

Psychological Impact and Resilience among College Students in the Midst of Covid-19 Pandemic: A Review

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Abstract –

Background: By the end of the 2019, a new virus hit the world and make the people afraid of their lives. The impact caused by this tiny virus is enormous, no wonder the educational sectors all over the world. By the end of March 2020, WHO declared as pandemic. In view of the rapid spread of this virus all the institutions remain closed for a period of time. Due to the fast spread, it is difficult to have education offline. Institutions decided to have online or virtual sessions to further go with the student's education in view of raised uncertainty of the learning environment and the fear of getting sick. Sudden transition to online learning has also affects the academic performance, educational plans and future expectations of the students in view of learning and career planning.

Methods: An online or web literature review or articles review related to the Covid-19 and resilience were conducted through Pubmed/Google scholar and BMJ and NIH databases published during the years between Jan 2017 to Jan 2022.

Results: Coronavirus pandemic has left a remarkable marking all the over the world and the changes are continuing in all the aspects of human life, work, education and recreational activities. This review of literature studied the impact of COVID-19 on college students. This specific area of review and study is very strenuous and difficult. Above all the effects of pandemic in student's life, they are also affected mentally, emotionally, academically and financially which needs to be addressed in a timely and appropriately to protect the general well being for the students as well as to provide support where necessary as they are the pillars of tomorrow.

Conclusion: The article search found that in all the selected literature review, there is a significant psychological impact during the COVID-19 pandemic among college students. The main strategies which is used to maintain the well being is resilience in every aspect of the life. Resilience helps in improving the health and well being of the students and there by reduce the impact of mental health disorders among students

Keywords — COVID-19 pandemic, resilience, psychological impact, college students

1. Introduction

College is filled with opportunity, growth and challenge- as students expand their relationships and social capital, make formative life decision, and overcome stress to achieve life goals. Since the extent of the pandemic worldwide is drastic, it affects the government and the leaders decisions which lead to a handicapped state among the students. There are universities and colleges where students never visited during the year 2020 and even in 2021. So the impact has brought any advantages to the students life or it had an negative impacts only among their emotional, mental, academic and financially or the other hand how the educational programs of the college students who are doing as full time are impacted. Research on resilience has been gaining momentum, and it has already been shown that increased resilience creates positive changes at the individual and collective levels.

As of now (May 2021) below is the statistics of WHO regarding the COVID-19:

Coronavirus Cases:

525,213,659

Deaths:

6,295,194

Recovered:

495,002,977

The screenshot shows the WHO COVID-19 dashboard. At the top, there are dropdown menus for 'Total' and 'Worldwide'. Below this, the global statistics are: Cases: 523M (+703K) and Deaths: 6.27M (+2,381). A table lists the top countries by cases and deaths:

Location	Cases ↓	Deaths
United Arab Emirates	903K +298	2,302
United States	82.9M +171K	1M +580
India	43.1M +2,364	524K +10
Brazil	30.7M	665K
France	28.5M +64,016	144K +80

Search Strategy:

This Online literature review/article search is filled with papers and reports from Pubmed/google scholar and BMJ and NIH databases from a systemic perspective published during the year Jan 2017 to Jan 2022 looking mainly about the importance of resilience and the impact and their responses by using the key terms such as Covid-19 and resilience among college students, Impact of COVID 19 among college students

During the initial stages of search, titles, abstracts and full articles were screened when needed to segregate the eligible literature reviews. Then all the eligible articles selected were reassessed for the appropriateness and the data needed were extracted.

The core questions for this review included were

1. What is the the importance of resilience during disasester or emergencies?
2. What is the psychological impact and resilience during COVID -19 pandemic among students
3. What are the factors associated with resilience?
4. What is the effect of improved resilience on psychological well being during COVID-19 pandemic?
5. What are the strategies to improve resilience and psychological well being?

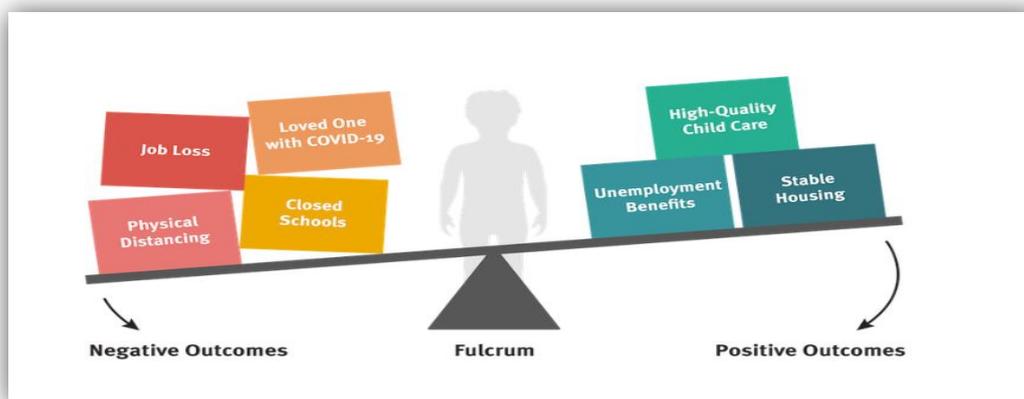
2. Inclusion and Exclusion Criteria:

