

## Differences in Perspective and Outlook of Undergraduate Medical Students towards Covid-19 Related Lockdown

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**ABSTRACT: Background and objectives:** Corona virus related lockdown has disrupted academic education of the students' world-wide. Among these, the worst hit, are the medical students, as they are not only deprived of lectures but also clinical environment and patient exposure, which establish the essential backbone of the medical education.

**Methods:** This is a survey study wherein an online questionnaire was sent to undergraduate medical students of our college of all the academic years, via Whatsapp.

**Results:** A total of 504 students responded. About 65.07 % students were not happy with the lockdown. Almost 96.03% of the students agreed strongly to the loss of academic training. Most of our participants (53.96%) reside in the red zone. When asked about their role at home, there were multiple responses including but not limited to busting myths and rumors circulating on social media, by alleviating any fears or panic created due to minor ailments such as common cold or allergy, etc.

**Interpretation and Conclusion:** We found that most of the students accept their academic loss due to the lockdown. They are also playing an active and important role towards building a healthy and safe domain by educating the society while being amidst them.

**Keywords** - Corona virus, Lockdown, Medical education, Pandemic, Undergraduate medical students

### I. INTRODUCTION

COVID-19, an acronym for Coronavirus disease 2019<sup>i</sup>, was declared as a global pandemic by WHO on 11<sup>th</sup> March, 2020.<sup>ii</sup> India reported its first case in Kerala on January 30. **On March 24, 2020**, Prime Minister Modi announced 21-day lockdown in India.<sup>iii</sup> Governing authorities suggested all academic institutions and schools to remain shut till 30 June, 2020<sup>iv</sup> and vacant hostels to be converted into quarantine zones.<sup>v</sup> The lockdown was further extended till 31<sup>st</sup> May in subsequent four lockdown phases. The government requested its citizens to stay indoors and practice social distancing. On 4<sup>th</sup> may, 2020, government announced categorization of districts into Zones depending on the number of active cases in those districts. These zones were defined as red, orange and green zone. Red zone are the districts with the highest active cases which are accounting for up to 80 per cent of cases for each state of India. Even the shops pertaining to only essential amenities have been allowed to run their businesses only under strict implementation of rules and regulation. On the other hand, limited public transport and farm product harvesting are permitted in the districts listed under the Orange zone. Green zones are defined as the districts with zero confirmed cases till date or no confirmed case within the last 3 weeks.<sup>vi</sup> The government further added that a red zone can be a green zone if no active case is reported from it within last three weeks.<sup>vii</sup> Currently, from 1<sup>st</sup> June, 2020, India is in stage five of lockdown; with economy being gradually opened, also called unlock phase-1.<sup>viii</sup>

With the sudden closure of academic institutes and recreational hubs, individuals especially the students are suffering from abrupt withdrawal of social, physical and mental activities leading to lazy and dull life. Talking about students, the worst affected in this current scenario are the medical students. Medical undergraduate students have not only been deprived of the regular classroom teaching but also the clinical exposure which forms the cornerstone of medical training. The students thus need to spontaneously adapt to online tools of learning in order to keep up with their curriculum. Many institutions have extended their hands forward to guide students academically by offering free online reading material, tele-education, virtual classes and online assignments.

There are no visible shores regarding the current COVID-19 pandemic. Some webinars and online emergency training procedures are being conducted country-wide and some are even mandated by government to deal with the pandemic for both health-care professionals as well as paramedical staff. The residents and practicing doctors are being bombarded with loads of information through a Webinar marathon not only including knowledge about this disease and its transmission but also practical tips on how to manage the patient

and surgery protocols, besides covering the academic topics. These webinars are being conducted at national, state and institute level, thereby leaving post-graduate students well equipped with the knowledge of dealing with crisis and also helping them to be mentally strong. On the other hand, no such focused information is made available from either the government authorities or their respective institutions for the undergraduate medical students.

