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BRIEF REPORT

Sexual Well-being Among Medical Residents at a Community-Based Academic Institution

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ABSTRACT

Introduction: Medical residency training is demanding, with challenging workloads, long hours, and excessive stress that impact residents' physical, mental, and emotional health. Although the concept of health and wellness in residency has become more widespread across programs, few studies have explored the sexual health of medical residents during training.

Methods: To better understand the current state of sexual health and well-being of resident physicians, physicians in training across Internal Medicine, Pediatrics, Family Medicine, OB/GYN, Transitional Year, and General Surgery completed anonymous surveys that incorporated validated questionnaires, including the International Index of Erectile Function (IIEF) and the Index of Premature Ejaculation (IPE) for males, and the female Sexual Function Inventory (FSFI) for females.

Results: A total of 69 out of the potential 100 respondents completed the survey. Most respondents (63.8%) reported a negative impact of medical residency training on their sexual wellness, with married respondents experiencing more dissatisfaction than single respondents (77.8% versus 46.7%; $p = 0.02$). Higher satisfaction with frequency of intercourse was seen among residents who work less than 60 hours per week (35.7% versus 12.5%; $p = 0.02$). Moreover, cis males endorsed a lesser impact of sexual wellness on relationship satisfaction compared to cis females (6.9% versus 33.3%; $p = 0.01$). Compared to their heterosexual counterparts, non-heterosexual respondents reported a larger impact of sexual well-being on relationship satisfaction (75.0% versus 15.5%; $p = 0.001$). Single respondents displayed greater dissatisfaction (30.0%) with the number and/or type of sexual partners than their counterparts who were married (0.0%; $p < 0.001$) or in committed relationships (0.0%; $p = 0.001$). Sexually inactive respondents reported little impact of their sexual well-being on work performance (37.5% versus 0.0%; $p = 0.004$) compared to their sexually active colleagues, but a higher level of dissatisfaction with the frequency of intercourse (75.0% versus 12.3%; $p = 0.007$).

Conclusion: Recent studies have demonstrated negative impacts of medical training on physical, emotional, and mental well-being. This study demonstrates additional negative impacts on sexual well-being. Multi-institutional, large cohort studies are needed to further assess physician in-training sexual wellness and develop appropriate interventions.

INTRODUCTION

Sexual well-being has generally been discussed in terms of risks and dangers to overall health (e.g., sexually transmitted infections, unintended pregnancy, sexual violence) [1]. In 2002, the World Health Organization (WHO) expanded the definition of sexual health to include positive aspects of sexual health, stating that it is not "merely the absence of disease, dysfunction or infirmity" but a "positive and respectful approach to sexuality and sexual relationships, as well as the possibility of having pleasurable and safe sexual experiences, free of coercion, discrimination and violence" [2]. Since 2002, several studies have examined the interplay among sexual wellness and physical, mental, and overall health [1]. The sexual experience has been linked to changes in endocrine and cardiovascular function, and the post-orgasmic release of prolactin has been associated with decreased stress and anxiety [3].

Sexual wellness during medical residency training is largely unexamined relative to the other domains of wellness. Medical residency training is associated with higher rates of stress and burnout [4]. Challenging work hours and excessive workloads contribute to higher than average levels of depression, anxiety and psychological distress [5] and significant decreases in physical activity and sleeping hours [6]. Preliminary studies suggest that medical trainees are prone to poor sexual wellness [7,8]. This study aims to further describe the state of sexual well-being among physicians in-training at a single community-based academic institution.

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METHODS

A Likert-scale survey was distributed to medical residents across all medical specialties at a single community-based academic institution, which included Internal Medicine, Pediatrics, Family Medicine, Obstetrics/Gynecology, Transitional Year, and General Surgery. Participation was voluntary and facilitated through the online survey tool, Survey Monkey® [9]. To ensure anonymity of respondents, IP addresses were not recorded. The survey (**Supplemental Appendix 1**) was distributed via an email listserv consisting of all one-hundred medical residents at a single institution. There were no incentives to participate in the survey. No medical specialties were excluded, however, any healthcare professionals who were not medical residents were excluded. The survey was composed primarily of demographic characterizations and borrowed from pre-existing validated questionnaires, such as the International Index of Erectile Function [10], the Index of Premature Ejaculation [11], and the Female Sexual Function Inventory [12], for assistance with phrasing and appropriate word-choice to assess sexual health. Moreover, gender-neutral phrasing was incorporated to capture accurate responses from sexual and gender minorities. In an effort to capture as many responses as possible in a small study population with known time-constraints, the survey was not piloted prior to implementation.