After the identification of the related articles, the inclusion and exclusion criteria were decided and applied by the researchers. The initial process of literature review was conducted to include the articles which are published in English between the time frame of Jan 2017 to Jan 2022. Followed by this, the titles,abstracts and when needed full text of the articles were screened as per the relevance and the scope of the current reivew. Articles which were not relevant to the scope of this current study were excluded. Also, studies focussed on resilience in health care workers, resilience in family, resilience among elderly etc were excluded. Articles where access to the full text were not feasible were also excluded. This resulted in articles included are Covid-19 and resilience among nursing, paramedics, arts and science, physiotherapy, dental, medical and allied health sciences were included.

3. Importance of Resilience During Disasester or Emergencies

Resilience is defined as a persons ability to, in different degrees, when exposed to negative experience, recover and even grow as a result of the adversity experienced, by way of a positive psychosocial adaptation to the experience. The understanding about resilience was earlier restricted to children, but currently it is expanded to a variety of settings(corporate world, health, education, and communities etc. All people are subject to negative situations and, often times, the causes cannot be controlled. Learning how to cope with such situations may reduce the damage they cause and increase one's ability to address daily challenges. So, one way to improve the ability to cope with undesirable situations is to increase individual resilience(1).

Resilience refers to an individuals healthy coping abilities when encountering adverse life events. Resilience is a seesaw or a balance scale, where negative experiences tip the scale toward bad outcomes, and positive experiences tip it toward good outcomes. For some people during the COVID-19 outbreak, the resilience scale may look like this:



The covid-19 pandemic represents a situation with a high amount of stress exposure which in turn may be associated with negative emotional outcome like depressive symptoms. Resilience help us to go through the process of hardship. It is not inherited by itself and it is built over the exposure and experiences by the individual. That's why human respond to stress and adversity—like that from the COVID-19 pandemic—differently (2)

Some individuals are more psychologically resilient to adversity than others, and is most importantly required during the emerging mental health issues associated with COVID-19 pandemic. In order to identify the factors that may contribute to greater psychological resilience during the initial stages of worldwide lockdown. The study results proved that greater amount resilience is prevalent among the individuals who tended to get outside more often, more social support from family, friends and significant others. The study recommended that psychological resilience in the face of the pandemic is related to modifiable factors(3)

SS Luthar and D Cicchetti did a constructive analysis and published a article on resilience and its practical application. The main focus of this article is intermittent between the research on resilience and the application of this work to the development of interventions and social policies. Salient features of the research in resilience is delineated as there are various advantages, limitations and precautions linked to the application of resilience framework to developing interventions. A series of guiding principles are presented along with exemplars of existing programs of the paradigm. The article concludes with the discussions of directions for the future work in this area and the emphases on an enhanced interface between science and practice and a broad and scope of resilience-based interventions in terms of the types of the populations, types of adjustment domains that are included(4)

4. Psychological Impact and Resilience During COVID -19 among Students

Brewer, M. L. (2019) conducted a survey among the university students, out of which 80 percent of the students reported that they were affected mentally very heavily due to this COVID pandemic which includes stress, anxiety, disappointment, sadness, loneliness, and relocation. In view of the above effect they were affected physically and financially.(5)

Giacomo Bono, Kresimir Reil and Jadwifa Hescozx(2020) assessed the stress and wellbeing in urban college of US during the COVID-19 pandemic by short term longitudinal study which started before campus closure due to CVODI-19 pandemic. The study investigated the stress and subjective wellbeing of freshmen, impact of the pandemic on their psychological, academic and financial wellbeing and their resilience to the pandemic during this period and the role of the social and economic status. Comparisons were done based on the parents education and parents social status and the students current level of education. The results were analysed by two groups as low and high. It is found that the group which is segregated as high have low level of stress and higher level of wellbeing and the low group have higher level of stress and lower level of wellbeing. The two groups were examined in terms of pandemic impacts and pandemic resilience which revealed that the low group reported significantly more financial and academic impacts than the high group but not the resilience or life stress events. The study results suggested that grit and gratitude can be promoted to protect the college students subjective wellbeing and better cope with the adversity of the pandemic and the study closed with the suggestions for interventions. (6)