The pandemic has taken a heavy toll on the world and the true extent of its impact is still unknown. We have thus conducted this study to analyze the differences in the outlook and the thought process of undergraduate medical students of different professional years in these troubling times with respect to their academics, and mental stress they might be experiencing. Also, we tried to assess their opinion regarding the manner in which they are contributing to the society as a medical student even while staying at home.

## II. MATERIALS AND METHODS

This was a cross-sectional, questionnaire-based survey study carried out by Department of Ophthalmology. This study was approved by ethical committee of our college (Registration number-ECR/1318). An online survey questionnaire was created by using Google forms. The link of this questionnaire was sent via WhatsApp to the undergraduate students of our college. When a student accessed the link, they were directed to the survey where a set of twenty-four questions appeared sequentially. However, two questions with one-line answers were also included in the questionnaire. The only personal information they had to share was their age, and their residential zones (as dictated by the government of India, depending on the cases of coronavirus in the district). The information collected was automatically processed to the spread sheet and the responses were evaluated via auto generated excel sheet. All responses were included in the study. Statistical analysis was done using the SPSS software.

### Eligibility-

- Undergraduate medical students from our college (MMCH)
- Students with access to social media platforms like whatsapp
- Able to understand English

### Exclusion criteria-

- Non-respondents

*Study period-* An online questionnaire was created on 1<sup>st</sup> May, 2020 using Google Forms and circulated among undergraduate students via whatsapp link. Responses within a week were included. This study was carried out by Department of Ophthalmology, Muzaffarnagar medical college, India.

## III. RESULTS

### Background profile

A total of 504 undergraduate medical students participated in the study. The mean age of the students was 21.304 years. The maximum responses were received from third year students (n=154), and the least number of responses were received from the first-year students (n= 82). (Fig. 1)

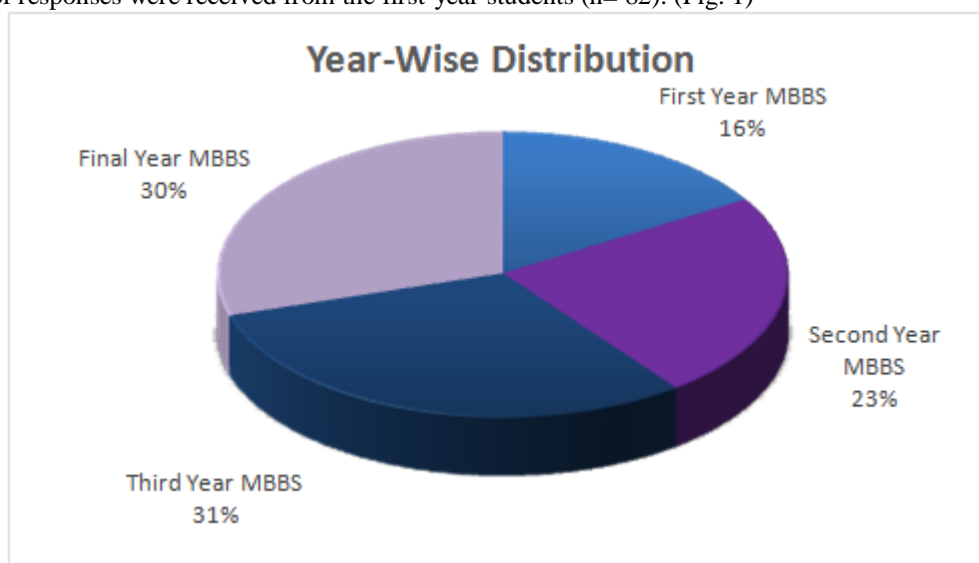


Fig. 1: Distribution of undergraduate medical students (percentage) according to different professional years who participated in our study

### Differences in perspective and outlook of undergraduate medical students towards Covid-19...

Maximum students (n=328) (65.07%) are unhappy with the lockdown. Among different years, greater percentage of students from first year (68.29%) accepted that they are unhappy with the lockdown (Fig. 2).

