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SPECIAL TOPIC
Wellness

The Representation of Wellness Programs in Plastic Surgery Residency

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Background: Plastic surgery residency comprises a significant portion of early adulthood. The difficulties of residency are well documented, particularly with the impact on wellness and risk of burnout. Structured wellness programs, mentorship, social support, and autonomy can decrease residency burnout. This study looked at how plastic surgery program websites and GME websites represent wellness and support programs between both integrated and independent plastic surgery residencies.

Methods: A cross-sectional analysis of US plastic surgery residency programs was performed during the month of April 2024. The authors conducted a systematic content analysis on the available websites of these residency websites, GME websites, and associated programs' Instagram and X (formally Twitter) pages. Data points included (1) mention of wellness on the program website, (2) vacation time mentioned on the website, (3) protected time available, (4) spouse support options, (5) day care options, (6) connections with mentors, (7) images of social events on the website, and (8) images of social events on Instagram. Data were compiled and analyzed in JASP (JASP Team [2024]. JASP [version 0.18.3; computer software]) as well as Microsoft Excel. Categorical variables were compared using binomial tests and chi-squared tests. Statistical significance was defined a *P* value less than or equal to 0.05.

Results: The majority of plastic surgery residencies did not discuss or describe their wellness programs on their official website, regardless of program size. Similar results were displayed when searching for spousal support and daycare. GME websites were more comprehensive than the program websites but still showed significant discrepancies with vacation policies and day care. Mentorship was mentioned in under half of all plastic surgery residencies. Integrated programs were more likely to display social events on Instagram when compared with independent programs.

Conclusions: Plastic surgery residencies do not provide evidence of existing wellness programs on their program websites. Although a lack of public information on wellness programs does not mean they do not exist, this could easily be mitigated by providing more comprehensive information on both GME and program websites.
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INTRODUCTION

Residency comprises a significant portion of early adulthood in individuals in the medical field. Plastic and reconstructive surgery (PRS) residency can range from 6 years through the integrated residency route, and up to 8 years if the surgical trainee goes through the independent route comprised a surgical residency (5 years) followed by a 3-year independent plastic surgery residency. These years of residency do not include time spent on research, which often can total an additional 1–2 years,[1] for a duration of training totaling 10 years. The time-intensive nature of PRS residency reduces the time for sleep, exercise, family interaction, religious activity, and overall well-being.[2] Balancing patient care, operating skills, electronic medical record documentation, research projects, personal growth, and outside life is often taxing on surgery residents,[3] contributing to emotional, physical, and psychological exhaustion, which are all significant risk factors for burnout.[4] In physicians, burnout can manifest as a decline in physical health, worse patient outcomes, increased mistakes, and

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disengagement.[4–6] Physicians experiencing burnout are at an increased risk of using maladaptive coping mechanisms, such as poor dietary choices, less physical activity, and substance abuse[5,7]; these systemic consequences of burnout have led to increased awareness and research into prevention.

A 2021 study found that burnout was much more common than appreciated, with up to 40% of PRS residents experiencing burnout.[8] In addition, a meta-analysis found that burnout levels were highest amongst surgical trainees in the medical field.[9] Furthermore, a study by Coombs et al[10] examined PRS residencies between 2018 and 2019 and found that 57.5% of plastic surgery residents experienced burnout, with all residents reporting work exhaustion and interpersonal disengagement. These findings were supported by another study on PRS residents, which revealed that 65.6% of respondents met the definition of burnout.[11] This widespread prevalence of burnout has prompted changes to residency program requirements.

In 2017, the Accreditation Council for Graduate Medical Education (ACGME) changed its guidelines to include a section on resident well-being. Specifically, the section highlights that residencies must have "policies and programs that encourage optimal resident and faculty member well-being."[12] However, there were no formal guidelines to assist residency programs in promoting wellness, developing such policies, or managing compliance in residency wellness efforts.[13] As evidenced by Coombs et al,[10] the residency program that an individual trains at can directly impact their level of burnout, self-reported medical errors, and program suitability. Therefore, it is pertinent for surgical training programs to have established wellness interventions; however, there are few published wellness interventions and even fewer programs that incorporate programmatic evaluation.[14]

This study aimed to evaluate the presence of wellness programs and social support in plastic surgery residency programs through their program websites and GME websites. By evaluating the discussion of wellness programs on the websites, mentoring programs, daycare, spousal support evidence, and vacation policy, as well as the representation of residents engaged in social events on the program's social media pages, we aimed to better determine how well PRS programs are presenting their culture of wellness. We hypothesized that GME websites would be a more comprehensive source of information than program websites.