Basema Saddiket. et. al. (2020), assessed the impact of covid-19 pandemic on the psychological wellbeing of the medical students. The researchers surveyed 1485 medical and non medical students across 4 places in UAE. Based on the analysis, majority of students demonstrated high levels of knowledge and utilised reliable sources of information. Non medical students exercised higher compliance with social restrictions. Medical students practiced better hand hygiene. Almost half of the students reported higher anxiety levels and more among female students. Medical students reported higher levels of anxiety during their clinical rotations and is decreased with online learning. The study concluded that the initial responses and anxiety levels in university students across the UAE during the COVID-19 pandemic. The findings of the study can be used to

support the development of effective screening strategies and interventions to build psychological resilience among university students during the COVID-19 pandemic and any other public health emergencies in the future(7)

Zhi Ye, XueyingYang (2020) investigated the association of COVID-19 related stressful experience with ASD and possible psychological mechanisms of the association among students. Data was collected among 7800 college students through an online survey by using the existing scales to measure stressful experiences, resilience, coping, social support and ASD symptoms. The study results confirmed that there is a strong relationship exists between COVID 19 stress levels and the moderator for the same is resilience.(8)

Bouali, H., Okereke, et al (2020) in a survey analysis reported that the mental health of the students in the higher education is already beyond their capacity prior to the pandemic. This pandemic crisis exacerbated the emotions or the inner feelings of the students which leads to sadness, isolation and anxiety.(9).

Frymier, A. B., & Houser, M. L. (2020) analyzed that the mental health effect of the students in colleges and universities found that the most common problem among them is the stress and resilience and the coping ability of the students was lower and it was very top concern currently. Forty-seven percent of presidents surveyed in April, 2020, said they are very concerned about student mental health.(10)

Lorcanetc al,(2020) studied the level of stress for the medical students which thereby affect the mental health of the students which necessitated the author to assess the effect. An online cross sectional survey was conducted to determine the impact of COVID-19 perceived stress levels of medical students, investigated the possible contributing factors and alleviating factors and produce recommendations for future disasters or emergencies. The majority (54.5%) of respondents reported higher level of stress ranging from ($p=0.031$). A significant association was also noted between reported stress and transition to online learning and online assessment formatting, concerns of personal health and for the health of the family members.(11)

Mental health problems are prevalent among university students in Saudi Arabia. The study conducted by the authors investigated the impact of the COVID-19 pandemic on the university students on their mental health and sleep. The results of the study clearly stated a significant relationship between the low level of resilience and the high level of mental health problems. Also there is a significant association between sleep disorders(insomnia) and resilience. The study provided evidence that lower level of resilience and insomnia are associated with mental health problems of the students. The study also recommended that psychological resilience and interventions to support sleep and mental health are vital to support student well being outcomes throughout the pandemic.(12)

Yuamfa Tan et al,(2021) assessed the psychological well-being in Chinese college students. Psychological well-being is an important indicator of well-being and has been found to associate with the multitude of positive life outcomes. Data was collected from 1871 Chinese college students for the period of September 23 to October 05, 23 2020 to examine students psychological well being during COVID-18 pandemic and investigated how resilience and pandemic related environmental stress may affect psychological wellbeing. Results showed a strong positive effects towards resilience on the psychological well-being during the pandemic. At the same time environmental stress had a moderate effect and marginally reduced psychological well-being. The Overall estimates suggested that increasing resilience can effectively buffer the negative effect of environment of environmental stress on psychological wellbeing.(13)

BOZKURT, Aras(2022) examined the COVID 19 from the higher education perspective by applying data mining and analytics approaches. The study identified three broad themes from the body of research themes and patterns. 1. Educational crisis and higher education in the new normal, resilience, adaptability and sustainability (2) psychological pressures, social uncertainty, and mental well-being of learners, and (3) the rise of online distance education and blended-hybrid modes. The study concludes that the survival of higher education depends on the resilience, adaptability, and sustainability skills of higher education institutions.(14)

Livia Quintiliani et al(2022) studied the university students psychological impact and resilience during COVID-19 pandemic. The study results showed that there are 54.5 percent students reported decreased attention span and difficulty in studying with consequent concern about the exam outcomes. They also reported that resilience skills positively affect the stressful events and in particular the COVID-19 impact on study and interpersonal relationships. The study showed a psychological impact of COVID-19 emergency on college students. When stress significantly decreases the learning and negatively affects the psychological wellbeing of students, whereas resilience skills were a protective factor to overcome difficulties in learning (15)

5. Factors Associated with Resilience

Anna Christina et al(2017) identified the factors associated with resilience among medical students through a cross-sectional census by using a resilience scale and questions related to sociodemographic, behavioural health-related and academic variables, the association between these variables and resilience were investigated. The mean resilience score was considered moderate. The factors like gender, race, previous schools attended, financial independence, living situation,

educational level of the parents, religion were not associated with resilience. The only factor that is associated is perception of one's own health (OR: 0.57; 95% CI 0.41 to 0.81)(16).