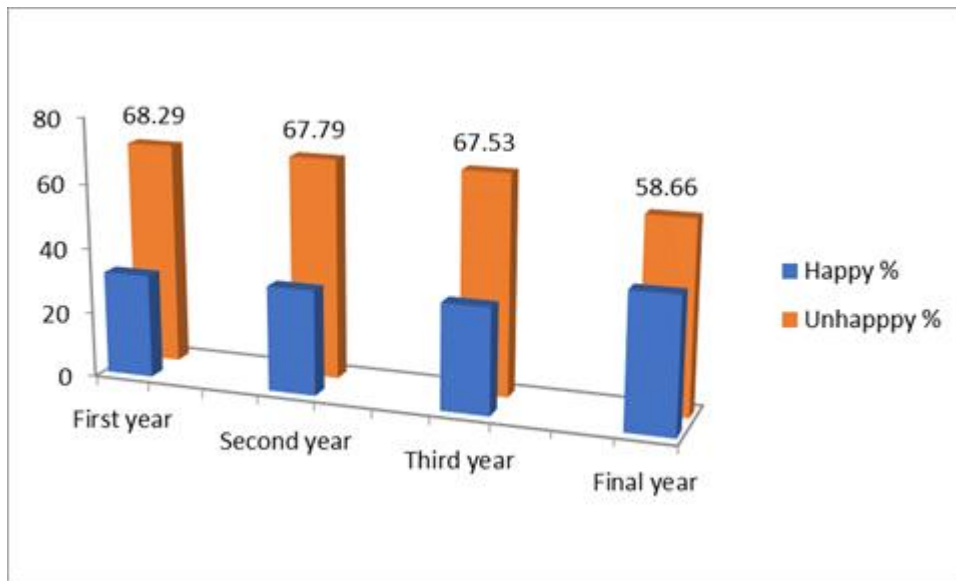


Fig. 2: Happiness factor associated with the lockdown among undergraduate medical students in different years of training.

### Impact of lockdown on academic front of students

Almost 484 students (96.03%) validated that the lockdown associated with the corona pandemic has disrupted their academics totally and partially. Regarding loss of academics, maximum respondents were from the Third year (n=150) and the Final Year professional (n=148) (Fig. 3).

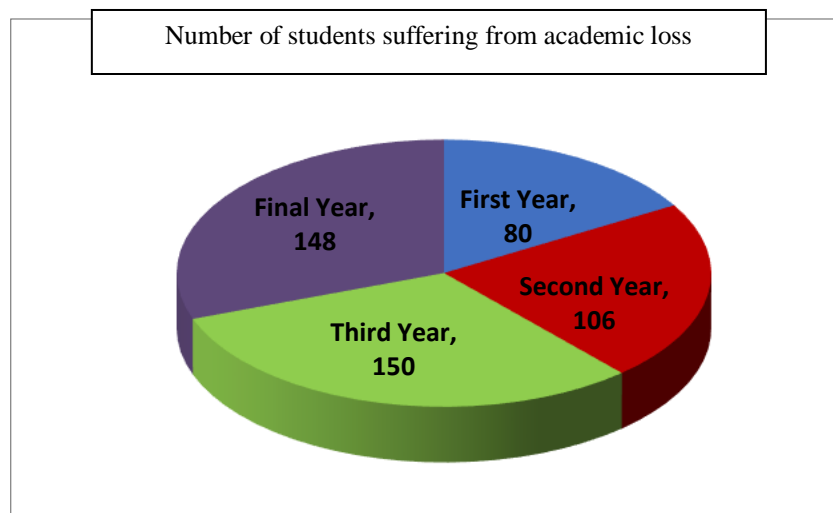


Fig. 3: Number of students in each year that agreed to academic loss

When asked to roughly quantify the percentage of academic loss, most of the responses (n=322) were between 25- 75% loss when compared to pre-lockdown era (Fig. 4).