The Institutional Review Board deemed the study exempt. Utilizing SPSS 24.0, ordinal data was analyzed using Wilcoxon Signed Rank-Sum tests, nominal data with Fisher exact tests, and Kruskal-Wallis tests for three or more groups. For responses of "not applicable," z - tests and Pearson Chi-Square tests were performed to assess for significant differences between the excluded responses. Univariate analyses were used to compare responses among groups reflecting resident physician characteristics. A lower *p-value* threshold was considered ($p < 0.01$) in these within group comparisons since post-hoc tests were completed.

RESULTS

A total of 69 out of 100 physicians-in-training completed the survey (response rate = 69%). Respondent characteristics can be seen in **Table 1**. Overall, 84.0% stated that their overall sexual well-being was acceptable or better. 88.3% of respondents stated that their sexual wellness impacts their overall well-being, 34.3% stated that it impacts their work performance, and 92.5% stated it impacts their relationship satisfaction. Most reported adequate or better levels of libido (79.4%), physiological ability (erection, lubrication, etc.) (93.2%), and ability to achieve orgasm (91.5%). However, 36.8% expressed dissatisfaction with the frequency of intercourse. Moreover, 63.8% reported a negative impact of medical residency training on their sexual wellness, with the remaining 36.2% reporting neither negative nor positive impact. As seen in **Table 2**, married respondents experienced more dissatisfaction than single respondents (77.8% versus 46.7%; $W = -2.35$; $p = 0.02$).

Several significant relationships were elicited, which can be seen in greater detail in **Supplemental Appendix 2**. When analyzed by gender, cis males endorsed a lesser impact of sexual wellness on relationship satisfaction (6.9% versus 33.3%; $W = 780.5$, $p = 0.01$), a greater ability to achieve orgasm (42.9% versus 24.1%; $W = 703.0$, $p = 0.02$), and greater satisfaction with masturbation frequency (45.8% versus 22.2%; $W = 593.0$, $p = 0.03$). When stratified by sexual orientation, non-heterosexual respondents reported greater impact of sexual well-being on relationship satisfaction (75.0% versus 15.5%; $W = 1789.0$, $p = 0.001$). Additionally, individuals greater than 30-years-old reported greater impact of sexual wellness on relationship satisfaction (42.1% versus 16.7%; $W = 1474.0$, $p = 0.02$), higher levels of physiologic ability (61.1% versus 24.4%; $W = 1091.0$, $p = 0.02$), and greater ability to achieve orgasm (53.3% versus 29.5%; $W = 1185.5$, $p = 0.01$). Higher satisfaction with frequency of intercourse was seen among residents who work fewer than 60 hours per week (35.7% versus 12.5%; $W = 1379.0$, $p = 0.02$).

Respondents in a relationship reported greater satisfaction with the number and/type of sexual partners compared to single respondents (82.9% versus 10.0%; $W = 110.0$, $p < 0.001$). When

Table 1: Characteristics of physicians in-training who completed the survey

Characteristic	n	Percentage, (%)
Age, years		
26 – 30	48	69.6%
≥ 31	21	30.4%
Gender		
Cis Male	29	42.6%
Cis Female	38	55.9%
Nonbinary	1	1.5%
Sexuality		
Heterosexual	60	88.2%
Not-Heterosexual	8	11.8%
Relationship Status		
Single or Casually Dating	15	21.7%
In a Committed Relationship	18	26.1%
Married	36	52.2%
Sexual Activity		
Sexually Active	59	86.8%
Sexually Inactive	9	13.2%
PGY*		
PGY-1	30	45.5%
PGY-2	13	19.7%
≥ PGY-3	23	34.8%
Hours Worked Per Week, Average		
40 – 60	18	26.1%
≥ 61	51	73.9%
Prior Sexual Trauma		
Yes	8	11.8%
No	60	88.2%

* PGY = Post-Graduate Year

Table 2: Impact of medical residency training on sexual well-being, stratified by relationship status (Kruskal Wallis $X^2 = 6.79$, $p = 0.03$).