Jesus Muyor-Rodriguez et al, (2021) addressed the gap in the literature by conducting a cross sectional study among 517 college students from a public university of Spain. Participants were requested to complete the Fear of COVID-19 scale, and answer questions related to resilience, social support, anxiety and suicidal risk levels using validated scale. The results suggested positive association between the selected aspects of the questionnaire with the demographic variables. As a recommendation, university institutions must adopt support mechanisms to alleviate psychological impacts on students during the pandemic, treating it similarly to other disasters. Discussion and recommendations also were made for the social work to reduce the COVID-19 fear.(17)

Wattick Rachel, Hagedom RL, Olfert MD (2021) investigated how the COVID-19 pandemic impacted students' mental health and alcohol use and determined how resilience could alleviate negative outcomes. The study results showed that there was a significant increase in prevalence of severe depression, anxiety and stress and a significant decrease in prevalence of high risk for problem drinking before and during COVID-19. Self-rated health was the strongest predictor for changes in depression, anxiety and stress in each of the models displayed a negative relationship when the dependent variables were analysed using regression analysis. The study concluded that universities should prepare students using resilience training and provide employment and other resources to mitigate the effects of stressful situations (18)

Angela serranosarmiento et al(2021) studied the social-emotional consequences of the confinement. The study examined the self-perceived resilience and its most important determining factors among the university students. The tool used was Connor-Davidson resilience scale divided into four factors and distributed to graduate and postgraduate students. Irrespective of socio-demographic variables, the results showed high levels of resilience. Factor analysis shows resilience was highest among the male students and those over 25. Self-perceived resilience was also higher among students who lived alone than with parents. The student concluded that students of health sciences were more likely to adopt changes, deal with challenges and capable of bouncing back hardship faster than others. (19)

Inna Reddy Edara et al(2021) investigated the levels of centrality of religiosity, emotions towards God, resilience and wellness among 399 Taiwanese university students. The collected data was analysed by using descriptive statistics, factor analysis, group comparisons, multiple regressions and mediation analysis. Findings showed that most of the participants were religious. More further, 16 emotions towards God were successfully segregated into three distinct sub-groups. The results suggested that the resiliency of the individual can be attributed to their belief in the existence of God or divine while the wellness indicators of security and satisfaction were related to one's religiosity. The study included the implications especially the importance of religiosity and emotions toward God or the divine in sustaining resilience and promoting wellness, especially in the context of crisis such as the current COVID-19 pandemic.(20)

Beisland E C et al(2021), in a cross-sectional survey targeted nursing students from five different universities of 2605 students by using a Fear of COVID-19 Scale (FCV-19S), the Hopkins symptom checklist 5 (SCL-5) one general health and one overall QoL questionnaire. The mean scores were compared to reference data. Hierarchical regression analysis was conducted and the effect sizes (Cohen's d) were evaluated. The students' FCV-19S scores (mean 2.45, CL 2.42, 2.48) were significantly higher than those of the reference population. Nursing students scored significantly lower general health (mean 3.50±0.93 SD and Cohen's d=0.07), higher levels of psychological distress (mean 2.68+ 1.03 SD, Cohen's d = 0.55) and lower overall QoL (mean 5.50+ 2.16 SD) compared to pre-pandemic data. The study concluded that FCV scores were significantly associated with the levels of general health (Cohen's d=0.26) psychological distress (Cohen's d=0.76) and overall QoL (Cohen's d=0.18) and nursing students reported worse outcomes on general health, psychological distress and Overall QoL than the reference population.(21)

Samira Hamadeh Kerbage(2021), explored the undergraduate nursing students' resilience, challenges experienced and supports utilized during the pandemic. Both qualitative and quantitative data were collected by convenient sampling technique among 340 nursing students from one program. The difference in the median resilience scores among the participants was statistically significant (p=0.029). Major themes identified were fear, isolation and mental health programs. The study concluded with the recommendations to alleviate the identified problems were coping strategies like daily routines, staying connected, establishing self-help techniques. Optimising students' learning experience, enhancing resilience and promotion of mental health and physical well-being are the implications brought out by the current study.(22)

6. Effect of Improved Resilience on Psychological Well Being During COVID-19 Pandemic

Ka Ming Chow et al(2018), assessed the resilience and wellbeing of the nursing students. University nursing students experience higher levels of academic stress than other disciplines. This stress leads to psychological distress and has detrimental effects on well-being. A cross-sectional descriptive correlational design which includes recruitments of students from pre-registration programs both undergraduate and postgraduate levels. The tool used was CD-RISC-10 and World Health Organization-5 well-being index (WHO-5). The questionnaire was given to 678 students. The mean score for Resilience was

24.0. The difference between the undergraduate and postgraduate resilience scores were 23.8 and 24.8 respectively which is statistically significant ($p=0.020$). The mean score for perceived well being (WHO-5) was 15.5. and there was no significant difference between the two groups. Bivariate analysis showed a medium positive correlation of resilience with perceived well being ($r=.378$, $p=.000$). Senior students had higher level of perceived well being than the junior students (16.0 VS 15.1, $p=.003$). The results demonstrated that nursing students with high level of resilience have better perceived well being and the level of resilience was significantly higher for the postgraduates than the undergraduates. Therefore it is recommended to develop educational strategies in the nursing curriculum and adequate supportive learning environment should be created to foster resilience in students (23)

