



Work-Family Conflict Among Resident Physicians: A Comparative Analysis of Surgical and Internal Medicine Specialties

Asistan Hekimler Arasında İş-Aile Çatışması: Cerrahi ve Dahili Tıp Uzmanlıklarının Karşılaştırmalı Bir Analizi

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Abstract

Aims: To investigate whether there is a difference in work-family conflict between surgical and internal medicine residents and to determine the factors associated with work-family conflict

Material and Method: A cross-sectional, questionnaire-based survey study was conducted with 443 resident physicians working at a university hospital. A form about demographic data and a Turkish version of the Work-Family Conflict Inventory (WFCI) were used to gather data during in-person interviews.

Results: Three-hundred-forty-eight residents responded (76.8%). Weekly working time was significantly more in surgical medical sciences (SMS) residents than in internal medicine sciences (IMS) residents (62.3 ± 13.8 vs 53.2 ± 13.6 hours respectively, $p < 0.001$). The mean WFCI scores of the SMS and IMS residents were 19.5 ± 4.3 and 17.9 ± 5.1 , respectively ($p = 0.002$). Working hours and the number of shifts were associated with increased WFCI scores. Residents with incomes less than expenses had higher WFCI scores. Satisfaction, including institution, salary, and area of specialization, was negatively associated with the WFCI scores. Working as an SMS resident was found to be related to higher conflict scores than being an IMS resident. Income status, weekly working hours, and institution satisfaction were significant independent predictors of WFCI scores. Being an SMS or IMS resident did not come out to be a significant predictor of work-family conflict.

Conclusion: WFCI scores are very high in resident physicians. The findings highlight the urgent need to address this issue through a multi-faceted approach that includes reducing working hours, improving income levels, enhancing institutional satisfaction, and providing support and resources to help residents balance work and family responsibilities.

Keywords: Work-family conflict, resident physicians, surgical medical sciences, internal medicine sciences

Öz

Amaç: Cerrahi ve dahiliye asistanı doktorlar arasında iş-aile çatışması açısından farklılık olup olmadığını araştırmak ve iş-aile çatışmasıyla ilişkili faktörleri belirlemek.

Gereç ve Yöntem: Bir üniversite hastanesinde görev yapan 443 asistan hekim ile kesitsel, ankete dayalı bir çalışma yapıldı. Yüz yüze görüşmelerde veri toplamak amacıyla demografik verileri içeren bir form ve İş-Aile Çatışmaları Envanteri'nin (İAÇE) Türkçe versiyonu kullanıldı.

Bulgular: Üç yüz kırk sekiz asistan doktor yanıt verdi (%76,8). Haftalık çalışma süresi cerrahi tıp bilimleri (CTB) asistanlarında dahili tıp bilimleri (DTB) asistanlarına göre anlamlı olarak daha fazlaydı (sırasıyla $62,3 \pm 13,8$ ve $53,2 \pm 13,6$ saat, $p < 0,001$). CTB ve DTB asistanlarının ortalama İAÇE skorları sırasıyla $19,5 \pm 4,3$ ve $17,9 \pm 5,1$ idi ($p = 0,002$). Çalışma saatleri ve vardiya sayısı artmış İAÇE skorları ile ilişkili bulundu. Gelirleri giderlerinden az olan asistanların İAÇE puanları daha yüksekti. Kurum, maaş ve uzmanlık alanı da dahil olmak üzere memnuniyet, İAÇE skorlarıyla ters yönde ilişkiliydi. CTB asistanı olarak çalışmanın, DTB asistanı olmaktan daha yüksek çatışma skorları ile ilişkili olduğu bulundu. Gelir durumu, haftalık çalışma saatleri ve kurum memnuniyeti İAÇE skoru için anlamlı bağımsız belirleyicilerdi. CTB veya DTB asistanı olmanın, iş-aile çatışması için anlamlı bir belirleyici olmadığı bulundu.