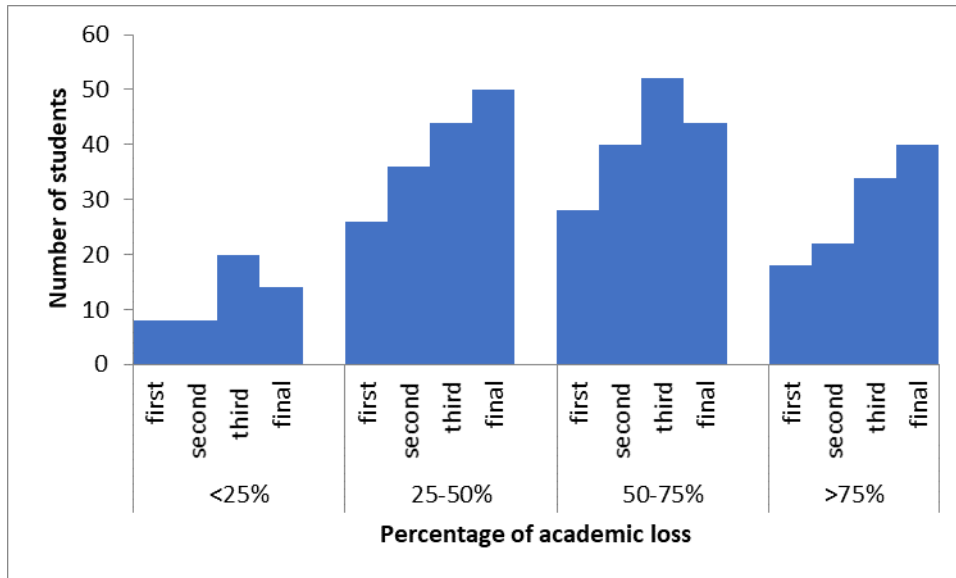


Fig. 4: Percentage of loss of academic training as perceived by students of different professional years.

The students were resorting to various sources of learning, including but not limited to textbooks, notes, internet, group discussions/seminars, etc. during the lockdown. They also revealed that even after engaging in these modern tools of education, the net benefit gained was not even 50% when compared to classroom teaching. Most of the students (80.55%) are not able to study even fifteen hours per week (Fig. 5).

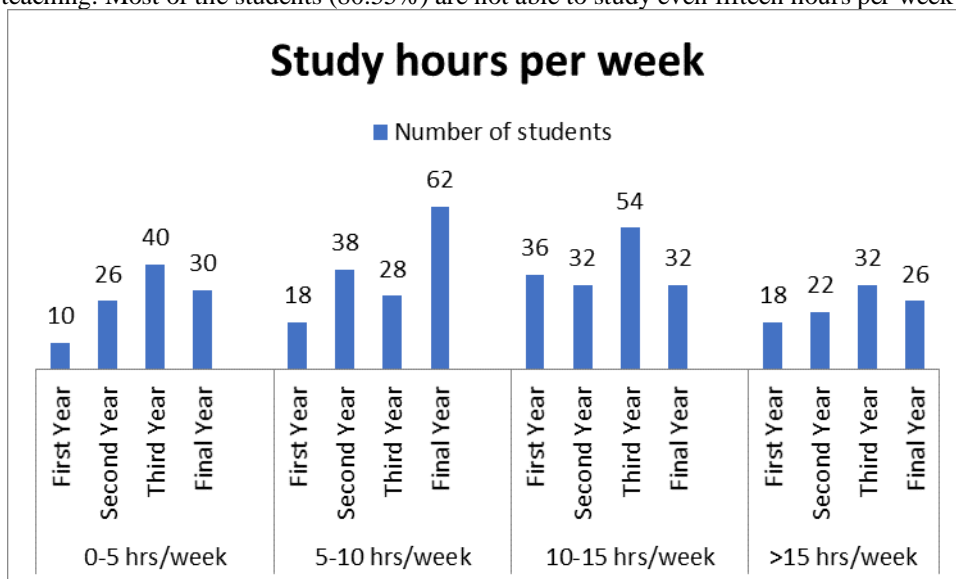


Fig. 5: Average study hours per week contributed by the students of different professional years in the lockdown.