Besser A (2020), investigated the association among the adaptability to the pandemic among the adaptability, personality and the levels of learning experiences (affective, cognitive and Behaviours) among higher education students required to swift to online learning by an online questionnaire of a sample of 1217 college students from Izrael. The study results reactions showed that students had negative reactions to online learning which became part and parcel of the current pandemic situation. And percentage of adaptability have positive reactions across multiple indicators. The current findings of the study acknowledged the role of adaptability and the significant challenges experienced by the college students who experienced changes in their learning and life conditions due to the need to rapidly adjust to changes and uncertainty brought about by the COVID-19 pandemic. (24)

Kuhn TA, Vander Horst A, Gibson GC, Cleveland KA, Wawrosch C, Hunt C, Woolverton CJ, Hughes JW (2021) evaluated whether resilience moderated the relationship between distress and covid-19 prevention behaviours early in the pandemic. Data were collected via surveys in which all students at the large Midwestern university were emailed invitations beginning March 18, 2020. Surveys were completed by 5530 individuals. The items included were COVID-19 prevention behaviours, distress and resilience. Data were analysed by using moderator regression analysis. The results showed that resilience moderates the effects from distress to prevention behaviours, such that the relationship were stronger for individuals with higher resilience than the individuals with lower resilience. The study concluded that resilience appeared to influence the strength of the relationship between distress and covid-19 prevention behaviours. Individuals with higher resilience have increased adaptation to stress leading to engage in greater prevention behaviours. The authors also recommended that there should be future research that should examine the relationship linearly with different constructs of resilience. (25)

Tina Antill et al (2021) examined the relationship between quality of life, resilience and associated factors among nursing students during the unprecedented COVID-19 pandemic and subsequent social distancing requirements by using an anonymous survey among 152 nursing students in a public university of rural Appalachia in April 2020. The tools included were QOL-BREF, Connor Davidson resilience scale, and an open ended questions along with demographic questionnaires. The collected data were analysed using descriptive, bivariate and multiple linear regression analysis. 21 to 54 percent of the nursing students quality of life scores were poor. The study concluded that cultivating resilience among nursing students may improve Quality of life, help with academic success and prepare students to sustain the demands associated with the nursing profession. (26)

Nureva et al, (2021) explored the correlation between academic resilience and the subjective well being of the students experiencing online learning during the COVID-19 pandemic. The study used a relevant literature review to collect data, focussed on theoretical studies and the references were taken from the scientific literature. The results showed that resilience is a mandatory part in online learning to keep and improve the students well being in relation to the learning. The results proved that students with a higher level of resilience tend to have a higher level subjective well being (i.e) they were able to regulate their emotions better than the students who is having lower level of resilience (27).

Labrague LJ et al (2021) determined the influence of coping behaviours, resilience and social support on the students emotional and social loneliness by a cross sectional survey during COVID-19 pandemic. The findings of the study proved that loneliness were high during the COVID-19 pandemic and coping behaviours and social support were identified as protective factors to maintain the positive mental health. Also the study suggested the practical implications to protect the mental health were towards increasing resilience, social support and coping behaviours may help decrease emotional and social loneliness caused by lockdown during the covid-19 pandemic" (28).

Muyor-Rodriguez J, et al (2021) addressed the gaps in the literature by conducting a cross-sectional survey among 517 college students from a public university in the southeast of Spain. Survey questionnaires included were fear of covid-19 scale and resilience, social support, anxiety and suicide risk level by using validated scales. Based on the findings, the authors recommended that university and institutions must adopt support mechanisms to alleviate psychological impacts on students during the pandemic as similar to other national and worldwide disasters. (29)

Zeyu Zhang et al (2021) in a cohort study described the importance of professional identity among Chinese nursing students the sense of professional identity among Chinese nursing. The main aim of the study is to explore the relationship between psychological resilience and professional identity. A cross sectional survey questionnaire was sent to 18 different Chinese universities. CD-RISC-10 was used to assess the psychological resilience and Professional identity questionnaire was used to assess the identity. 80 percent of nursing students have higher level of professional identity and Psychological

resilience was considered as the strongest contributor for professional identity. The study also recommended that policy support is crucial to enhance the professional identity by improving the psychosocial resilience among nursing students.(30)

