

# Work Related Quality of Life (WRQoL) Survey of Surgical Residents at Tertiary Care Hospital

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## ABSTRACT

**Objective:** To explore work-related quality of life of surgery residents in a Tertiary Care Hospital in Khyber Pakhtunkhwa.

**Study Design:** Explanatory Sequential Mixed Method study

**Place and Duration of Study:** Surgical and Allied Departments, Hayatabad Medical Complex Peshawar, Pakistan from Mar to May 2020.

**Methodology:** Postgraduate residents from surgical and allied specialties were given standard Work-Related Quality of Life (WRQoL) questionnaire. WRQoL scores were calculated for the residents. In the second stage, postgraduate residents with low scores were interviewed until the saturation of data was reached. For quantitative data collection we used convenient non-probability sampling technique and for qualitative data we used the extreme case purposeful sampling technique.

**Results:** A total of thirty-nine residents submitted a filled WRQoL questionnaire. The mean WRQoL score in our study was  $74.82 \pm 15.84$ . A total of 17(43.6 %) residents had low WRQoL scores. Components of WRQoL scores were also studied for each resident. Stress at work (SAW) showed a significant increase in female residents compared to male residents ( $p=0.003$ ).

**Conclusion:** More than 43% of the residents in surgery reported low quality of life at workplace. The score is predominantly low in female and junior residents. The major contributor is the stress at work. Significant effort needs to be made to improve the working conditions of surgical residents. This study also opens the way for further work into the burnout of physicians and nurses.

**Keywords:** Internships and Residents, Medical Education, Professional Burnout, Quality of Life.

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## INTRODUCTION

Surgery residents have an underlying level of stress due to long working hours, hectic schedule, and heavy workloads. This presents significant difficulties in balancing personal and professional lives.<sup>1,4</sup> The physician burnout and well-being of healthcare professionals have been studied before but the overall quality of life (QoL) of surgery residents at workplace is relatively unexplored and unexplained.<sup>5,6</sup> Work related Quality of life is associated with job motivation, job satisfaction, work involvement and life satisfaction.<sup>7</sup> These factors can have an impact on their educational process, family life, personal well-being as well as on patient care.<sup>8,9</sup>

The residents working in our hospitals face an enormous patient load. By identifying the strengths and weaknesses of the environment in which the residents work, it will be easier to plan and suggest targeted interventions like re-evaluating training paradigms, revisiting assessment tools in our institutions and provide counseling and mentorship to

improve the educational environment and work-related quality of life. This study aimed to explore the work related quality of life in surgery residents. We used work related quality of life (WRQoL) scale. This tool has been shown to be the most reliable among health care workers and has been adopted by many hospitals.

## METHODOLOGY

This was an explanatory sequential mixed method study conducted at Hayatabad Medical Complex, Peshawar from March 2020 to May 2020. Sample size for the study was calculated with confidence interval of 95% and alpha value of 0.05.<sup>10</sup> Non-probability consecutive sampling technique was used to recruit participants. Consent from study participants was obtained before data collection.

**Inclusion Criteria:** Residents in surgery and allied with at least 3 months of training were included in this study.

**Exclusion Criteria:** Residents with medical issues and those with ongoing administrative issues were excluded from the study. Post call residents were also excluded from the study.

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## Work Related Quality of Life

Data collection was started after approval from the Institutional Review and Ethical Board (Ref No. 0051/IREB/PGMI-HA). Data was collected from the surgery residents during a CME activity in the hospital after getting the consent from the participants. It was collected using the WRQoL questionnaire (Table-I). Each questionnaire was scored

Each question in the WRQoL questionnaire, tests for one of the six components of WRQoL. Points for each category were added to the respected row and total subcomponent score was calculated. The points were then summed up to calculate the WRQoL Score.<sup>11</sup>

The 2<sup>nd</sup> (qualitative) phase was a follow-up to the

**Table-I: Work related Quality of Life (WRQoL) Questionnaire**

S. No.	Questions	Disagree			Agree	
		1	2	3	4	5
1	I have a clear set of goals and aims to enable me to do my job					
2	I feel able to voice opinions and influence changes in my area of work					
3	I have the opportunity to use my abilities at work					
4	I feel well at the moment					
5	My employer provides adequate facilities and flexibility for me to fit work in around my family life					
6	My current working hours / patterns suit my personal circumstances					
7	I often feel under pressure at work					
8	When I have done a good job it is acknowledged by my line manager					
9	Recently, I have been feeling unhappy and depressed					
10	I am satisfied with my life					
11	I am encouraged to develop new skills					
12	I am involved in decisions that affect me in my own area of work					
13	My employer provides me with what I need to do my job effectively					
14	My line manager actively promotes flexible working hours / patterns					
15	In most ways my life is close to ideal					
16	I work in a safe environment					
17	Generally things work out well for me					
18	I am satisfied with the career opportunities available for me here					
19	I often feel excessive levels of stress at work					
20	I am satisfied with the training I receive in order to perform my present job					
21	Recently, I have been feeling reasonably happy all things considered					
22	The working conditions are satisfactory					
23	I am involved in decisions that affect members of the public in my own area of work					
24	I am satisfied with the overall quality of my working life					

