

Submitted: 23 August 2021  
Accepted: 28 October 2021  
Published online: 5 April, TAPS 2022, 7(2), 56-60  
<https://doi.org/10.29060/TAPS.2022-7-2/SC2686>

# Perceived stress & sentiments of housemen starting work during the COVID-19 Pandemic in Singapore

Mae Yue Tan, Nicholas Beng Hui Ng, Marion Margaret Aw & Jeremy Bingyuan Lin

*Khoo Teck Puat -National University Children's Medical Institute, National University Health System, Singapore*

## Abstract

**Introduction:** The transition from medical student to houseman is well recognised as a stressful period for newly qualified doctors. This stress is likely to be heightened when the transition occurs during a pandemic. We aimed to evaluate the perceived stress levels of housemen as they begin housemanship and explore their sentiments and preparedness in starting work amidst the coronavirus disease 2019 (COVID-19) pandemic.

**Methods:** Housemen starting work at a tertiary institution in Singapore in May 2020 completed the following: (1) Perceived Stress Scale, (2) open-ended questions on perceived challenges and concerns and (3) questionnaire on preparedness and confidence in starting work. Descriptive statistics were used to analyse quantitative data and modified thematic analysis performed for qualitative data.

**Results:** Sixty-one housemen participated. Thirty-five (57.4%) reported high perceived stress. The themes for perceived challenges in this transition included coping with constant change, lack of reliable information from authorities, dealing with disappointment, physical fatigue, and loss of autonomy. The themes for concerns in beginning housemanship elicited relate to clinical competence, transitioning into new responsibilities, risk of infection with COVID-19, senior expectations, physical fatigue and training-related concerns. Despite these challenges and concerns, housemen were prepared to begin work during this pandemic.

**Conclusion:** Housemen transitioning during this pandemic experienced additional stressors and unique challenges pertaining to working in a pandemic. Encouragingly, they remain prepared to start work. Institutions and departments should be mindful of the specific concerns and challenges so that appropriate support can be put in place to support these junior doctors.

**Keywords:** *COVID-19, Junior Doctor, Intern, Pandemic, Challenges, Preparedness*

## I. INTRODUCTION

Newly graduated doctors are a particularly vulnerable group of healthcare workers as they start work as housemen amidst the COVID-19 pandemic. The transition from student to doctor is already notorious for steep learning curves and increased stress (Sturman et al., 2017). Moreover, housemen in Singapore experienced drastic changes during their final year of medical school, a time which coincided with the surge of the pandemic in Singapore. Not only was clinical training disrupted, this batch also experienced a modified form of final examinations, an earlier start to housemanship, and

changes to posting selections, as manpower allocation was done centrally based on manpower demands. With that, we aimed to evaluate the perceived stress among housemen and explore their perceived challenges, concerns and preparedness just before they started work.

## II. METHODS

We performed a cross-sectional anonymous survey on housemen at our institution on their first day of housemanship, in May 2020. The survey was administered before the hospital orientation by an

independent institutional representative not part of the investigating team. Consent was implied through voluntary participation.

The Perceived Stress Scale (PSS) (Cohen et al., 1983) was used as a measure of stress. This tool is designed to assess how unpredictable, uncontrollable, and overloaded respondents find their lives. We also administered structured open-ended questions to elicit perceived challenges and major concerns while transitioning from medical school to starting work as a houseman. Participants also completed 7-point Likert rating scale modelled after an existing military instrument (Zagelbaum et al., 2014) to evaluate perceived preparedness and confidence in starting work.

Quantitative data was analysed using IBM SPSS (Version 23.0), with descriptive analysis. The qualitative data was analysed using modified thematic analysis, with NVivo software. All transcripts were coded independently by three authors. The coding method involved an inductive (ground up) method, looking at generating the unit of meanings, categorising the data and developing themes until data saturation was achieved. The kappa coefficient score for the qualitative data analysis was 0.87, indicating good agreement.

### III. RESULTS

Sixty-one housemen participated (response rate 100%). A significant proportion (57.4%) rated high stress on the PSS.

Key themes of perceived challenges reported by the housemen transitioning from medical school to the workforce during the COVID-19 pandemic included: (1) coping with constant change, (2) lack of timely reliable information, (3) dealing with disappointment, (4) physical fatigue, (5) loss of autonomy (Fig 1). Examples of last-minute changes to examinations, work commencement and posting-related information were quoted as a major cause for significant uncertainties. Additionally, some had quoted the lack of timely nor reliable dissemination of the information, coming from third-party sources rather than relevant authorities. The

shortened break between end of examinations and housemanship meant that typical traditions of personal and post-graduation plans, had to be cancelled, resulting in disappointment and reduced rest. Many also felt that the central distribution of manpower with increased rotations to pandemic heavy departments meant a loss of autonomy in selecting a posting or institution of choice.