METHODS

A cross-sectional analysis of US plastic surgery residency programs was performed during April 2024. A comprehensive list of plastic surgery residency programs, both independent and integrated, was compiled from authoritative sources such as the ACGME website and the American Society of Plastic Surgeons.

The authors conducted a systematic content analysis on the available residency websites and the associated programs' Instagram pages. Inclusion criteria included the website/Instagram account of an ACGME PRS residency program. Websites and GME websites were assessed for (1) mention of wellness on the program website, (2) vacation time mentioned on the website, (3) protected time available, (4) spousal support, (5) day care options, (6) connections with mentor, and (7) images of social events on the website. Instagram and X (formally known as Twitter) accounts were assessed for images of social events as well as the total number of Instagram posts. All statistical tests were performed using JASP version 0.18.3 software as well as Microsoft Excel (Microsoft Corp, Redmond, WA) with a threshold of significance of P values less than 0.05. Categorical variables were compared using 2-tailed t tests and chi-squared tests.

Takeaways

Question: How is wellness represented in plastic surgery and reconstructive residency program websites?

Findings: The majority of plastic surgery and reconstructive residencies did not discuss their wellness programs, regardless of size. Similar results were displayed when searching for spousal support, daycare, protected time, and images of residents engaged in nonwork activities on their website.

Meaning: Plastic surgery residencies do not effectively describe existing wellness programs; increasing the visibility and transparency of these programs allows applicants to make better informed decisions regarding their surgical training.

RESULTS

All existing PRS residency programs, a total of 128 programs, were analyzed; 89 (69.5%) of which were integrated residency programs and 39 (30.5%) of which were independent residency programs (Table 1). No programs were excluded for analysis.

Wellness Program

Wellness discussions on all program websites were analyzed, with 86 of 128 programs (67.2%) not mentioning wellness on their website. Integrated programs had 60 (67.4%) of 89 programs not discuss wellness, whereas independent residency programs showed that 26 (66.7%) of 39 programs did not mention wellness on their website. There was no statistically significant difference when integrated and independent residencies were compared (P = 0.852). When comparing wellness representation with respect to program size, there was no statistical difference between programs offering 1 spot and those offering multiple spots (P = 0.533). GME websites were more inclusive than program websites, with 85 (66.4%) of 128 of programs discussing wellness programs, nearly double that of program websites (P < 0.001).

Mentors/Mentoring

Mentoring was discussed on 51 (39.8%) of 128 program websites. Integrated programs discussed their mentoring programs on the website in 35 (39.3%) of 89 programs. Similarly, mentoring was only mentioned in 16 (41%) of 39 independent programs, with no significant difference between integrated and independent programs (P =

Table 1. Plastic Surgery Residency Wellness Data

Variable	No. Programs (n = 128)
Program type	
Integrated	39 (30.5%)
Independent	89 (69.5%)
Wellness mentioned on website	
No	86 (67.2%)
Yes	42 (33.8%)
Program organization	
Department	26 (20.2%)
Division	102 (79.7%)
Spots in program	2.04 (SD = 0.98)
Vacation	
No	103 (80.5%)
Yes	25 (19.5%)
Protected time	
No	95 (74.2%)
Yes	33 (25.8%)
Images of residents outside of hospital on website	
No	102 (79.7%)
Yes	26 (19.3%)
Program social media with residents	
No	11 (8.6%)
Yes	111 (86.7%)
N/A	7 (5.5%)
Mentoring	
No	77 (60.2%)
Yes	51 (39.8%)
Day care	
No	127 (99.2%)
Yes	1 (0.8%)
Spouse support	
No	120 (93.7%)
Yes	8 (6.2%)
Instagram posts	177.3 (SD = 139.9)

0.856). No GME website mentioned mentoring programs or the ability to connect with a mentor in their designated program ($P < 0.001$).

Day Care

Among program websites, day care options were only represented in 1 (0.8%) program out of all programs, with that program being an integrated residency program. This program specifically mentioned the availability of "multiple childcare options from day care to nannies." There was no statistical difference between integrated and independent residency programs ($P = 1$). GME website data showed that 16 (12.5%) of 128 programs had specifics of day care options on their website ($P < 0.001$).

