International Journal of Community Medicine and Public Health
Almhizai RA et al. Int J Community Med Public Health. 2022 Jul;9(7):2763-2768
http://www.ijcmph.com
pISSN 2394-6032 | eISSN 2394-6040

DOI: https://dx.doi.org/10.18203/2394-6040.ijcmph20221736

Original Research Article

Quality of life among pediatric residents in Riyadh

Rheem A. Almhizai, Meshari N. Alnazha*, Rola F. Alharbi, Norah A. AlRumaih, Abdullah A. Alkharashi, Abdulmalik K. Albadi

College of Medicine, Al-Imam University, Riyadh, Saudi Arabia

Received: 17 May 2022
Accepted: 04 June 2022

***Correspondence:**
Dr. Meshari N. Alnazha,
E-mail: Malnazha@gmail.com

ABSTRACT

Background: Until now, no locally based study has evaluated quality of life among pediatric residents, especially pediatric residents in Saudi Arabia, Riyadh. The objective of this study was to evaluate quality of life (QoL) of the pediatric residents and report the factors affecting their quality of life.
Methods: A cross-sectional study, a self-administered questionnaire depending study that was distributed electronically to pediatrics resident to assess the quality of life in Riyadh, Saudi Arabia. The study depended on self-reported questionnaire in which the questions were gathered specifically, from work-related quality of life (WRQoL) scale. To collect data, the self- administered questionnaire was sent through social media (twitter, WhatsApp).
Results: In this study, we were able to collect data from 260 residents where 54.2% of them were females. In general, we found that 51.9% of the participants showed good level of QoL while 47.7% showed moderate level of quality of life and only 0.4% showed low levels of QoL. The percentage of residents who showed good quality of life among the six categories; CAW, JCS, HWI, SAW, GWB and WCS were 53.8%, 49.2%, 45.0%, 48.6%, 38.1% and 56.9% respectively. We did not find any significant factors that had impact on quality of working life among the residents.
Conclusions: We found that 48.2% of the pediatric residents working in Al Riyadh region, Saudi Arabia showed moderate to low level of work-related QoL. Further studies are needed to determine the causes and improve the work-related quality of life among pediatric residents.

Keywords: Pediatric residents, Residents burnout, Quality of life

INTRODUCTION

Residency work hour amendments have been a subject of attention worldwide during the past decades, as several reports point out that long working hours and sleep deprivation are linked with medical errors, attention problems, adverse events, and resident burnout.[1-3] In another study, which was published in 2018, it was demonstrated that high levels of stress are strongly connected with depression, burnout and diminished quality of life among residents.[4-8]

In a recent study that was conducted in 2019, the research has listed that overall well-being and health statues, increased probability of patients' exposure to possible adverse events, the continuousness of the patients' care post-call and the effect on residents' reliance on memory during night duty, as they preserved as indicators of the negative impact as a result of the 24-hour on-call system.[2]

Physicians who are burnt out are more likely to make medical mistakes and have worse patient satisfaction ratings than physicians who are not burned out.[9,10] In addition, burnout is a serious problem with serious consequences as it associated with higher levels of job dissatisfaction which can lead to early retirement.[9] On a personal level, burnout can negatively affect family commitments, leads to depression and mental health disorders.[9] Moreover, it associated with more destructive behavior, worsening employee relationships and poor

workplace performance.[10] Residency program is a challenging and stressful time hence they are more prone to burnout during the program.[1] As in a study performed in New England, it shows that burnout is highly prevalent and is associated with self-reported negative patient care attitudes and behaviors among pediatric residents.[9] A specific issue for pediatricians is that many particularly valued traits, such as benevolence, perfectionism, and altruism, can also lead to burnout when clinicians are considered to be mentally or physically extreme.[11,12]

Burnout has been studied in numerous fields, but burnout among pediatric residents in Saudi Arabia has just lately been acknowledged (2018).[13] Single-center research involving 32 pediatric residents in Jeddah, Saudi Arabia, found that 43 percent of the participants were emotionally exhausted.[13] Understanding burnout and the variables that contribute to it among residents may assist residency program directors manage the working environment and build a support structure that can help residents avoid burnout.[14] Residency is a tough period in a physician's career and it's the perfect time to put personal and organizational preparations in place to reduce burnout.[15]

Until now, no locally based study has evaluated quality of life among pediatric residents, especially pediatric residents in Saudi Arabia, Riyadh. The objective of this study was to evaluate quality of life of the pediatric residents and report the factors affecting their quality of life.