The themes for perceived concerns about starting work during the pandemic included (1) clinical competence as a junior doctor, (2) transitioning into new responsibilities, (3) risk of infection, (4) failing to meet expectations of seniors, (5) physical fatigue and (6) training-related concerns. The lack of competence in patient management, “call” duties, and managing emergencies were a huge concern. This extended from concerns of manpower constraints and reduced supervision during pandemic times. Navigating the new job as a doctor with new responsibilities were also raised, with concerns on the long hours and overnight “calls” leading to burnout. There were also examples given on failing to meet the expectations of senior colleagues. Pandemic-specific concerns included the risk of contracting and transmitting COVID-19 to loved ones. Many had also expressed apprehension about the possible impact that the pandemic may have on their clinical training and career progression.

In terms of preparedness to start work amidst a pandemic, 82.0% (n = 50) housemen shared that they were mentally prepared to start work. Majority (86.8%) felt that their medical school had prepared them adequately to be a junior doctor. Three-quarters (75.4%) agreed that their medical school has prepared them adequately to deal with the pandemic and its related clinical demands. Majority (83.6%) felt confident in their clinical competency to effectively work as a junior doctor, and 77.0% felt confident in their clinical competency in dealing with the pandemic as a junior doctor. Interestingly, when asked about their confidence in managing stress, 80.3% reported being confident of dealing with stressors faced by a junior doctor while 77.0% felt confident in managing pandemic-related stress.

Perceived challenges with the transition		
<b>COPING WITH CHANGE</b>  <i>Uncertainty with changes in exams</i> <i>Starting work early</i> <i>Changes to the start-of-work date</i> <i>Great uncertainty of the changes in the working environment</i> <i>Adjusting to new healthcare system</i> <i>Changes in schedule</i> <i>Working with constant changes</i> <i>Frequent changes to plans</i>	<b>LACK OF RELIABLE INFORMATION</b>  <i>(changes)with minimal forewarning</i>  <i>false news- rumours from unofficial (sources) ahead of official sources regarding changes</i>  <i>Uncertainty about work details</i>	<b>PHYSICAL FATIGUE</b>  <i>Less off-time to recover after exams/before work starts</i>  <i>Burnout - since our breaks were essentially spent at home</i>  <i>Lack of rest before starting work</i>
	<b>DISAPPOINTMENT</b>  <i>Disappointment with cancelled travel plans</i>  <i>No graduation trip and no celebrations</i>  <i>Disappointed in posting allocation</i>	<b>LACK OF AUTONOMY IN ROTATIONS</b>  <i>Limited posting choices</i>  <i>Loss of autonomy in rotation selection</i>
Perceived concerns in starting housemanship		
<b>CLINICAL COMPETENCE</b>  <i>Clinical competency and confidence in managing patients alone</i> <i>Responding adequately to emergencies on call</i> <i>Patient safety and making mistakes</i> <i>Medical knowledge not being good enough</i> <i>Managing acute patients appropriately</i> <i>Inability to work adequately</i>	<b>INFECTION</b>  <i>Psychological stress of worries of being infected</i>  <i>Bringing any infection home</i>  <i>Being contagious to my family</i>  <i>Worry about how to reduce transmission risk to family members</i>	<b>FATIGUE/ BURNOUT</b>  <i>Having enough sleep to be in a good state to care for patients</i>  <i>Lack of sufficient rest</i>  <i>Bring tired</i>  <i>How my sleep/ focus will be affected</i>  <i>Fatigue</i>
	<b>NEW RESPONSIBILITIES OR TRANSITION</b>  <i>Coping with stress and new responsibilities</i>  <i>General uncertainty about suddenly being a working adult</i>  <i>Big responsibility- patients' lives in my hands</i>  <i>Transition between studying to working</i>	<b>SENIOR PERCEPTION/</b>  <i>Not meeting bosses' expectations</i>  <i>Getting scolded</i>  <i>Leaving a bad impression</i>

Figure 1. Perceived challenges in the transition period, and perceived concerns of new housemen just before starting their housemanship. The size of the boxes corresponds to the frequencies of the themes with examples of verbatim responses transcribed.

#### IV. DISCUSSION

Our results show that a significant proportion of housemen starting work in the current pandemic have high perceived stress; this appeared to be higher than what is reported in literature for medical students and house officers in non-pandemic settings (Drachev et al., 2020), and higher than healthcare workers during this

pandemic (Chen et al., 2020). As such, we believe that this is a significant finding warranting attention.

The challenges of transitioning from medical school to housemanship is well established: not only do housemen have to cope with the responsibility of being a full-fledged doctor, there is also increased physical fatigue and professional expectations that need to be met. Some

of these challenges specific to transitioning have also been raised by our housemen.

The sentiments of housemen transitioning during a pandemic are not unique to this group alone: dealing with frequent and constant change and the lack of reliable and timely information are challenges that have also been reported among other healthcare workers. However, there were specific points unique to this group of junior doctors we had studied, particularly the perceived insecurity over their qualifications due to disrupted student clinical training and modified final examinations. This we feel is an important point that medical schools should be aware of; in the event of disruptions or sudden changes to the process of assessment or accreditation, it is important that these be conveyed clearly to the student body, with appropriate engagement, opportunities for clarification and reassurance on any insecurities which they may result from these changes.