Spousal Support

Spousal support was analyzed and found to be represented in 8 (6.2%) of 128 program websites. Examples included programs to introduce spouses to one another via networking and other social events. Integrated programs discussed spousal support in 4 (4.5%) of 89 programs, whereas independent programs had 4 (10.3%) of 39 programs discussing their spousal support programs. There was no statistical difference between independent and integrated residency programs ($P = 0.215$). On GME websites, spousal support was discussed in 11 (8.6%) of 128 programs, which was similar to the program websites.

Vacation Policy

Vacation policy was not discussed on 103 (80.5%) of 128 program websites. Integrated programs predominantly did not discuss their vacation policies, with 73 (79.8%) of 89 programs not discussing policies. This was similar to independent residencies, where 30 (76.9%) of 39 programs had no mention of their vacation policy. There was no statistical difference between independent and integrated residency programs ($P = 0.448$). On GME websites, 66 (51.56%) of 128 programs discussed their vacation policy, which was significantly more than program websites ($P < 0.001$).

Social Media Displaying Social Events

On Instagram, residents were seen at nonhospital or work-associated social events on 111 (86.7%) of 128 programs; 7 (5.5%) of 128 programs did not have social media. Integrated programs showed residents in 82 (92.1%) of 89 programs, whereas independent programs showed residents being social in 31 (79.5%) of 39 programs. There were statistically more Instagram accounts displaying social events in integrated programs than there were for independent programs ($P < 0.041$). One (1.1%) integrated program and 6 (15.4%) independent programs did not have an associated Instagram account. This was found to be statistically lower for integrated residency programs compared with integrated programs ($P < 0.001$).

Only 39 (43.8%) of 89 integrated programs had an X account; of these 39 programs, only 6 (15.38%) of 29 had images of residents engaged in wellness activities. For independent programs, 15 (38.4%) of 39 programs had an X account, with only 1 (6.67%) of 15 programs showing images of residents engaged in wellness activities. Programs were statistically more likely to have Instagram ($P < 0.001$) and more likely to have images of residents on their Instagram accounts.

DISCUSSION

Despite the presence of a structured wellness program being associated with less resident burnout and increased resident wellness,[15] nearly two-thirds of programs did not discuss any wellness programs on their website. This was consistent across both independent and integrated residency programs (Tables 2, 3). When evaluating the GME website data, 85 (66.4%) of 128 programs did discuss wellness, around double of what was discussed on program websites, which was statistically significant (Table 4). Wellness interventions have been shown to help healthcare workers prevent burnout,[16] and surprisingly more PRS programs were not advertising any such programs in place on their websites.

Residency Programmatic Wellness Initiatives

Wellness programming is difficult due to the individualistic nature of personal wellness. However, based on existing literature, programmatic wellness initiatives

Table 2. Integrated Plastic Surgery Residency Wellness Data

Variable	No. Programs (n = 89)
Wellness mentioned on website	
No	60 (67.4%)
Yes	29 (32.6%)
Program organization	
Department	18 (20.2%)
Division	71 (79.8%)
Spots in program	2.29 (SD = 1.0)
Vacation	
No	73 (82.0%)
Yes	16 (18.0%)
Protected time	
No	65 (73.0%)
Yes	24 (27.0%)
Images of residents outside of hospital on website	
No	71 (79.8%)
Yes	18 (20.2%)
Program social media with residents	
No	6 (6.7.1%)
Yes	82 (92.1%)
N/A	1 (1.1%)
Mentoring	
No	54 (60.7%)
Yes	35 (39.3%)
Day care	
No	88 (98.9%)
Yes	1 (1.1%)
Spouse support	
No	85 (95.5%)
Yes	4 (4.5%)
Instagram posts	192.7 (SD = 141.1)

Table 3. Independent Plastic Surgery Residency Wellness Data

Variable	No. Programs (*n* = 39)
Wellness mentioned on website	
No	26 (66.7%)
Yes	13 (33.3%)
Program organization	
Department	8 (20.5%)
Division	31 (79.5%)
Spots in program	1.48 (SD = 0.56)
Vacation	
No	30 (76.9%)
Yes	9 (23.1%)
Protected time	
No	30 (76.9%)
Yes	9 (23.1%)
Images of residents outside of hospital on website	
No	31 (79.5%)
Yes	8 (20.6%)
Program social media with residents	
No	2 (5.1%)
Yes	31 (79.5%)
N/A	6 (15.4%)
Mentoring	
No	23 (59.0%)
Yes	16 (41.0%)
Day care	
No	39 (100%)
Spouse support	
No	35 (89.7%)
Yes	4 (10.3%)
Instagram posts	142.4 (SD = 132.4)