METHODS

Study design and setting

A cross sectional study, a self-administered questionnaire depending study that was distributed electronically to pediatrics resident to assess the quality of life in Riyadh, Saudi Arabia. Riyadh is the capital the highest populated city in Saudi Arabia.

Study subjects

The study included all pediatrics residents in Riyadh region, Saudi Arabia who count between 250 and 350 residents with expectation of response rate of 70%, the sample size is between 175-250 participants. Our inclusion criteria are 1-pediatrics resident 2-Arabic or English speakers 3-working in Riyadh, our exclusion criteria are 1-non pediatrics resident 2- non-Arabic or English speakers 3-working outside Riyadh.

Research tool and procedures

The study depended on self-reported questionnaire in which the questions were gathered specifically, from WRQoL scale. The WRQoL scale was a 23-item psychometric scale used to gauge the perceived quality of life of employees as measured through six psychosocial sub-factors. The WRQoL scale was used by individuals, organizations and consultants as well as researchers as an aid to assessing and understanding the quality of working life of working people. To collect data, the self-administered questionnaire was sent through social media (twitter, WhatsApp). If any question was not clear enough to the participants an email was included in order to contact us to clarify the question. Sampling technique was convenience sample. For questions taken from other studies, first we asked permission from their respectful authors before using them. We ensured every participant privacy. All participants were informed about the study and the objectives. All participants were asked to for their informed consent. Incomplete ones were discarded.

Data analysis

The data was analyzed by an expert in data analysis or a biostatistician. Frequency and percent were used for description of categorical variables including age and gender while mean and standard deviation were used for ongoing categories as the questionnaire outcomes. In analysis of WRQoL tool, all answers were coded as (strongly disagree, disagree, neutral, agree). And strongly agree. For negatively states, reverse count was conducted. Then, questions were divided into six categories as provided by the questionnaire design, for each category, sum of scores was calculated. The results of each category and for total score were categorized as low, average and good for score of 33%, 67% and up to 100% respectively. T test and Chi test were used for assessing the relation between demographic factors and quality of life where all statements with p value equal or lower than 0.05 would be considered significant.

RESULTS

In this study, we were able to collect data from 260 residents where 54.2% of them were females. Moreover, 63.1% of the participants were married and 66.5% of them aged older than 24 years old. Furthermore, we found that 76.5% of the residents reported that they sleep 4-6 hours per night while 23.5 % sleep 7-9 hours per night (Table 1).

Considering the quality of life of residents, we discussed the six components of WRQOL in Table 2. We found that 53.8% of the participants had good control at work while 49.2% had good job career satisfaction. Moreover, we found that 45% of the participants had good home-work interface while 48.6% had low stress at work and 38.1% of them had good general wellbeing while 56.9% had good working conditions.

Moreover, we found that 35.1% reported that they fell that their voice impact changes in their work while 36.2% agreed that everyone had the same right to make decision. Furthermore, 50.0% of the residents agreed that they had a space to use their skills in work while 35.8% were satisfied with the career opportunities offered to them in work.

However, 30.8% of the participants agreed that they felt that they could not manage their time and 46.5% agreed that their work pattern match their personal circumstances and 31.9% agreed that they felt not to do anything after work. Considering the stress, we found that 37.3% agreed that experience high level of stress at work and 21.9% were strongly agree considering presence of high level of competition at work. Moreover, almost quarter of the participants agreed that they felt depressed and unhappy lately while 35.4% were happy with their lifestyle.