Rizal Angelo N grande et al,(2021)” investigated the relationship between nursing students profile variables and the state of mental well being and resilience during the midst of COVID-19 pandemic and their impact over the holistic nursing care provision. The design was cross sectional and a total of 439 nursing students were enrolled from the college of nursing of the state run university. The survey was conducted by using 10-item Connor-Davidson Resilience scale and 14-item Warwick Edinburgh Mental well being scale(WEMWBS). The relationship was analysed by using Correlational analysis. The findings of the study revealed that there is no significant differences identified in the age, gender and year of study in CD-RISC and WEMWBS. In view of WEMWBS, the mean total score of 61 to 100% were significantly higher than with 31-60%. As an end result, the CD-RISC scores revealed that participants with a general point average(GPA) of A were significantly higher than those with GPA of B+ or B. The study concluded that students with High GPA(Academically performing well) were more resilient than Low GPA. Also there is an existing linear relationship between high mental well being and the ability to pursue academic loads.(31)

A study conducted by **Andrea V Fuentes et al(2021)**, to assess the significant contributions of coping, resilience, personal characteristic and health and emotions well being of 3 colleges of pharmacy students during the period of May to July 2020 through an online 64-item questionnaire. The main assumptions for this study was pharmacy students may undergo greater stress during this outbreak due to class interruptions, personal and family health concerns and social isolation etc. Descriptive and linear regression analysis were conducted using SPSS version 26. There is a significant association between coping strategies, personal resilience and Hispanic ethnic identify (29%) variances in emotional well-being scores were identified($F(2,76)=11.785$, $P < 0.000$, $R^2 = 0.317$, $R^2_{adjusted} = 0.291$). Higher levels of resilience, greater use of coping strategies and identifying as Hispanic were significant predictors for emotional well-being. The study discussed the important aspects especially during crisis and pandemics. Pharmacy programs should be cultivated in an environment that supports the emotional well-being of their students. Colleges or universities should develop campus based initiatives to encourage healthy coping behaviors and promote students personal resilience to better prepare them for providing front-line patient care in the future.(32)

Daniel Joseph E Berdida, F Rizal Angelo N Grande(2022) in a cross sectional descriptive survey that used two self reported questionnaires to evaluate the QoL and academic resilience of nursing students and their relationship with the predictors during the COVID-19 pandemic. Chi square test and multiple regression were used to analyse the data. The results found that there was no significant association between QoL and academic resilience to participants profile variables. But there is a significant predictor as graduate and Year of nursing students with QoL and academic resilience. The study concluded that a better understanding of QoL and academic resilience which are two distinct concepts but are critical in developing a students mental well being, will benefit the stakeholders in nursing education to establish an effective psychoeducation programs for the nursing students which is an integral part of the students life.(33)

Joanna Forycka et al,(2022), conducted an online survey by using an validated questionnaires to assess resilience and well being and burnout as self created survey concerning mental health problems, use of stimulants, SARS-COV-2 infection, work in covid-19 units, medical education and social attitude towards health care professionals in the era of pandemic. The questionnaire was distributed through facebook and other online students platforms. The survey was filled by 1858 medical students. Very low, low and on the low end levels of resilience were found in 26%, 19.1%, 26.9% respectively. Higher level of resilience is associated with better attitude towards online and hybrid classes. About 16.8% of participants showed willingness to work as a frontlines and some of the also reported working currently. Types of burnout presented were Lower exhaustion($p=0.003$) and cynicism($p=0.02$) and higher academic efficacy ($p=0.002$). Around 31 per cent of participants declared need of psychological or psychiatric consultation due to pandemic challenges. 26.4% percent participants were diagnosed with mental health disorders before and the symptoms were worsening during this pandemic. 28.6 percent respondents were taking alcohol, cigarettes or other stimulants. About 80.2 percent participants reported that social aversion and mistrust towards doctors have increased during pandemic and half of them claimed that they lose their enthusiasm towards their career. The study recommended that necessary support specially regarding mental health and building up resilience of the vulnerable group are the crucial elements to reduce harm and face similar challenges.(34)

Strategies influencing resilience and psychological well being

Resilience also play a major role and make a huge difference between the people who experience burnout and who do not. When any distress occurs, resilience gives the ability to resist the destruction of the normal life and functionality by means of anticipation and preparation for the event. The strategies mainly used to increase resilience, decrease burnout and increase coping behaviour. First strategy is self care. Secondly physical activity and good sleep. Mindfulness, attention to present moment, stress management work, yoga, meditation, group discussion are other effective ways of resilience. Other suggestions are optimism, gratitude and humor and reduce news you watch or watch with intention and plan to watch only specific programs of choice. Social support helps to mitigate distress thereby build resilience. People who are having strong

connection towards the distress should follow the strategies to reduce the burnout and bring positive outcomes in life even when there is distress situation.(35)

Borjian, A. (2018) suggested that due to the instability of the environment, globally students' needs resilience and adaptability. These are becoming basic skills necessary to move effectively during the pandemic. In future, employers may look for these skills as important for a job offer which includes above two which thereby leads to creativity, communication, collaboration, empathy, emotional intelligence which fruitfully ended up with effective work environment and effective team collaboration.(36)