When inquired about expected time for institute to re-open and their session to resume, most of the responses were in the month of July (n=224) and August, 2020 (n=200).

Analyzing mental stress among medical students

Most of our participants reside in the red zone (n=272), followed by orange (n=182) and green zone (n=50). (Fig. 6)

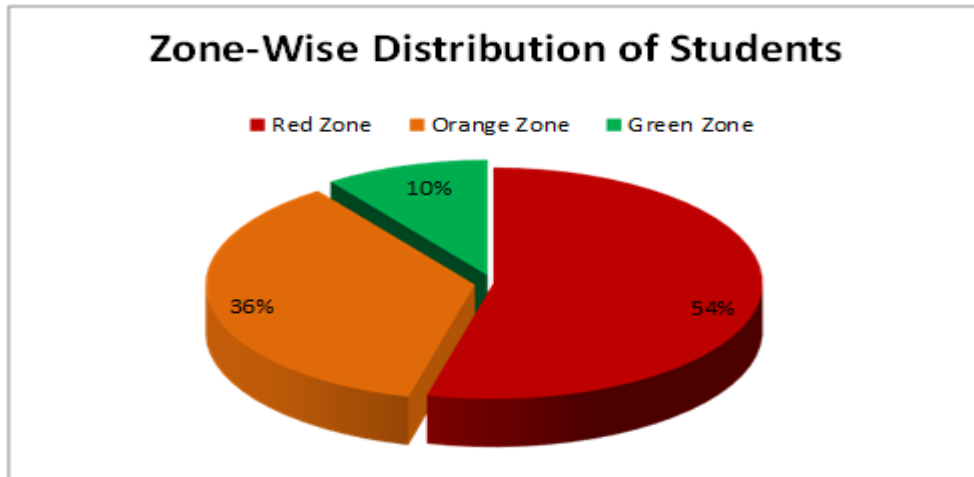


Fig .6: Distribution of students depending on their residential zones

During this lockdown, 49.60% (n=250) of students admitted feeling mental stress. They (n=234) also acknowledged of mental stress experienced by their parents. About 51.47% of students residing in Red zones gave affirmation of mental stress (p=0.62) as compared to 44% students in Green Zones (Fig.7).

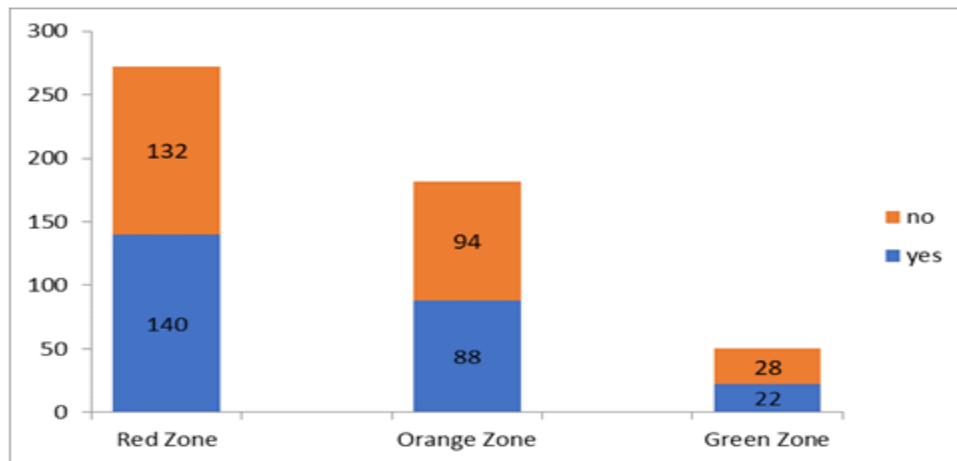


Fig. 7: Mental stress perceived by the students in different residential zones (based on the number of Covid-19 cases in their districts)

Among students, it was maximally reported by the First year students(68.29%) followed by Final Year students(52%) (Fig. 8).