Table 1: The demographic factors of the participants (n=260).

Parameters		Count	Column N %
Gender	Male	119	45.8
	Female	141	54.2
Marital statues	Single	96	36.9
	Married	164	63.1
Age	< 24	87	33.5
	>24	173	66.5
Hours of sleep per night (hours)	4-6	199	76.5
	7-9	61	23.5

Furthermore, 43.5% of them agreed that their working conditions are satisfactory and 42.7% agreed that generally things work well for themselves (Table 2). In general, we found that 51.9% of the participants showed good level of quality of life while 47.7% showed moderate level of quality of life and only 0.4% showed low levels of quality of life (Figure 1). However, according to the reported happiness with quality of working life, 10% were strongly agree and 40.8% were agreed that they happy with quality of their working life while 15.4% and 6.2% were disagree and strongly disagreed with the statement and 27.7% were neutral.

Considering the factors affecting the quality of life among the residents, we did not find any significant factors however, some differences should be considered. Females showed higher risk for poor quality of life where 47.5% of females were found to have good QoL compared with 57.1% of males with risk of 1.5 times for females. Moreover, we found that sleeping for shorted time at night was associated with insignificant high levels of poor quality of life where 51.3% of residents reporting sleeping for 4-6 hours were found to have good QoL compared with 54.1% of those slept for longer time. Furthermore, older residents were found to have slightly more poor level of QoL than younger participants (Table 3).

Table 2: Level of WRQOL (QWL) separated by six components.

Paramters	Low		Average		Good		Mean	Interpretation
	Count	%	Count	%	Count	%		
Control at work (CAW)	15	5.8	105	40.4	140	53.8	6.6 (Out of 10)	Average
Job career satisfaction (JCS)	4	1.5	128	49.2	128	49.2	20.41 (Out of 30)	Average
Home-work interface (HWI)	0	0.0	143	55.0	117	45.0	10.13 (Out of 15)	Average
Stress at work (SAW)	0	0.0	133	51.4	126	48.6	6.87 (Out of 10)	Average
General well being (GWB)	5	1.9	156	60.0	99	38.1	13.4 (Out of 20)	Average
Working conditions (WCS)	5	1.9	107	41.2	148	56.9	10.65 (Out of 15)	Good

Table 3: Factors affecting the quality of life among residents.

Parameters		Total level of QoL						P value	Risk Ration (RR)	Lower CI 95 %	Higher CI 95 %
		Low		Average		Good					
		N	%	N	%	N	%				
Gender	Male	0	0.0	51	42.9	68	57.1	0.215	Control		
	Female	1	0.7	73	51.8	67	47.5		1.47	0.90	2.40
Marital statues	Single	0	0.0	45	46.9	51	53.1	0.723	Control		
	Married	1	0.6	79	48.2	84	51.2		1.07	0.65	1.78
Age	<24	1	1.1	39	44.8	47	54.0	0.313	Control		
	>24	0	0.0	85	49.1	88	50.9		1.13	0.67	1.92

Continued.

Parameters		Total level of QoL						P value	Risk Ration (RR)	Lower CI 95 %	Higher CI 95 %
		Low		Average		Good					
		N	%	N	%	N	%				
Hours of sleep per night (hrs)	4-6	1	0.5	96	48.2	102	51.3	0.805	Control		
	7-9	0	0.0	28	45.9	33	54.1		0.892	0.0	1.58

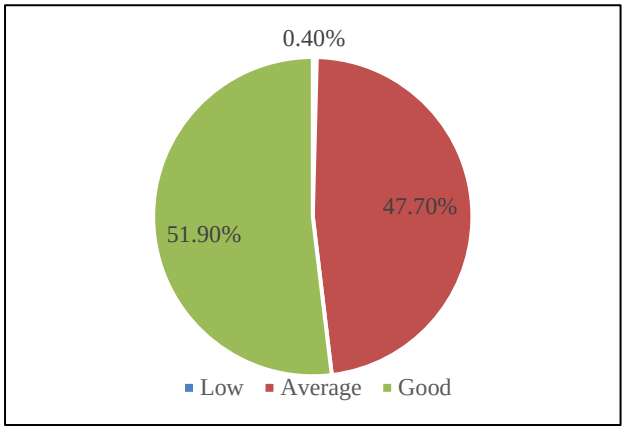

Figure 1: The distribution of residents over level of quality of life.