Sonuç: Asistan hekimlerde İAÇE skorları oldukça yüksek olarak bulundu. Bulgular, çalışma saatlerinin azaltılması, gelir düzeylerinin iyileştirilmesi, kurumsal memnuniyetin artırılması ve asistan hekimlerin iş ve aile sorumlulukları arasında denge kurmasına yardımcı olacak destek ve kaynakların sağlanmasını içeren çok yönlü bir yaklaşımla bu konunun acilen ele alınması ihtiyacını vurgulamaktadır.

Anahtar Kelimeler: İş-aile çatışması, asistan doktor, cerrahi tıp bilimleri, dahili tıp bilimleri,



INTRODUCTION

The most challenging and stressful period in medical education is the residency period. In this period, which coincides with the period of starting a family and having children, the stress of work, long working hours and the need to meet high expectations may prevent resident doctors from fulfilling their responsibilities to their families.^[1] This incompatibility between work and family decreases both work success and makes it difficult to establish a healthy family relationship in this group, which is in the most important period of medical education, thus causing psychosocial wear and tear and burnout.

According to the Scarcity hypothesis, a person's energy is limited and when there are multiple obligations, he/she has to sacrifice other obligations in order to fulfill some obligations.^[2,3] This ultimately leads to stress and a conflict between roles. Work-Family Conflict (WFC) is defined as an interrole conflict where work and family demands are incompatible.^[4] This conflict occurs when the obligations and expectations of work negatively affect family life. The opposite, that is, it is also possible for family responsibilities to interfere with one's work, and this is also called family-work conflict.^[4] But work-family conflict is more common. This is because family obligations are more flexible, whereas work obligations are more stringent.^[5,6]

In Türkiye, no research on work-family conflict has been conducted on physicians who are in their residency period in medical education. However, in recent years, the tendency to go abroad has started to increase especially among young doctors.^[7] The desire to continue their professional life abroad after graduating from medical school or during or immediately after residency is attributed to many factors. These include the socioeconomic situation of the country, increased workload, inadequate income, exposure to violence while doing their job, and psychosocial stress, including work-family conflict.^[7]

In recent years, significant differences in stress, pressure and workload have been reported between medical specialties. There are studies showing that work stress is significantly higher in physicians working in surgical specialties.^[8,9] However, there has not been sufficient research on residents so far. The aim of this study is to investigate whether there is a difference in work-family conflict between surgical and internal medicine residents and to determine the factors associated with work-family conflict.

MATERIAL AND METHOD

This is a cross-sectional, questionnaire-based survey study. Data were obtained from resident physicians working at Mersin University Hospital between December 1, 2023, and January 31, 2024. The sole requirements for inclusion

were consenting to participate and being employed as a resident physician at Mersin University Hospital. All of the 443 residents who were actively working in a surgical or internal medicine specialty were invited to take part. A form about demographic data and a Turkish version of the Work-Family Conflict Inventory (WFCI) were used to gather data during in-person interviews with two investigators (EO and HY). The institution's ethical committee approved the study with the number 2024/870.

Netemeyer et al. created the original WFCI.^[10] The survey is divided into two subscales: family-work conflict (FWCI) and work-family conflict (WFCI). Each subscale has five items and is scored on a 5-point Likert scale that ranges from "strongly disagree" to "strongly agree." In this study, just the work-family conflict domain was used. Five is the lowest score on the WFC scale, and 25 is the highest. The values of the WFC scales are determined by adding the answers to the five items. Higher scores represent more conflict. Efeoglu et al. developed and verified the Turkish version, which has a Cronbach alpha value of 0.88 for WFCI.^[11] In the current investigation, the Cronbach alpha value for the WFCI was calculated as 0.910.