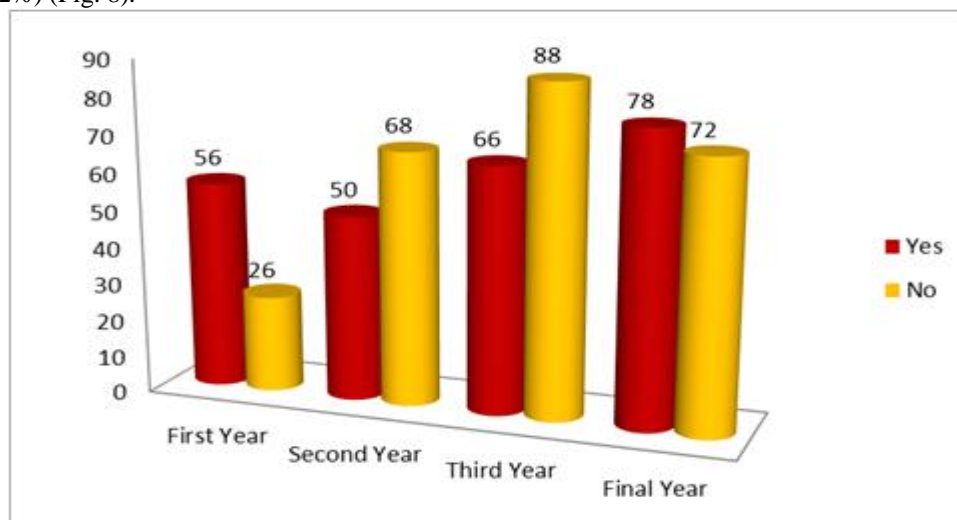


Fig 8: Mental stress perceived by students in different professional years.

Disturbance in their sleep schedule during lockdown was reported by 61.50% (n=310) of the students, maximally reported by the Final year students (Fig.9).

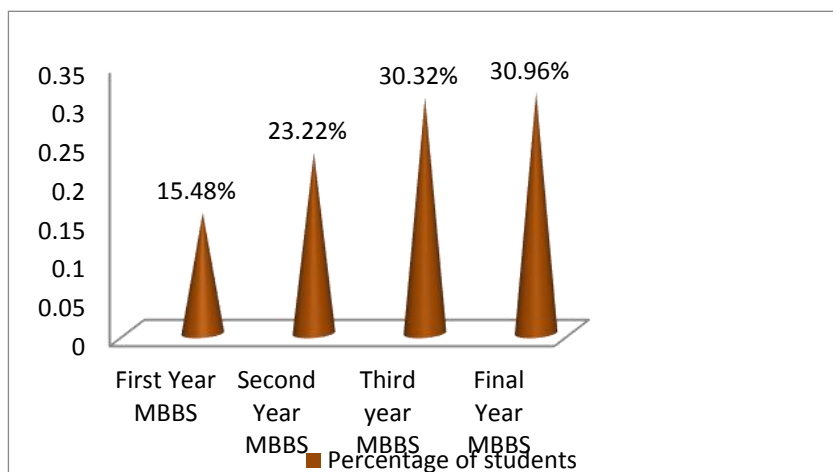


Fig. 9: Year wise distribution of students that reported alteration in their sleep schedule.

#### Impact of lockdown on participants as medical students

When asked about the impact of coronavirus in their life, many first-year students confessed to feeling helpless and unable to contribute much in these tough times. They also admitted to losing self-confidence and motivation while staying at home in the lockdown.

The second, third and final year students too revealed about their concerns relating to loss of academic training and complete lack of patient exposure. Also, uncertainty of passing their professional exams since the results were not officially announced prior to lockdown added to their mental dilemma.

