective retention strategy. Advanced training, specialization opportunities, and research prospects should be provided,
- Family and Social Support: Establishing social support programs for doctors' families can contribute to their motivation to stay. Offering the possibility of a better life abroad for doctors and their families can increase their desire to remain in the country,
- Nationwide Communication and Collaboration: Strengthening communication and collaboration among healthcare institutions, universities, and healthcare sector stakeholders is essential,
- Ensuring the participation of all parties is crucial for solving issues effectively. Broader Social and Economic Improvements,
- Economic, social, and cultural improvements can boost doctors' desire to stay in the country,
- Enhancing public trust in healthcare services can influence doctors' motivation to remain local.

These recommendations reflect measures that can be taken to reduce the tendency of doctors in the healthcare sector to migrate abroad and enhance their motivation to stay in the country. They can serve as a guide for policymakers, healthcare administrators, and other relevant stakeholders.

Author Contributions

The percentage of the author(s) contributions is presented below. All authors reviewed and approved the final version of the manuscript.

	G.G.	M.E.	Y.Ç.	İ.H.Ö.	D.K.	E.K.	D.K.
C	40	10	10	10	10	10	10
D	100						
S		50	50				
DCP			25	25		25	25
DAI	10	10	10	10	40	10	10
L	40	10	10	10	10	10	10
W	40	10	10	10	10	10	10
CR	40	10	10	10	10	10	10
SR	40	10	10	10	10	10	10
PM	40	10	10	10	10	10	10
FA	40	10	10	10	10	10	10

C= concept, D= design, S= supervision, DCP= data collection and/or processing, DAI= data analysis and/or interpretation, L= literature search, W= writing, CR= critical review, SR= submission and revision, PM= project management, FA= funding acquisition.

Conflict of Interest

The authors declared that there is no conflict of interest.

Ethical Approval/Informed Consent

Ethics committee approval was obtained for this study with the decision of Afyonkarahisar Health Sciences University Medical Ethics Committee (approval date: November 04, 2021, protocol code: 2022/14). The research was conducted in accordance with the Principles of the Declaration of Helsinki.

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FOREIGN BODY LODGES IN MAXILLARY SINUS VIA PREAURICULAR PENETRATION AND REMAINS FOR 2 DECADES

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Abstract: The occurrence of foreign bodies in the nasal cavity is relatively frequent, especially among young children. It is quite uncommon in adults, but it can occur in those who suffer from mental illnesses and psychosomatic problems. Several atypical foreign objects in the nasal cavity have been documented in literature. However, the presence of a foreign body entering the nasal cavity from a different entrance point rather than the nostrils and remaining lodged in the paranasal sinuses for a prolonged period is unusual. In this case, the diagnosis, treatment, and follow-up process of a shrapnel fragment that has settled in the maxillary sinus and persisted for 20 years will be discussed.

Keywords: Foreign body, Maxillary sinus, Adult, Preauricular Route.

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1. Introduction

The occurrence of foreign bodies in the nasal cavity is relatively frequent, especially among young children. Several atypical foreign objects in the nasal cavity have been documented in the literature (Botma et al., 2000; Chai et al., 2012). Plastic beads, sponges, toy parts, batteries, tiny food fragments (hazelnuts, walnuts, grain, seeds, etc.), and pieces of paper are the most frequently found foreign bodies in the nasal cavity. It is quite uncommon in adults, but it can occur in those who suffer from mental illnesses and psychosomatic problems (Figueiredo et al., 2006). A nasal foreign body might present obvious, but it can also go unnoticed and persist for weeks, months, or even years after insertion (Baranowski et al., 2022). There have been numerous reports of unusual foreign bodies in the literature. However, no case has been encountered that enters the maxillary sinus through external penetration and remains in it for a long time.

2. Case Presentation

We describe a case of a 43-year-old otherwise healthy man. He had a history of hospitalization due to a bomb explosion near him 20 years ago. He had left-sided grade 5 facial paralysis, according to Hause Brackmann Classification, after the incident. The patient was admitted to ENT outpatient clinic with complaining of left-sided foul-smelling nasal discharge and occasional nosebleeds. He did not have a fever or headache. The patient stated that he had this complaint for many years and had not received any treatment. His vital signs were in normal ranges. He had left grade 2 periferic facial paralysis according to Hause Brackmann Classification. A scar was detected in the left preauricular region (Figure 1).

Figure 1. Entrance of the foreign body.

There was purulent discharge from his left nostril, which was said that aggravated over time. The patient neglected the discharge from the nose due to the absence of a

headache or fever. Nasal endoscopy revealed a firm foreign body coated in purulent secretions. The rest of the physical examination was normal.

A computed tomography (CT) scan was performed. The appearance of a metallic foreign body extending from the maxillary sinus to the left nasal cavity was detected (Figures 2a, 2b, 2c, 2d).