Statistical Analysis

Statistical analysis was carried out with SPSS V21. The data's normalcy was examined using histograms and the Kolmogorov-Smirnov test. Percentages, means, and standard deviations were used to express descriptive data. For comparisons, chi-square and t-tests were applied as needed. Bivariate correlation analysis was performed using Pearson correlation coefficients to identify the variables associated with the WFCI scores. The significant variables were subjected to linear regression analysis with the enter method to find the independent predictors. A p-value of less than 0.05 was deemed significant.

RESULTS

Three hundred forty-eight physicians working as surgical and internal medical sciences residents responded (n:348/453; response rate: 76.8%). **Table 1** depicts the comparison of the sociodemographic characteristics of the responding residents. The residents working in surgical medical sciences (SMS) were significantly older than those of internal medicine sciences (IMS) (30.7±4.1 vs. 29.1±2.5 years old, respectively, p<0.001). There was a significant male gender dominance in SMS and female gender dominance in IMS (**Table 1**). More SMS residents were married than IMS residents; however, this was not statistically significant. 44.3% of the SMS residents had at least one child, significantly higher than the 30% of IMS residents. Weekly working time was significantly more in SMS than IMS residents (62.3±13.8 vs 53.2±13.6 hours respectively, <0.001). Although insignificant, SMS residents had more night shifts during weekdays in a month (3.9±1.3

vs 3.6±1.7 days; p= 0.061). The number of shifts on the weekends did not differ between the groups. The income was reported to be less than the expenses in 43.9% and 44.5% of the SMS and IMS residents, and satisfaction with the salary was very low in both groups, 2.9% and 1.9%, respectively (Table 1). Institution satisfaction and satisfaction in the area of specialization were also similar (Table 1). None of these parameters showed a significant difference. The mean WFCI score of the SMS residents was 19.5±4.3, significantly higher than the 17.9±5.1 of the IMS residents (p=0.002) (Table 1).

Table 1. Comparison of demographic characteristics of the resident physicians of Internal Medicine Sciences (IMS) and Surgical Medical sciences (SMS)

| | IMS (N:209) | SMS (139) | p |
|---|-------------|------------|--------|
| Age | 29.1±2.5 | 30.7±4.1 | <0.001 |
| Gender | | | |
| Male | 87 (41.6) | 97 (69.8) | <0.001 |
| Female | 122 (58.4) | 42 (30.2) | |
| Marital status | | | 0.067 |
| Single | 108 (51.7) | 87 (62.6) | |
| Married | 100 (47.8) | 50 (36) | |
| Divorced | 1 (0.5) | 2 (1.4) | |
| Having children | | | 0.025 |
| No | 76 (70) | 50 (55.7) | |
| Yes | 33 (30) | 39 (44.3) | |
| Owing a house | | | 0.150 |
| Own a house | 63 (30.1) | 34 (24.5) | |
| Rent a house | 146 (69.9) | 105 (75.5) | |
| Spouse's employment status | | | 0.497 |
| Working | 91 (79.8) | 72 (51.8) | |
| Not working | 23 (20.2) | 17 (12.2) | |
| Weekly working hours | 53.2±13.6 | 62.3±13.8 | <0.001 |
| Number of night shifts during weekdays in a month | 3.6±1.7 | 3.9±1.3 | 0.061 |
| Number of shifts on the weekends in a month | 2.0±0.9 | 1.9±0.7 | 0.207 |
| Income status | | | 0.988 |
| Income less than expenses | 93(44.5) | 61 (43.9) | |
| Income just covers expenses | 78 (37.3) | 53 (38.1) | |
| Income more than expenses | 38 (18.2) | 25 (18) | |
| Institution satisfaction | | | 0.120 |
| Not satisfied | 64 (30.6) | 46 (33.1) | |
| Neither satisfied nor dissatisfied | 76 (36.4) | 61 (43.9) | |
| Satisfied | 69 (33) | 32 (23) | |
| Satisfaction of the area of specialization | | | 0.170 |
| Not satisfied | 45 (21.5) | 41 (29.5) | |
| Neither satisfied nor dissatisfied | 74 (35.4) | 39 (28.1) | |
| Satisfied | 90 (43.1) | 59 (42.4) | |
| Satisfaction with the salary | | | 0.171 |
| Not satisfied | 181 (86.6) | 127 (91.4) | |
| Neither satisfied nor dissatisfied | 24 (11.5) | 8 (5.8) | |
| Satisfied | 4 (1.9) | 4 (2.9) | |
| Work-family conflict scores | 17.9±5.1 | 19.5±4.3 | 0.002 |