They also mentioned that few incidents depicting dis-regard and disrespect towards a medical professional by society was indeed disheartening and made them feel insecure regarding their future. They opinionated that health workers deserve much more respect and honor in our country, than that has been showcased on them in these recent times.

#### Contribution to society as medical student

When asked about the role they are playing as medical students in society there were varied responses from each section of students. They are summarized as below:

First year students who have just stepped in their medical career and deal with mainly Anatomy and physiology of human system have in their own ways contributed to public health by re-emphasizing lockdown measures as requested by the government of India which includes social distancing, importance of wearing masks, keeping a check on precautions and safety.

The second- and third-year students are utilizing their basic medical knowledge, gained through subjects like Microbiology, Pathology, and Community health in educating the society about the disease and how its infection spreads via fomites. They are also combatting myths and rumors being circulated across social media platforms through science and facts. Most of them are stressing on the importance of sanitization, reiterating the seven steps of hand hygiene as well as sanitization of essential articles that are being purchased from the market.

The final year students are counseling their near and dear ones in the face of these troubled times and hence, alleviating the environment of fear and anxiety that the pandemic has inadvertently created. They are also treating minor ailments like allergy, trivial trauma and burns that may have inflicted the near-by patients and thus, saving their trips to hospitals which are currently high-risk zones.

## **IV. DISCUSSION**

#### Assessment of the academic front:

Almost 96.03% of students felt complete to partial loss of academic training. Even after sorting to web technologies for aiding in studies, they felt that they are not gaining even 50% when compared to class-room teaching. Mishra et al study conducted a survey on ophthalmic residents and found that 80.7% of them agreed to a negative impact of lockdown on their surgical training. But in contrast to undergraduate students, who are



struggling with their academic curriculum, they reported that 81.2% of ophthalmic residents are utilizing online tools for studying and 75.7% find it useful.

Assessment of the mental stress:

In a study conducted on health care workers in Wuhan<sup>ix</sup>, majority of them were found to be suffering from psychological stress and had symptoms of depression (50.4%), anxiety (44.6%), insomnia (34.0%) and distress (71.5%). To our surprise, only 49.6% students replied in affirmation to mental stress during the lockdown. Mishra<sup>x</sup> et al found that 54.8% ophthalmology residents are suffering from higher stress levels. About 59.1% practicing ophthalmologists feared of contracting Covid-19 in a study by Akshay et al<sup>xi</sup>. Lower levels of stress among undergraduates could be attributed to the fact that these students are confined at their homes where they are not actively exposed to Covid-19 patients and their stress may be attributed to other factors like academic, personal or due to solitude.

Assessment as role as members of society:

Though first year students are feeling de-motivated at homes, however, on a positive note, they are performing their role as medical student by re-stressing government advises. Second- and third-year students being aware and able to understand the pathogenesis of disease and its community spread are utilizing their knowledge to bust irrelevant myths and control unwanted fear and panic among the society members. In such minor but important manner, these young professionals are spreading awareness not only to their immediate families but also close relatives and friends

The final year is the most crucial year of medical training, which requires maximum clinical understanding and correlation. These students being the most equipped with the medical knowledge are determined to contribute maximally towards the society in spite of staying at home by not only understanding the concept of lockdown to defeat corona pandemic but also treating patients for minor ailments and thus overall uplifting public health.

On a positive note, as stated by Wayne et al<sup>xviii</sup> in his recent paper, medical students in Chicago have funneled their energy to help clinicians, educating society members, setting up food-drives and also helping in delivering food and medicines to the seniors and needy across Chicago, apart from keeping up with their academic curriculum. These medical students have proved themselves to be a boon by imparting community health service even in these difficult times.