DISCUSSION

The aim of the conducted study was to evaluate the pediatric residents' quality of working life using of the Work-related Quality of life (WEQoL). The final WRQoL score is determined by taking the mean of the 6 domains of the tool. After analyzing of the data, our main results if that the half of the residents (51.9%) have good work-related quality of life. This result is in agreement with the results of previous study conducted by Zare et al among general residents, in which 50 % of the residents showed good to very good quality of life.[16] In another study conducted by Shabani et al found that the most of family physicians showed moderate to low quality of working life.[17] On the other hand, previous study conducted by Almailabi et al among 99 surgical residents showed that 50.7 % of residents showed low quality of work life.[4] Moreover, another study conducted by Storman et al among 243 Polish medical residents showed that 2.06 % and 23.87 % of the residents showed very high and high level of quality of working life while 27.16 % had moderate and 38.27 % and 8.64 % had low and very low level of quality of working life.[18]

Home-Work interface (HWI) is one of the subscales of WRQoL that provides us with an idea about how residents are supported in both of their family and home life.[19] The HWI factors indicates the work-life balance and the extent to which the residents is perceived to support their home life.[20] In our study, 55 % of the residents showed good quality of working life and 46.5 % of the participants agreed that their work pattern match their personal circumstances however, 31.9 % agreed that they felt not to do anything after work and 30.8 % of the participants agreed that they felt that they could not manage their time. Many other studies showed that quality of home-work interface among residents is low to moderate.[18,19] Reasons for low HWI quality of working life could be explained because of lack of flexibility, long working hours and high job demands which could interface between home and work responsibility.[4] Another reason which is associated with our study, that almost two thirds of the sample were married and that might lower the subscale of Home-Work interface. A low work-life balance can negatively affect the lives of residents in and around their work environment. In addition to the negative effects of a reduced work-life balance, physical and physiological problems such as fatigue and depression are common.[21,22] A higher incidence of depression and fatigue was also noted by European oncologists.[23] Work stress (SAW) is defined by how well a person perceives that they are under stress and feel stressed at work.[20] Most of our residents 0.0 % had high SAW, while 51.4% of them had average SAW, and 48.6 % of them had low SAW. These results indicate that pediatric residents showed moderate to low stress levels in work. Recognizing that workplace stress is an occupational health problem, burnout and overcrowding in the medical field is more common than in other professions.[24] Tension and stress can be expressed in any negative reaction to excessive demands.[20] In our study, it was found that 37.3% agreed that experience high level of stress at work. Stress and anxiety can be good tools to move residents into a challenging environment, so that patients can benefit from that challenging environment. However, excessive levels of stress can lead to fatigue, which in turn affects population performance and mental health.[23,24] According to one study, limited resources, climate change and poor work-life balance are contributing factors.[25,26] To address this issue, one study found that controlling of stress among workers during the work can not only control stress at work but also prevent burnout.[24] As mentioned earlier, not only is stress and burnout high in the medical field, but general health (GWB) is worse than any other profession.[27] The GWB factor assesses how well an individual feels or whether he or she is satisfied with life in general. Public welfare is conceptually shaped as the effect of work on their general life.[20] In our results, only 38.1 % of the residents showed good GWB. In a study conducted in King Abdulaziz Medical City, 47.9% of the surgical residents have low general well being subscale.[10] Home-Work interface and stress levels can explain the psychological part of General wellbeing subscale.[10]