IMS: Internal medicine sciences, SMS: Surgical medical sciences

Correlation analysis was used to analyze factors associated with WFCI scores. Table 2 shows the parameters found to be significantly correlated. Being married was associated with higher WFCI scores. Working hours and the number of shifts, either during the week or at the weekends, were associated with increased work-family conflict scores. Residents with incomes less than expenses had higher WFCI scores. Satisfaction, including institution, salary, and area of specialization, was negatively associated with the WFCI scores, indicating that more conflict is experienced when there is less satisfaction. Working as an SMS resident was found to be related to higher conflict scores than being an IMS resident.

Table 2. Factors significantly correlated with the work-family conflict scores

| Variables | Correlation coefficient | P |
|--|-------------------------|--------|
| Marital Status (married:1, single:2, divorced:3) | -0.128 | 0.014 |
| Weekly working hours | 0.408 | <0.001 |
| Number of shifts except for weekends per month | 0.231 | <0.001 |
| Number of shifts in the weekends in a month | 0.203 | <0.001 |
| Income status (I<E:1, I~E: 2, I>E:3) | -0.266 | <0.001 |
| Institution satisfaction (NS:1, NS/DS: 2, S:3) | -0.252 | <0.001 |
| Satisfaction of the area of specialization (NS:1, NS/DS: 2, S:3) | -0.320 | <0.001 |
| Salary satisfaction (NS:1, NS/DS: 2, S:3) | -0.134 | 0.01 |
| Residency of internal/surgical medical sciences (IMS:1, SMS:2) | 0.160 | 0.003 |

I<E: Income less than expenses, I~E: Income just covers expenses, I>E: Income more than expenses, NS: not satisfied, NS/DS: neither satisfied nor dissatisfied, S: satisfied

Regression analysis was performed to determine the independent predictors of WFCI scores (Table 3). Income status, weekly working hours, and institution satisfaction were found to be significant independent predictors of WFCI scores. Being an SMS or IMS resident did not come out to be a significant predictor of work-family conflict (beta: 0.033, t: 0.605, p: 0.546, 95% CI: -0.708 and 1.337).

Table 3. Regression analysis for the factors associated with the work-family conflict scores

| | Beta | t | p | 95% CI |
|--------------------------|--------|--------|--------|-----------------|
| Income status | -0.149 | -2.697 | 0.007 | -1.604 – -0.25 |
| Weekly working hours | 0.258 | 4.061 | <0.001 | 0.044 – 0.127 |
| Institution satisfaction | -0.163 | -2.61 | 0.01 | -1.738 – -0.244 |

CI: Confidence Interval

DISCUSSION

The present study aimed to investigate the presence of work-family conflict (WFC) among resident physicians and identify the factors associated with it. The study revealed that WFC is a prevalent issue among resident physicians, particularly those in surgical medical sciences (SMS). The findings also highlighted that weekly working hours, income status, and institutional satisfaction are independent predictors of WFC. The mean WFCI score in this study was considerably higher than those reported in studies involving other healthcare professionals and non-healthcare workers, emphasizing the severity of WFC among resident physicians.