Castle, S. R., et al, (2019), in order to prepare the future universities needs to have preparation to manage the changes. Since the changes will impact the educational system both present and in future. Based on the location and strength of the students, recovery should be considered. These requires leadership in the academic levels to assess, plan, implement and evaluation and provide opportunities for improvement and innovation. It is imperative that leaders in institutions of higher learning work with stakeholders to utilize federal and state funds wisely to improve and innovate during a time of re-building and restructuring. In a survey of 187 two- and four-year college presidents conducted by Inside Higher Ed, the changes referenced in the aforementioned paragraphs are representative of long-term goals. The survey results showed the short-term, immediate focus to be on employees' and the most vulnerable students' mental and physical health, student attrition, and unbudgeted financial costs.(37)

The Global Resilience institute (2020) also recommends physical wellness activity or physical wellness program to take care of their physical and mental health. Along with that everyone should take at least eight hours of sleep and healthy diet. They are urged to undergo virtual exercise or yoga and engage in activities that allow physical distancing. Walking with friends is a good way of spending time with the friends and family also. Students can engage themselves in meditation and mindfulness activities. Universities should extend their helping hand for the students to manage their financial burden in ways that is feasible without affecting their productivity. With the unprecedented levels of uncertainty, disruptions, and stress students are facing as they try to make sense of new and constant demands and requirements, educators are in a unique position to support students. Therefore, they need to understand the potential obstacles that might get in the way of their learning.(38)

The University of Michigan (2020) is another university that has offered ways to support students during the pandemic. Like the Global Resilience Institute (2020), they suggest that students find their new normal. They want their students to recognize that without their usual routines, they may miss the structure. Students are urged to take the time to find resources and create productive routines such as creating schedules, making checklists of things to be done just for today, as well as creating a productive work space.(39)

Robin Jacobs, Michelle Lanspa, Michael Kane, Joshua Caballero, (2021), conducted an anonymous online survey to all medical students enrolled at Nova Southeastern University in May 2020(n=1310) via an email invitation by using the students database. 335 students participated in the survey, About half were in the clinical phase of their medical school training. A significant regression equation was found ($F[4,171]=17.481$, $p<0.000$, $R^2=0.290$, $R^2_{adjusted}=0.274$), representing the levels of coping, personal resilience and health behaviours which carried a significant amount of variance in emotional wellbeing. Higher levels of resilience, greater use of coping strategies, not sleeping more than usual and not exercising less than usual were predictors of emotional wellbeing. The study concluded that cultivating positive mental health should be the high priority and curriculum based initiatives were required to help medical students to boost their personal resilience and to encourage healthy coping during crisis and thereafter. Proactiveness will assist to build personal resilience and develop stress management which not only help them to face the challenges related to their training but also with the uncertainty and stress that exists during major global health crisis.(40)

The COVID-19 pandemic disrupted all aspects of human life from health to financial to social etc. This drastic change has brought a lot of difficulties in role achievement as a student due to an entirely virtual atmosphere, compounding the normal stressors that come with full course loads and transitioning into more independent adult lives. As a response to the onset of the COVID-19 crisis, a faculty member at the University of South Florida's College of Public Health designed impromptu, free dance lessons offered through a virtual video platform to the college students. The main aim was to provide a healthy and engaging environment to help students not cope with lockdown stress, depression and anxiety through spring and summer 2020. This article concluded that the structure of the intervention, lessons learned throughout implementation and the broader practice potential during COVID-19 pandemic and beyond. (41)

7. Conclusion:

This literature review has looked at how researchers and authors have addressed COVID-19 impact of the psychological aspect of the college students and how resilience paved a way to relieve the stress and mental health problems among the students from different parts of the world. The ability to overcome such adversity and learn to be stronger from the experience is regarded as resilience. Resilience is found to have an impact on learning experience, academic performance, course completion and, in the longer term, professional practice. Resilience and positive coping strategies can resist stress and improve personal well-being. However, the relationship between resilience and well-being remains unexplored in nursing

students, which are significant attributes to their academic success and future career persistence. In terms of implications for future research, universities or colleges have a responsibility to review implementation plans that support students in terms of and data collected on their effectiveness. Implementation plans should be addressing emotional, mental, academic, and financial issues. It will definitely help programs to review their strategic plans to ensure that in the next three to five years, academic departments and colleges are addressing these critical matters to ensure a culture of resilience exists for students.