Control in the workplace (CAW) reflects the level at which an employee feels they can use what they see fit in the workplace. This understanding of organization may be related to a variety of business areas, including the potential to contribute to the decision-making process.[20] In our study, 53.8 % of the residents showed good CAW. This reflects good management conducted among these participants which enable the residents to have control on their decision and decision of hospital. This could be one reason for why the total score showed good level of quality of working life as well as that almost half of the participants showed good Job career satisfaction (JCS) and that 56.9 % showed good Working Conditions (WCS). The WCS evaluates to which extent the residents is satisfied with their fundamental resources, and working conditions as well as security necessary to performing their job effectively.[20]

In previous studies, the authors found that female surgeons are more likely to have higher rate of burnout than males.[28] Furthermore, another study conducted in US showed that female residents showed low levels of quality of life compared with male residents.[20] This is also reported in another study conducted in South Affric which showed that female residents expressed more concern about maintaining a balance between work and life.[29] However, in our study we found that there no significant difference between male and female pediatric residents in overall quality of working life (p=0.215) which is similar to the results of another study conducted in King Abdulaziz Medical City. Moreover, we found that lower hours of sleep over night is associated with poor quality of life however, the relation was not significant. This is similar to another study conducted in US concluded that sleep hours and activity level have no association with burnout and stress level.[30]

This is the first study evaluating the quality of life of pediatrics residents in Riyadh region, Saudi Arabia; however, this study is based on self-reported data, there might be a response bias involved. Moreover, this study was conducted in a single province in Saudi Arabia among one specialty which enabled us to limit the results of our study.

CONCLUSION

In conclusion, we found that 48.2% of the pediatric residents working in Riyadh region, Saudi Arabia showed moderate to low level of work-related quality of life. Further studies are needed to determine the causes and improve the work-related quality of life among pediatric residents.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Baer TE, Feraco AM, Sagalowsky S, Williams D, Litman HJ, Vinci RJ. Pediatric Resident Burnout and Attitudes Toward Patients. Pediatrics. 2017;139(3).
2. Alsohime FM. Pediatric residents' perceptions of the impact of the 24-hour on-call system on their well-being and education and patient safety. Saudi Med J. 2019;40(10):1040-4.
3. Auger KA, Landrigan CP, Gonzalez del Rey JA, Sieplinga KR, Sucharew HJ, Simmons JM. Better Rested, but More Stressed? Evidence of the Effects of Resident Work Hour Restrictions. Acad Pediatr. 2012;12(4):335-43.
4. Almailabi M, Alajmi R, Balkhy A, Khalifa M, Mikwar Z, Khan M. Quality of Life among Surgical Residents at King Abdulaziz Medical City in Jeddah, Saudi Arabia. Open Access Maced J Med Sci. 2019;7(23):4163-4167.
5. Simpkin AL, Khan A, West DC. Stress From Uncertainty and Resilience Among Depressed and Burned Out Residents: A Cross-Sectional Study. Acad Pediatr. 2018;18(6):698-704.
6. Henning MA, Hawken SJ, Hill AG. The quality of life of New Zealand doctors and medical students: what can be done to avoid burnout? N Z Med J. 2009;122(1307):102-110.
7. Immerman I, Kubiak EN, Zuckerman JD. Resident work-hour rules: a survey of residents' and program directors' opinions and attitudes. Am J Orthop (Belle Mead NJ). 2007;36(12):E172-9.
8. Perrin DL, Cordingley DM, Leiter JR, MacDonald PB. Physical fitness of medical residents: Is the health of surgical residents at risk? Can J Surg. 2018;61(5):345-349.
9. Mahan JD. Burnout in Pediatric Residents and Physicians: A Call to Action. Pediatrics. 2017;139(3).
10. Alosaimi FD, Kazim SN, Almufleh AS, Aladwani BS, Alsubaie AS. Prevalence of stress and its determinants among residents in Saudi Arabia. Saudi Med J. 2015;36(5):605-12.
11. Wright AA, Katz IT. Beyond Burnout — Redesigning Care to Restore Meaning and Sanity for Physicians. N Engl J Med. 2018;378(4):309-11.
12. Panagioti M, Panagopoulou E, Bower P. Controlled Interventions to Reduce Burnout in Physicians. JAMA Intern Med. 2017;177(2):195.
13. Jamjoom RS, Park YS. Assessment of pediatric residents burnout in a tertiary academic centre. Saudi Med J. 2018;39(3):296-300.
14. Spickard, Jr A. Mid-Career Burnout in Generalist and Specialist Physicians. JAMA. 2002;288(12):1447.
15. West CP, Dyrbye LN, Erwin PJ, Shanafelt TD. Interventions to prevent and reduce physician burnout: a systematic review and meta-analysis. Lancet. 2016;388(10057):2272-81.