Table 4. GME Website Data

Variable	No. Programs (n = 128)
Wellness mentioned on website	
No	43 (33.6%)
Yes	85 (66.4%)
Vacation	
No	62 (48.4%)
Yes	66 (41.6%)
Day care	
No	112 (81.5%)
Yes	16 (12.5%)
Spouse support	
No	117 (91.4%)
Yes	11 (8.6%)

should focus on the following: (1) facilitation of resident and faculty camaraderie[17–19]; (2) longitudinal mentorship initiatives[20–22]; (3) support for pregnancy, spouses, and child care in residency[23–25]; (4) engaging residents in decisions that impact the residency program[10]; and (5) integration of mental health support into residency programs.[26] Although no wellness program will be personalized, by providing a framework for programs, the goal is to have a cohesive and productive wellness program.

Facilitation of Residency and Faculty Camaraderie

Resident retreats can lead to team-building, resident bonding, and faculty-resident bonding to better impact morale and wellness.[27] They have also been shown to benefit training and increase enthusiasm for training[28]; it has been proposed that a collective well-being leads to improved team performance.[29] Dedicated time fostering resident-resident and resident-faculty relationships outside the hospital is important for wellness; modalities such as resident retreats or resident socials are important and should be a component of wellness programs. We utilized social media as one of the modalities to determine the extent of involvement outside the hospital.

Having images on a website can give the impression that the program is supportive of residents outside the hospital, as well as demonstrate the comradery that is built throughout residency. Social media as a modality to portray wellness in PRS residency programs has been discussed previously, with findings showing that Instagram was the primary social media outlet, followed by X accounts; less than one-quarter of residency program social media content was found to promote wellness.[17] In our study, when evaluated for images of residents outside of the hospital, neither integrated nor independent residency programs statistically showed images of residents

engaged in nonclinical activities. However, our analysis did show that programs did a good job of showing residents at social events on their social media, with independent programs and integrated programs both showing a high representation of residents engaged socially. Social media has continued to increase in popularity,[18] and programs should be intentional about promoting a culture of collaboration, mentorship, and wellness through their social media.

Longitudinal Mentorship Initiatives

Formal mentoring programs were not discussed on most plastic surgery residency program websites. Residents highly value mentoring, as evidenced by Yamada et al[19] who found that residents unanimously agreed that mentoring was beneficial or crucial to their training. A meaningful mentor was found to be associated with increased resident autonomy, decreased burnout, thoughts of attrition, and suicidality compared with those without meaningful mentorship.[20] Regular mentor-mentee meetings with evaluation tools to discuss and track discussions and progress are established methods for mentorship in residency.[21] The impact was found to extend into practice, with mentorship a key value for career satisfaction and retention.[22]

Plastic surgery residents were found to have a lower risk of burnout when they had regular staff meetings and weekly ward rounds led by senior surgeons.[30] Having a trusted mentor is crucial for social support and developmental opportunities, things also associated with decreased burnout.[23] Although developing a mentor can happen spontaneously, having established mentoring programs can facilitate a culture of guidance and support in a residency program. Burnout was found to be higher in residents who reported fewer programmatic social events and lower in residents who received mentorship in their training program.[24] Plastic surgery residents in France were found to have a lower risk of burnout associated with regular staff meetings and weekly ward rounds by senior surgeons.[10] Fewer than half of programs discussed formal mentoring programs on their websites, with GME websites surprisingly having even less information. Although many mentorships develop informally and spontaneously, some relationships require prompting and a more formal process to facilitate a productive and supportive mentorship relationship.

Integration of Mental Health Support Into Residency Programs

Emotional intelligence is also associated with less burnout.[23] Training can increase emotional intelligence scores in health professional trainees.[25] A systematic review and meta-analysis of 15 randomized controlled trials and 37 observation studies identified mindfulness, self-care or stress-management programs, small group curricula, and communication skills training to help prevent and reduce burnout.[31] Wellness interventions should be grounded in educational theory with valid evidence.[32] Residency training provides the framework for medical trainees to create their future practice—by teaching appropriate coping mechanisms, competence, and a structured approach to reduce burnout early,[33] programs can foster a culture of wellness that extends beyond residency. Peer support is also a significant factor in mental health support in the medical field.[34] The implementation of mental support in residency often lies within the underlying presence of a wellness program. Although mental health support is often available throughout all residency programs, there needs to be a supportive culture surrounding both access and implementation of the support.

