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Medical Physicist Job Status during COVID-19 Pandemic - A Pilot Study of the American Association of Physicists in Medicine Southern California Chapter

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Abstract
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Abstract

Objectives:

To investigate medical physicists job status during the COVID-19 pandemic in Southern California.

Methods:

We designed and conducted a survey study via the online survey platform SurveyMonkey. The survey contains 14 questions in various formats, such as multiple choice, Likert scale (1-10) and open-ended. The multiple-choice questions cover demographic information of our study population. The Likert scale questions mainly measure the level of job stress and burnout; influences of work life induced by COVID-19; consideration of leaving current job; work environment; satisfaction with salary and benefits; and the willingness to resume full-time on-site work from work from home. The open-ended question asked for recommendations on minimizing job-related stress. The survey link was emailed to each member of the American Association of Physicists in Medicine (AAPM) Southern California Chapter (SCC). All the responses were anonymized and analyzed using both qualitive and quantitative methods. The numerical Likert scale results (1-10) were used to calculate the Pearson's correlation coefficients (CC) among these measured variables. All analyses were done with SAS Enterprise Guide statistical software (version 7.1).

Results:

The survey data was collected from January 5, 2022 to February 5, 2022. A total of 188 invitations were emailed out to medical physicists and 66 responses were received, with a response rate of approximately 35.1%. Results showed that the COVID-19 pandemic influence has a moderate correlation in the job burnout (CC=0.32, p=0.0105) and the job stress (CC=0.29, p=0.0191). Job burnout has a strong correlation with job stress (CC=0.72, p< 0.0001), intention to change job (CC=0.64, p< 0.0001) and work environment (CC=0.51, p< 0.0001), respectively. Intention to change job is also strongly correlated with job stress (CC=0.59, p< 0.0001) and work environment (CC=0.54, p< 0.0001). The open-ended question collected 34 qualitative responses that proposed multiple ways to minimize job-related stress and burnout; for example, increasing job recognition, salary increases adjusting to inflation, and allowing remote work from home.

Conclusion(s):

This pilot study provides valuable data in capturing a snapshot of medical physicist's job status in Southern California during the COVID-19 pandemic, in addition to providing some insights and feedback attempting to address job-related stress and burnout. An extension to a national study population is being planned to better measure, analyze, and understand relationships among the 9 variables investigated in this study, with the potential to assist medical physicists in improving work-life balance.