using the scoring system (Table-II).<sup>11</sup>

**Table-II: Marking Schema for Scoring**

	Questions	Total Component Score
General Well Being (GWB)	4, 9, 10, 15, 17, 21	
Home Work Interface (HWI)	5, 6, 14	
Job and Career Satisfaction (JCS)	1, 3, 8, 11, 18, 20	
Control at Work (CAW)	2, 12, 23	
Working Conditions (WCS)	13, 16, 22	
Stress at Work (SAW)	7, 19	
Total WRQoL Score		Total WRQoL Score:

quantitative data gathering. In this phase, the work related quality of life was explored by conducting semi-structured interviews with the low scorers on the work related quality of life scale, to explain and explore the causes in depth and how to improve the work related quality of life (WRQoL).

Data collected in the quantitative phase was analyzed by descriptive analysis by using SPSS Version 23. Descriptive analysis was done by calculating means and standard deviations. An Independent samples t-test was used to compare the mean and *p*-value was ≤ considered as significant. Thematic analysis was done for qualitative analysis.

## RESULTS

### Quantitative Analysis

A total of 50 residents were given the questionnaire for assessment. Thirty nine residents submitted a completely filled WRQoL questionnaire. Twenty-seven participants were female and twelve were male. Twenty of the participants were senior residents. The average WRQoL score in our study was  $74.82 \pm 15.84$ . A total of 17(43.6 %) of residents had low WRQoL scores, followed by 15(38.5%) who had high WRQoL scores. A total of 7(17.9%) residents showed average WRQoL Score. Although the scores for male residents were high as compared to the female residents, the difference was not statistically significant. Stress at Work (SAW) showed statistically significant decrease in score for female residents. (Table-III).

**Table-III: WRQoL Scores and Subcategories According to Gender (n=39)**

Categories	Male	Female	p-value*
	Mean $\pm$ SD	Mean $\pm$ SD	
WRQoL score	80.67 $\pm$ 22.28	72.22 $\pm$ 11.59	0.23
General Well Being	21.58 $\pm$ 4.70	19.81 $\pm$ 4.47	0.28
Home Work Interface	10.33 $\pm$ 3.60	8.52 $\pm$ 2.21	0.12
Job and Career Satisfaction	21.67 $\pm$ 7.53	21.30 $\pm$ 4.58	0.87
Control at Work	9.08 $\pm$ 3.42	8.07 $\pm$ 1.88	0.35
Working Conditions	10.00 $\pm$ 3.89	10.67 $\pm$ 2.54	0.59
Stress at Work	7.33 $\pm$ 2.10	4.96 $\pm$ 1.70	0.003

\*Independent samples t test

WRQoL score was stratified according to seniority of the residents. Junior residents showed a significant decrease in stress at work (SAW) as compared to senior residents ( $p$ -value <0.05). (Table IV)

**Table IV: WRQoL scores and subcategories according to seniority (n=39)**

Categories	Senior Resident	Junior Resident	p-value*
	Mean $\pm$ SD	Mean $\pm$ SD	
WRQoL score	76.45 $\pm$ 18.15	73.11 $\pm$ 13.28	0.51
General Well Being	20.85 $\pm$ 4.80	19.84 $\pm$ 4.35	0.49
Home Work Interface	9.55 $\pm$ 2.92	8.58 $\pm$ 2.63	0.28
Job and Career Satisfaction	21.60 $\pm$ 5.84	21.21 $\pm$ 5.38	0.83
Control at Work	8.20 $\pm$ 2.86	8.58 $\pm$ 2.01	0.63
Working Conditions	10.00 $\pm$ 3.04	10.42 $\pm$ 2.98	0.66
Stress at Work	6.25 $\pm$ 2.27	5.11 $\pm$ 1.82	0.09