The higher WFCI scores observed in SMS residents compared to internal medicine sciences (IMS) residents might be attributed to the demanding nature of surgical specialties, characterized by higher occupational distress and quantitative working demands.^[12,13] The greater number of job tasks performed by surgeons compared to other specialties could contribute to increased WFC.^[14] The significant association between being married and higher WFCI scores aligns with previous research indicating that married individuals, especially those with children, often face challenges in balancing work and family responsibilities.^[9] The positive correlation between working hours and the number of shifts with WFCI scores underscores the detrimental impact of long working hours and frequent shifts on family life. The negative association between income status and WFCI scores suggests that financial strain can exacerbate WFC, as individuals struggling to meet their financial needs may experience heightened stress and conflict between work and family demands.

The negative association between institutional satisfaction and WFCI scores highlights the importance of a supportive and satisfying work environment in mitigating WFC.^[15] When residents are dissatisfied with their institution, they may experience decreased motivation and increased stress, which can spill over into their family lives. Factors contributing to institutional dissatisfaction, such as lack of support from supervisors, inadequate resources, or a hostile work environment, can create a sense of frustration and disillusionment, making it challenging for residents to maintain a healthy work-life balance. Similarly, the negative association between satisfaction with the area of specialization and WFCI scores emphasizes the significance of aligning residents' career choices with their interests and values. When residents are dissatisfied with their chosen specialty, they may experience frustration and decreased well-being, potentially leading to WFC. This dissatisfaction may stem from a mismatch between their expectations and the reality of the specialty, a lack of interest in the field, or a perceived lack of autonomy and control over their work.

The study's findings have several important implications for addressing WFC among resident physicians. Firstly, interventions aimed at reducing working hours and improving working conditions could be effective in mitigating WFC. This could involve implementing stricter regulations on resident work hours, promoting a culture of work-life balance, and providing adequate support and resources to help residents manage their workload effectively.^[16] Secondly, addressing the financial concerns of resident physicians is crucial. Increasing their income levels, providing financial counseling and support, and offering loan repayment assistance programs could alleviate financial stress and reduce WFC. Thirdly, enhancing institutional satisfaction is essential. Creating a supportive and positive work environment, fostering a culture of respect and appreciation, and providing opportunities for professional development and growth could improve residents' overall satisfaction and reduce WFC. Additionally, providing

support and resources to help residents balance work and family responsibilities, such as flexible scheduling, childcare assistance, and parental leave policies, could be instrumental in reducing WFC.^[17,18] Moreover, promoting career counseling and mentorship programs could help residents make informed choices about their specialties, potentially leading to increased satisfaction and reduced WFC.^[19,20]

The study's limitations include its cross-sectional design, which precludes causal inferences. Longitudinal studies are needed to examine the temporal relationship between the identified factors and WFC. Additionally, the study relied on self-reported data, which may be subject to recall bias and social desirability bias. Future research could incorporate objective measures of WFC and utilize diverse samples to enhance the generalizability of the findings. Furthermore, future studies could explore the potential impact of other factors, such as personality traits, coping mechanisms, and social support networks, on the development and management of WFC among resident physicians.

CONCLUSION

This study provides valuable insights into the prevalence and predictors of WFC among resident physicians. The findings highlight the urgent need to address this issue through a multi-faceted approach that includes reducing working hours, improving income levels, enhancing institutional satisfaction, and providing support and resources to help residents balance work and family responsibilities.^[21-23] By implementing such interventions, we can foster a healthier and more sustainable work environment for resident physicians, ultimately benefiting both their personal well-being and the quality of patient care they provide. Healthcare institutions, policymakers, and educators must collaborate to create a supportive and empowering environment for resident physicians, enabling them to thrive both personally and professionally.

ETHICAL DECLARATIONS

Ethics Committee Approval: The study was obtained from Mersin University Clinical Research Ethics Committee (Date: 18.09.2024, Decision no: 2024/870).

Informed Consent: Because the study was designed retrospectively, no written informed consent form was obtained from patients.

Referee Evaluation Process: Externally peer-reviewed.

Conflict of Interest Statement: The authors have no conflicts of interest to declare.

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