Observation of metallic opacity in the nasal cavity on CT and learning that the patient was injured from the left preauricular region because of the bomb explosion 20 years ago suggested that this foreign body could be a fragment of shrapnel that has persisted since then.

The foreign body was removed under local anesthesia via a nasal endoscope and angled forceps (Figure 3, 4). Bleeding control was achieved by electrocautery. A control Waters and anteroposterior (AP) X-ray graphics were taken after the removal of the foreign body (Figure 5a, 5b). No residue was observed in control Waters and AP X-ray graphies. The patient was followed up at regular intervals. The completion of mucosal healing was seen through endoscopic control, and the patient's symptoms had disappeared by that time.

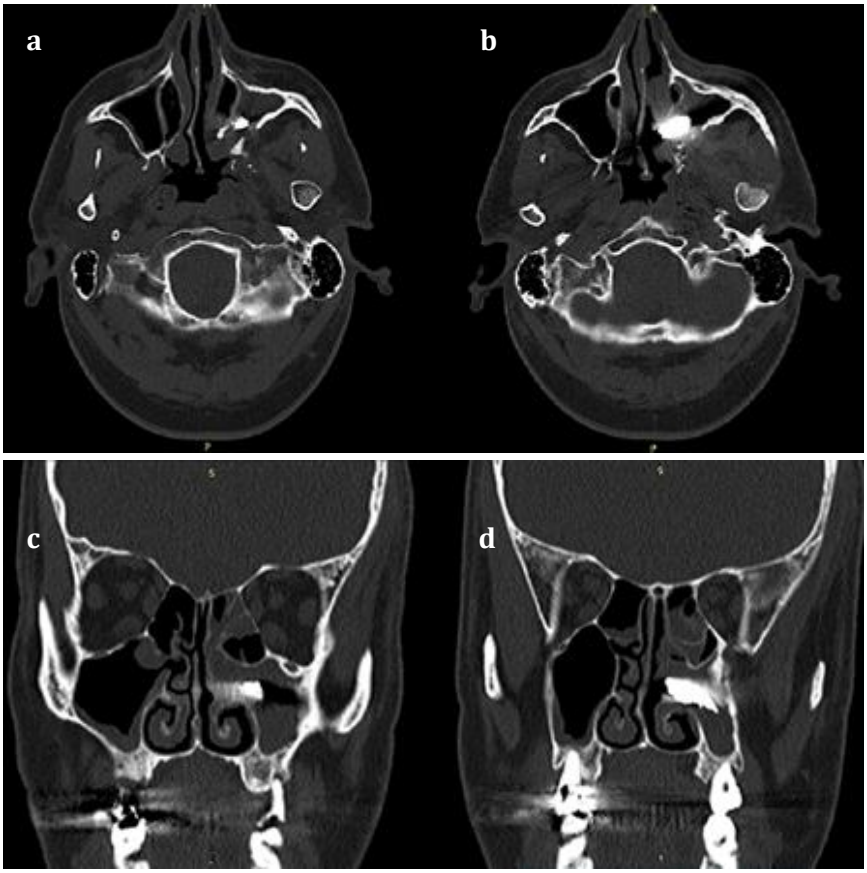

Figure 2. Paranasal sinus computer tomography, axial and coronal sections.

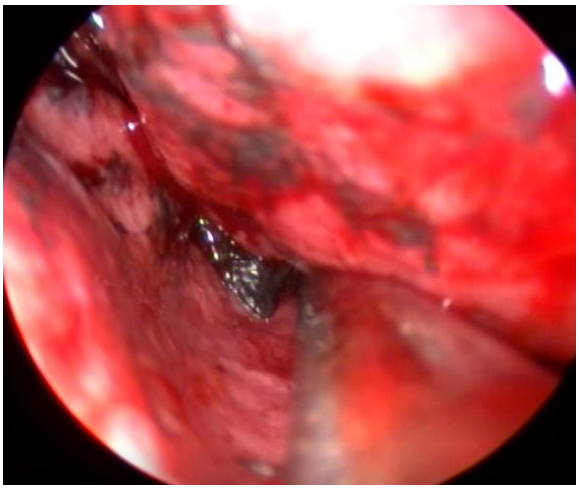

Figure 3. Endoscopic view of the left nasal cavity, the foreign body, marked with arrow.

Figure 4. Foreign body, removed.