Embracing the new normal:

In view of reopening of academic institution and resumption of clinical training, we found quite a variation in their responses which reveals uncertainty in these young minds. A survey conducted among practicing Indian ophthalmologists by Akshay et al<sup>xi</sup> revealed that 72.5% surgeons had completely ceased their clinical work in the lockdown and are sorting to telephone or video based consultation. Only emergency procedures are being performed by 81.8% ophthalmic surgeons and maximum (57.8%) were not sure about when to start performing elective surgeries post lockdown.

Covid-19 has not only affected the patient footfall and care during the lockdown but will also affect long after these restrictions would have lifted. So, when the students will rejoin their educational institutes, patient management would still proceed with a care of caution. The negative impact of reduced patient and surgical exposure will be maximal on residents and fellows.<sup>xii</sup> The students need to accept that the amount of patient-based training as in pre-Covid times will never be the same and much safety measures will be needed while dealing with the patients. This type of situation calls for maintaining the education and training of not only the doctors and the residents but also the undergraduate medical students.

Training programs including webinars, live virtual class-rooms and pre-recorded lectures have been initiated in few parts of the country including our own medical college during this lockdown period. A sudden stroke of lockdown due to pandemic is not a new experience for the humankind. In 2003, when the Severe Acute Respiratory Syndrome (SARS) had spread to many parts of the world and thus was declared Pandemic, certain similar modifications were made to accommodate medical training programs in many countries. At that time, in Hong Kong, medical schools had to unexpectedly introduce an online recorded lecture format over the traditional classroom lectures for undergraduate trainees and they were also pulled out of clinical postings.<sup>xiii</sup> In Canada, the University of Toronto acted in accordance to the protocol and temporarily halted medical education in teaching hospitals.<sup>xiv</sup>

There have been various literature reports on the use of medical and surgical simulators to train residents effectively in past few years. Cataract surgery simulators like EyeSi machine, MicroVisTech and HelpMeSee<sup>xv</sup> simulators are available to improve surgical skills. A study<sup>xvi</sup> reported significantly reduced rates of PCR (38% reduction) by first and second year residents after prior training with EyeSi. With recent advances in technologies, many virtual reality<sup>xvii</sup> surgical simulators and human performance simulators are commercially

accessible which allow training in terms of precision and accuracy and also measuring error rates. Their availability in medical training institutions should be encouraged in these uncertain times to ensure adequate training opportunities for medical students.

As commented by Wayne et al<sup>xviii</sup>, Competent physicians are not born, they are made -taught to integrate the language of science with recent concepts of disease, diagnosis, treatment, and empathy.”

This pandemic has provided medical students an opportunity to understand the mechanism of transmission of a viral disease via fomites, how to prevent it and also how to recognize early symptoms and its social impact. This has helped them acquire practical knowledge and experience of witnessing and handling the community spread of disease which otherwise cannot be taught in class-rooms.

## V. CONCLUSION

The fight against the corona virus has necessitated some major drastic measures like practicing social distancing, staying indoors, bolting of recreational hubs like shopping malls, parks, gyms, theatres. With such an abolition of public stimulus in the lockdown, individuals are beings forced to introspect certain aspects of personal character. While some are appreciating the private time they have received in isolation, and utilizing it for personal growth, others are reeling with the anxiety of doom and helplessness.

Though unlike residents who are actively posted in isolation and quarantine duties and interacting with Covid-19 patients, the undergraduates are confined to their respective homes, yet they deserve to be at least brushed up with some knowledge regarding current scenario because they too are the part of medical health community and are pursuing medical stream as their career. There is no denying the fact that being confined to one's home during lockdown is bound to have some consequences. Challenging times like this call for maintaining not only ones' academic pursuits but also maintaining mental equilibrium, physical and social wellbeing.

Medical undergraduate students are playing an important role even when not fighting the disease actively at hospitals by doing duties; they are uplifting public health and are trying to maintain mental equilibrium of the people around them. They are indeed practicing social distancing but not mental distancing which is much needed in this time of crisis.

## ACKNOWLEDGEMENT

Nil

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