### Qualitative Analysis

Candidates with low scores were identified with quantitative analysis. A total of five candidates were interviewed till saturation of the data was achieved. Among them, three were female and two were male residents. A common theme was seen across all the candidates. All candidates identified increased patient load and working hours as the primary cause of stress. Another major factor that was identified by four out of five candidates is care of critically ill patients. Besides the physical stress, critically ill patients also lead to emotional stress in the residents. In female candidates,

**Table-V: Thematic Analysis of Residents who scored low on WRQoL Scoring Index**

Residents	Interview points taken during resident interview	Codes	Themes
1	Have to work under-pressure from seniors	Working under pressure Patient Load Tiring day	Working Conditions (WCS) Stress at Work (SAW)
	Patient load is too much, Increasing responsibility, tiring day		
2	The day gets too busy, flow of patients is too much, stress due to favoritism, unhealthy competition among residents	Patient Load Unhealthy competition	Stress at Work (SAW)
3	Need time off for my personal problems. Cannot manage them along with my duties	Tiring day Patient load Home issues	Stress at Work (SAW) Home Work Interface(HWI)
	Stress of missing out, burnout during emergency duties, not getting enough time off to relax		
4	Personal problems at home	Patient Load Tiring day Burnout due to critical patients Home issues	Stress at Work (SAW) Home Work Interface (HWI)
	Stress to perform well in exams, difficult to learn in a tough schedule, too much patients, cannot give enough time to serious patients		
5	No control in decision making, difficult to coordinate with other residents	Patient load Burnout due to critical patients Difficulty in decision making	Stress at Work (SAW) Control At Work (CAW)
	Patient care becomes difficult due to load, caring for and counseling critical patients is difficult. Providing care to terminal care is emotionally difficult.		

balancing work and responsibilities at home were also cited by two candidates as a source of decrease in productivity and low quality of life. Thematic analysis is given in Table-V, as follows.

## DISCUSSION

In our study, 43.6% of residents reported a low WRQoL score. Almailabi *et al.* reported similar results, with 50% of their surgical residents reporting a low WRQoL score. Somsila *et al.* conducted a similar study on medical residents and reported a much higher WRQoL score.<sup>12</sup> Training programs around the world are now emphasizing work-life balance of residents. Several studies have been published in this regard in the past few years.<sup>1,10,12</sup>

Subcategories of WRQoL also showed a decrease in score for female residents and junior residents compared to male residents and senior residents, respectively. The difference was significant only for stress at work (SAW) for both female residents and junior residents. Several other studies report higher frequency of low scores for female health workers.<sup>13,14</sup> There is a positive correlation with improving overall satisfaction at work with seniority and experience. This is because of development of interpersonal relationships at the workplace and increase in clinical knowledge over time.<sup>2</sup>

Greater work loads are one of the common reasons that lead to increase in stress at work (SAW). Thematic analysis of surgical residents with low scores showed this to be a prime factor. This can lead to physical burnout for the resident. The effects can be more prominent in junior residents who are new in their specialty and have increased responsibility in patient care along with lack of confidence in their clinical acumen.<sup>2</sup> Another factor that contributes to the burnout is the long working hours and frequent night duties. This can disrupt health care workers' circadian rhythms.<sup>15,16</sup>

Surgical residents are the front-line doctors for traumatic and burn injuries. They also care for the critically ill patients. Caring for these patients places enormous emotional stress on the residents. Health care workers exposed to higher trauma volumes and more critically ill patients have higher burnout.<sup>17</sup> Thematic analysis revealed similar patterns among surgical residents. Rotations in the ICU also contributed to low WRQoL score among the residents. Emotional stress in intensive care can lead to post-traumatic stress disorder.<sup>18</sup> The healthcare staff

working in intensive care face much better condition due to increase in the number of vacations.<sup>19</sup>

## LIMITATIONS OF THE STUDY

The study is based solely on surgical residents. Inclusion of medical residents would have allowed us to make a comparison among the two groups in our hospital setting. Another limitation is that the survey respondents were predominantly female. Further work needs to be done in this regard by conducting larger studies. By collecting data regularly, we will be able to study the effects of any interventions taken to improve the quality of life of health care workers.

## CONCLUSION

More than 43% of the residents in surgery reported low quality of life at workplace. The score is predominantly low in female and junior residents. The major contributor was the stress at work. This study gives us a sneak peek into the quality of life of the residents. The authors demonstrate that a significant effort needs to be made to improve the working conditions of surgical residents. This study also opens the way for further work into the burnout of physicians and nurses.

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## Authors' Contribution

Following authors have made substantial contributions to the manuscript as under:

T: Data acquisition, data analysis, critical review, approval of the final version to be published.

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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