Significant pandemic-specific concerns included fears of contracting the COVID-19 infection and transmitting this to others. This fear is not uncommon among healthcare workers and has been reported in recent literature. There was also the additional concern of postgraduate training disruption, which was not unexpected given the disruptions to teaching, deployment to pandemic areas and the lack of choices in the selection of their postings.

We were encouraged to find that despite the higher perceived stress, reported challenges and concerns shared, the majority had felt that their medical schools had prepared them adequately to be a junior doctor, and to deal with pandemic related demands. Additionally, despite the concerns about starting work earlier, majority still reported being ready to start work and felt confident to work effectively - their response to readiness meant that they were not shying away from the call of duty during this pandemic.

Our study is not without limitations. Open-ended questions instead of interviews that were done in line with social distancing restrictions limited the depth of the qualitative data. That said, the 100% response rate provided us with rich data that could be analysed. Additionally, the use of the modified questionnaire on preparedness not only lacked external validation; we are also aware that self-reported preparedness may not correlate with actual readiness.

We believe that the key sentiments we have reported on housemen starting work in a pandemic are likely to be universal and not unique to our institution alone. These

data would be informative for institutions to provide targeted support for new housemen amidst the pandemic. These include:

1. Providing clear and effective information transfer particularly on rapidly changing protocols.
2. Emphasis on training on personal protection and infection prevention throughout their postings.
3. If manpower resources permit, institutions may consider first deploying housemen to non-pandemic services with initial job-shadowing before sending them to pandemic areas.
4. Close clinical supervision from immediate seniors.
5. Specific teaching program catering to the learning needs of housemen during the pandemic.
6. Enforcing strict work-rest cycles to ensure adequate rest.
7. Dedicated mentors for housemen to share concerns and grievances. These mentors have the responsibility of identifying housemen who are struggling such that early support can be rendered.
8. Appropriate resources for housemen who require additional support.

## V. CONCLUSION

Newly qualified doctors beginning their housemanship during the COVID-19 pandemic have high perceived stress with specific pandemic-related concerns and challenges on top of the usual stressors in transitioning. That said, there is encouraging data on housemen preparedness in starting work during this time. Institutions should ensure that support systems are in place to support junior doctors in these likely protracted extraordinary times. A successful transition from medical school to workplace is the cornerstone that allows these junior doctors to integrate effectively to contribute to the workforce in the pandemic, and the long journey beyond.

## Notes on Contributors

Mae Yue Tan contributed to analysis and interpretation of data, drafting and critical revising of the article.

Nicholas BH Ng contributed to analysis and interpretation of data, drafting and critical revising of the article.

Marion M Aw contributed to interpretation of data, drafting and critical revising of the article.

Jeremy BY Lin contributed to conception and design, interpretation of data, drafting and critical revising of the article.

All authors gave final approval of the version to be published.

### Ethical Approval

Ethics approval was obtained from from the NHG Domain Specific Review Board (DSRB), with NHG DSRB reference number of 2020/00392.

### Data Availability

The data for this study can be found at <https://doi.org/10.6084/m9.figshare.16399107> and <https://doi.org/10.6084/m9.figshare.16399419>. The access to these datasets are available for use subject to approval of the authors of this article.

### Acknowledgement

The authors would like to thank the housemen who participated in this study.

### Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

### Declaration of Interest

All authors have no conflict of interest to declare.

### References

---

Chen, B., Li, Q. X., Zhang, H., Zhu, J. Y., Yang, X., Wu, Y. H., Xiong, J., Li, F., Wang, H., & Chen, Z. T. (2020). The psychological impact of COVID-19 outbreak on medical staff and the general public. *Current Psychology*, 1–9. <https://doi.org/10.1007/s12144-020-01109-0>

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behaviour*, 24(4), 385-396.

Drachev, S. N., Stangvaltaite-Mouhat, L., Bolstad, N. L., Johnsen, J. K., Yushmanova, T. N., & Trovik, T. A. (2020). Perceived stress and associated factors in Russian medical and dental students: A cross-sectional study in North-West Russia. *International Journal of Environmental Research and Public Health*, 17(15), 5390. <https://doi.org/10.3390/ijerph17155390>

Sturman, N., Tan, Z., & Turner, J. (2017). "A steep learning curve": Junior doctor perspectives on the transition from medical student to the health-care workplace. *BMC Medical Education*, 17(1), Article 92. <https://doi.org/10.1186/s12909-017-0931-2>

Zagelbaum, N. K., Heslin, K. C., Stein, J. A., Ruzek, J., Smith, R. E., Nyugen, T., & Dobalian, A. (2014). Factors influencing readiness to deploy in disaster response: Findings from a cross-sectional survey of the department of veterans affairs disaster emergency medical personnel system. *BMC Emergency Medicine*, 14, Article 16. <https://doi.org/10.1186/1471-227X-14-16>

---

\*Tan Mae Yue  
1E Kent Ridge Road,  
NUHS Tower Block Level 12,  
Singapore 119228  
Tel: +65 6772 5555  
Email: mae\_yue\_tan@nuhs.edu.sg