16. Hosseini Zare M, Ahmadi B, Akbari Sari A, Arab M, Movahed Kor E. Quality of working life on residents working in hospitals. Iran J Public Health. 2012;41(9):78-83.
17. H S. Determine the quality of work life (QWL) family physicians in the province in 1388. MSc thesis. Published online 1968.
18. Storman M, Storman D, Maciąg J. Quality of work-life among young medical doctors in Poland. Int J Occup Saf Ergon. 2021;1-7.
19. Bohrer T, Koller M, Schlitt HJ, Bauer H. Workload and quality of life of surgeons. Results and implications of a large-scale survey by the German Society of Surgery. Langenbeck's Arch Surg. 2011;396(5):669-76.
20. Laar D Van. User Manual for the Work-Related Quality of Life (WRQoL) Scale: A Measure of Quality of Working Life. 2nd ed. University of Portsmouth. 2018.
21. van Vendeloo SN, Godderis L, Brand PLP, Verheyen KCPM, Rowell SA, Hoekstra H. Resident burnout: evaluating the role of the learning environment. BMC Med Educ. 2018;18(1):54.
22. Ogawa R, Seo E, Maeno T, Ito M, Sanuki M, Maeno T. The relationship between long working hours and depression among first-year residents in Japan. BMC Med Educ. 2018;18(1):50.
23. Mordant P, Deneuve S, Rivera C. Quality of Life of Surgical Oncology Residents and Fellows Across Europe. J Surg Educ. 2014;71(2):222-8.
24. Dyrbye LN, West CP, Satele D. Burnout Among U.S. Medical Students, Residents, and Early Career Physicians Relative to the General U.S. Population. Acad Med. 2014;89(3):443-51.
25. Low ZX, Yeo KA, Sharma VK. Prevalence of Burnout in Medical and Surgical Residents: A Meta-Analysis. Int J Environ Res Public Health. 2019;16(9):1479.
26. Zubair MH, Hussain LR, Williams KN, Grannan KJ. Work-Related Quality of Life of US General Surgery Residents: Is It Really so Bad? J Surg Educ. 2017;74(6):e138-e146.
27. Elmore LC, Jeffe DB, Jin L, Awad MM, Turnbull IR. National Survey of Burnout among US General Surgery Residents. J Am Coll Surg. 2016;223(3):440-51.
28. Pulcrano M, Evans SRT, Sosin M. Quality of Life and Burnout Rates Across Surgical Specialties. JAMA Surg. 2016;151(10):970.
29. Umoetok F, Van Wyk JM, Madiba TE. Does gender impact on female doctors'experiences in the training and practice of surgery? A single centre study. S Afr J Surg. 2017;55(3):8-12.
30. Marek AP, Nygaard RM, Liang ET. The association between objectively-measured activity, sleep, call responsibilities, and burnout in a resident cohort. BMC Med Educ. 2019;19(1):158.

Cite this article as: Almhizai RA, Alnazha MN, Alharbi RF, AlRumaih NA, Alkharashi AA, Albadi AK. Quality of life among pediatric residents in Riyadh. Int J Community Med Public Health 2022;9:2763-8.