Support for Pregnancy, Spouses, and Childcare

Support for pregnancy during residency can be demonstrated in multiple ways, including lactation facilities, formal maternity/paternity leave policies with identification of obstacles to the establishment of maternity leave policies, and an intervention to reduce workplace bias.[35] Day care was not represented in either independent or integrated residency programs on their websites, as evidenced by only 1 integrated residency program having information related to childcare, such as affordable options in the area (Table 2). On GME websites, day care options were discussed in 16 total programs, with most programs not having forthcoming information. When comparing the effect of gender on residency pursuit, it has been demonstrated that fewer women consider or choose a surgical career,[26] and female surgical residents have fewer children in residency than their male counterparts.[36] When compared with male surgeons, women were less likely to be married and have children, and more likely to believe that child-rearing days had slowed their career.[37] Practicing female surgeons also report facing difficulties balancing work-life balance and childcare.[38] All surgical residents have their first child later in life (average age 30–34 versus 25 years) and have fewer children than the general public.[36] Long hours, extensive call shifts, and the overall stress of residency likely contribute to this, but finding flexible and affordable childcare can also play a role. Additionally, having a supportive partner who is, in turn, supported by others who understand the stressors of residency can also impact family life and wellness. Both integrated and independent residency programs did not discuss spousal support on their websites, with only 7 of 122 programs having information about spousal support systems in place (Table 1). GME websites showed that 11 of 122 programs had information in place. Ensuring that residents can find time to meet their personal needs has an important impact on well-being[39]; knowing that one's child and spouse are supported is an important component for some applications.

Limitations

The strength of this article lies in that we analyzed all plastic surgery programs that are ACGME-accredited. Although we believe our analysis was comprehensive, it is possible that a program was missed in our analysis, which could impact the statistical significance of the parameters discussed. The limitations of this study include the cross-sectional nature of the analysis. Program residency websites as well as GME websites can be frequently updated, and the data collected for the analysis only represents a

single time point in 2024. Additionally, with independent residency programs decreasing in number, programs that have not updated their websites could reflect an overrepresentation of independent programs. Our data may also assume an underrepresentation of the presence of wellness programs in PRS programs. Just because the information is not publicly available does not mean that these programs do not exist or are not implemented. Several surgical residency programs have wellness programs; however, these programs are likely individualized. Future research may be needed to better elucidate the nature and efficacy of these wellness programs. Although a survey would be an effective modality to assess many of these limitations, prior surveys in the literature are often limited by a low response rate. An anonymous and voluntary e-mail study was sent to 106 plastic surgery residency program directors through May and June of 2022; of the 32 programs that had a complete response rate, wellness events were offered by 26 of these programs.[40] Although the low response rate was seen with recent studies as well, the programs that did respond provided valuable information regarding residency wellness initiative and culture.[41] Additionally, this article sought to assess the publicly available wellness initiatives in place on program and GME websites. Ultimately, the lack of public information regarding wellness programs does not imply a lack of policies regarding wellness. This study does not imply that any program not publicly sharing information does not have a program in place; the purpose of this study was to evaluate how publicly programs provide information for their culture of wellness through the parameters discussed above. These parameters are not meant to be inclusive, but rather metrics that could be assessed on a website. Additionally, one significant factor identified in wellness, resident involvement in program decisions, cannot be assessed easily through our analysis. Assuming a more comprehensive response rate, a survey would function as an effective modality for better assessing the wellness culture of different programs. Finally, the American Council of Educators in Plastic Surgery remains a valuable resource for both applicants and current residents for a variety of resources, and we wish to recommend this website for anyone interested in learning more about PRS residencies.

CONCLUSIONS

Plastic surgery residencies do not effectively describe existing wellness programs on their program websites. The official GME website for each program provided a more robust source of information regarding wellness programs. Although GME websites are more encompassing regarding wellness, there is still a discrepancy regarding the discussion of vacation specifics, daycare options, and spousal supports. Further research evaluating the specifics and efficacy of wellness program initiatives should be performed.

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DISCLOSURE

The authors have no financial interest to declare in relation to the content of this article.

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