		Large Negative Impact	Some Negative Impact	Neither Negative nor Positive Impact
Single	n	1*	6	8*
	%	6.7%	40.0%	53.3%
Married	n	10*	18	8*
	%	27.8%	50.0%	22.2%
In a Committed Relationship	n	3	6	9
	%	16.7%	33.3%	50.0%

* Statistically significant difference between single respondents and married respondents (Wilcoxon Signed Rank-Sum = -2.35, *p-value* = 0.02).

considering marital status, single respondents displayed greater dissatisfaction (30.0%) with the number and/or type of sexual partners than their counterparts who were married (0.0%; $W = 91$, $p < 0.001$) or in committed relationships (0.0%; $W = 74$, $p = 0.001$). No single individuals and no subjects in committed relationships had children in the home, compared to 60% of married subjects ($\chi^2 = 16.62$, $p = 0.03$).

When stratified by level of sexual activity, sexually inactive respondents reported little impact of their sexual well-being on work performance (37.5% versus 0.0%; $W = 168.5$, $p = 0.004$) compared to their sexually active colleagues. Sexually inactive individuals reported higher dissatisfaction with the frequency of intercourse (75.0% versus 12.3%; $W = 34.0$; $p = 0.007$), the number and/or type of sexual partners (75.0% versus 0.0%; $W = 19.5$; $p < 0.001$), and the variety and types of sexual experiences (50.0% versus 5.3%; $W = 28.5$; $p = 0.003$).

DISCUSSION

This single site cross-sectional study demonstrates an apparent effect of medical training on sexual well-being. Alarmingly, 63.8% of physicians-in-training felt that medical residency has negatively impacted their sexual wellness, particularly those who are married. Confounding this impact is the fact that married individuals had children in the home, which is also linked to negative impacts on sexual wellness [13]. However, working greater than 60 hours per week was associated with lower satisfaction with intercourse frequency; this is comparable to the impact excessive working hours has on the physical and mental well-being [4, 6].

Recent studies suggest that sexual satisfaction and relationship satisfaction are intimately intertwined, and that sexual dysfunction early in a marriage has negative long-term effects [14]. Medical residents, who are often early in their marriages [15], are at risk for sexual distress; in the current study, respondents younger than 31-years-old exhibited relatively worse physiological ability and ability to achieve orgasm compared to those 31-years and older. Strategies to reduce sexual distress during medical training should be explored because reduced sexual distress is associated with greater marriage satisfaction and longevity [15].

These data suggest that single and sexually inactive physicians in-training have decreased satisfaction with their sexual well-being. Single and sexually inactive respondents expressed dissatisfaction across several categories of sexual wellness, including number and/or type of sexual partners and variety and type of sexual experiences. A recent study found that sexual inactivity and single status was associated with and obesity, indicators of poor health, and physical inactivity [16]. However, this is not unique to physicians in-training; some associations align with those in the general population, such as cis males having a greater ability to achieve orgasm and higher masturbation frequency [17, 18].

Limitations

Limitations of this study include small sample size, lack of stratification by medical specialty, multiple univariate group comparisons, and data from a single community-based academic residency institution. Further limitations include a small body of existing data regarding sexual well-being among medical residents, and scant literature exploring specific underrepresented populations, such as sexual and gender minorities. Future directions could include larger cohorts allowing for ordinal or multinominal logistic regression models and studies across multiple community and academic institutions to characterize differences in sexual well-being by medical specialty. New studies could also assess the impact of the pandemic on medical resident sexual well-being.

CONCLUSION

Resident physicians report that medical training negatively impacts sexual wellness, particularly for married physicians in-training, who had significantly more dissatisfaction with how residency has impacted their sexual well-being. This preliminary study provides justification for further assessment of sexual wellness among physicians in-training. This could lead to development of interventions to address deficits and enhance sexual well-being, similarly to those designed for physical, emotional and mental well-being.

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