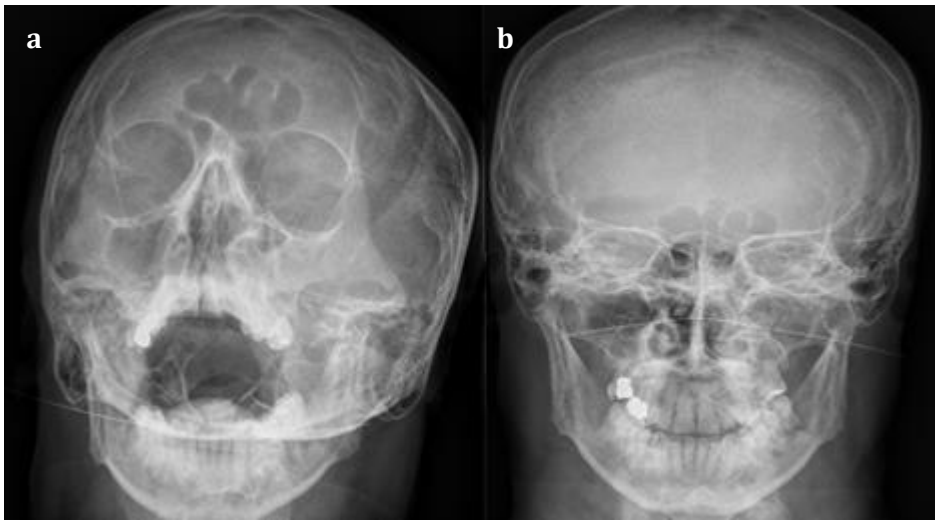

Figure 5. Waters and AP Direct graphy after removed foreign body.

3. Results and Discussion

Studies indicated that intra-nasal foreign bodies are often observed among children (Kharoubi, 2010). However, they are rare in adults and are generally caused by an injury, an accident, trauma, or associated psychiatric illnesses (Tay, 2000; Pellacchia et al., 2006). Usually, an unintentional foreign body is lodged or incarcerated in one or both nasal cavities by the anterior (vestibular) or, less frequently, the posterior (choanal) routes (Kharoubi, 2010).

If present, common symptoms include pain or discomfort, congestion, discharge, and malodor. The most common finding in individuals with a nasal foreign body is a unilateral mucopurulent nasal discharge with a malodor (Werman, 1987).

Nasal foreign bodies are mostly harmless, although they might potentially result in injury to the mucosal lining, haemorrhage, infection, and aspiration (Baranowski et al., 2022). Rare complications occur in approximately 9% of patients and include the following: nasal septal perforation, meningitis, sinusitis, acute epiglottitis, respiratory arrest, acute otitis media, periorbital cellulitis, tetanus (Baranowski et al., 2022).

Thus, the presence of a nasal foreign body may result in various serious consequences (Oh and Gaudet, 1977; Sarnaik and Venkat, 1981). The symptoms are typically evident early and can be diagnosed and intervened (Figueiredo et al., 2006). However, if a patient has a painless reaction, it may be difficult to diagnose (Tsukamoto et al., 2018). Some foreign bodies are inert and may remain in the nasal cavity for years without causing mucosal distortion (Kalan and Tariq, 2000). When dealing with unilateral symptoms, another differential diagnosis should be considered. These range from anatomical abnormalities (such as a deviated nasal septum or unilateral choanal atresia) to benign disorders (such as polyps and odontogenic sinusitis) to malignancy (van der Veen and Thorne, 2017).

Without general anesthesia, most foreign objects in the nasal cavity can be removed using forceps, curved hooks, catheters, and suction. However, the endoscopic procedure under general anaesthesia can be necessary if a foreign body is lodged in the ethmoid, maxillary sinus, or is embedded in the tissue (Wada et al., 2000; Figueiredo et al., 2006). In the presented case, the object was removed by endoscopic methods, but general anesthesia was not required.

As far as we know, it is the first case that entered the nose through external penetration and caused the development of grade 5 facial paralysis (according to the patient's history) and remained in the paranasal sinuses for an extended period.

4. Conclusion

Although intranasal foreign bodies are considered uncomplicated cases, they may become complicated if there is an entry point other than the nostrils and the patient is an adult. Clinicians should recognize the underlying cause for the chronic sinusitis. This case emphasizes the importance of history taking and broadening the differential diagnosis. Until proven otherwise, it should be assumed that a foreign body causes a single-sided nasal discharge.

Author Contributions

The percentage of the author(s) contributions is presented below. All authors reviewed and approved the final version of the manuscript.

	R.A.Ö.	M.S.U	E.O.
C	40	40	20
D	40	40	20
S			100
DCP	50	50	0
DAI	40	40	20
L	50	50	0
W	40	40	20
CR	35	35	30
SR	20	60	20
PM	35	35	30
FA	40	30	30

C= concept, D= design, S= supervision, DCP= data collection and/or processing, DAI= data analysis and/or interpretation, L= literature search, W= writing, CR= critical review, SR= submission and revision, PM= project management.

Conflict of Interest

The authors declared that there is no conflict of interest.

Ethical Approval/Informed Consent

Written informed consent was obtained from the patient for the case presentation, and necessary information was given to the patient. The research was conducted in accordance with the Principles of the Declaration of Helsinki.

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