REFERENCE

- [1] PeConga, E., Gauthier, G., Holloway, A., Walker, R., Rosencrans, P., Zoellner, L., & Bedard-Gilligan, M. (2020). Resilience is spreading: Mental health within the COVID-19 pandemic. *Psychological Trauma: Theory, Research, Practice, and Policy*. <https://pubmed.ncbi.nlm.nih.gov/32496106/>.
- [2] Building resilience during the COVID-19 pandemic(2020), NIH, Turing discovery into health, Oct 15th 2020.
- [3] William D.S Killgore, Emily C Taylor, Sara A cloonan, Natalie S dailey(2020), Psychological resilience during the COVID-19 lock down, *Psychiatry Res*. 2020 Sep;291:113216. doi: 10.1016/j.psychres.2020.113216. Epub 2020 Jun 9.
- [4] SS Luthar and D Cicchetti(2020), The construct of resilience: importance and implications for interventions and social policies (12)(4):857-885 doi: 10.1017/s0954579400004156.
- [5] Brewer, M. L., van Kessel, G., Sanderson, B., Naumann, F., Lane, M., Reubenson, A., & Carter, A. (2019). Resilience in higher education students: A scoping review. *Higher Education Research & Development*, 1-16.
- [6] Giacoma Bono, Kresimir Reil and Jadwig Hescocox (2020), stress and welling in urban college students in US during the COVID-19 pandemic: can grit or gratitude help?: *International journal of wellbieng*, VOI-10 No 3(12).
- [7] Basema Saddik et al,(2020)" increased levels of anxiety among medical and non medical university students during the COVID-19 pandemic in UAE, *Risk Manag Healthc Policy*. 2020; 13: 2395–2406. Published online 2020 Nov 3. doi: 10.2147/RMHP.S273333.
- [8] Zhi Ye, Xueying Yang et al(2020)," Resilience, Social support and coping as mediators between COVID-19 related stressful experiences and acute stress disorders" *Applied psychology: health and wellbeing*/Volume 12, Issue 4, Pages 1074 -1094. <https://doi.org/10.1111/aphw.1221>.
- [9] Bouali, H., Okereke, M., Adebisi, Y. A., Lecuro-Priso III, D. E. (2020). Impact of covid-19 on pharmacy education. *SciMedicine Journal*, 2, 92-95.
- [10] Frymier, A. B., & Houser, M. L. (2020). The role of oral participation in student engagement. *Communication Education*, 65(1), 83–104.
- [11] Lorcan O Byrne et al,(2020)," Medical students and COVID-19: the Need for pandemic Preparedness, *J Med Ethics*, 2020 Sept; 46(9): 623-626, Published online 2020 Jun 3. doi: 10.1136/medethics-2020-106353.
- [12] Jan Odom-Forren(2020), Nursing resilience in the World of COVID-19, *J Perianesth Nurs*. Dec 2020; 35(6): 555-556, Published online 2020 Dec 7. doi: 10.1016/j.jopan.2020.10.005.
- [13] Yuanfa Tan, Huang, Geng, Cheung and Zhang (2021), Psychological well being in Chinese college students during the COVID-19 pandemic: Roles of Resilience and environmental stress, *Front Psychol*. May 28, 12:671553. doi: 10.3389/fpsyg.2021.671553. eCollection 2021
- [14] Bozkurt Aras,(2022),"Resilience, Adaptability, and Sustainability of Higher Education: A systematic Mapping Study on the Impact of the Coronavirus (Covid-19) Pandemic and the Transition to the New Normal, Published in *Journal of Learning for development*, <https://jl4d.org/index.php/ej14d/article/view/590>.
- [15] Livia quintiliani et al(2022)," Resilience and psychological impact on italian university students during covid 19 pandemic Distance learning and health, *Psychol Health med*, Jan 2022 27(1):69-80 DOI: 10.1080/13548506.2021.1891266(1)]
- [16] Anna Christina et al(2017)," Identification of factors associated with resilience, in medical students through a cross-sectional census, *Medical education and training research, BMJ open journal*, Vol-7, Issue-1.
- [17] Jesus Muyor- Rodriguez, Francisco Caravaca-Sanchez and Juan Sebastian,(2021),"Covid-19 fear, resilience, social support, anxiety and suicide among college students in spain, *Int J environ Res Public Health*, Aug 2021: 18(15): 8156 Published online 2021 Aug 1. doi: 10.3390/ijerph18158156.
- [18] Rachel A wattick, Rebecca L Hagedorn et al(2021)" Impact of resilience on college students mental health during COVID-19, *J Am Coll Health* Aug 27; 1-8 doi: 10.1080/07448481.2021.1965145(4).
- [19] Angele serrano Sarmiento et al(2021) Resilience and COVID-19. An analysis in University students during confinement *Educ. Sci*. 2021, 11(9), 533; <https://doi.org/10.3390/educsci11090533>.
- [20] Iddareddy et al(Religiosity, emotions, resilience and wellness during the covid-19 pandemic: a study of taiwanese university students, published in *International journal of environmental research and public health*, Vol-19/issue 12 10.3390/ijerph1812638.
- [21] Beisland E G et al(2021), Quality of life and fear of COVID-19 in 2600 baccalaruateate nursing students at five universities: a cross sectional study *Health qual Life outcomes* 2021. Aug 19; 19(1): 198. doi: 10.1186/s12955-021-01837-2.
- [22] Samira Hamadeh Kerbage(2021), Undergraduate nursing students resilience, challenges, and support during corona virus pandemic, *Int J Ment Health Nurs* 2021 Oct;30 Suppl 1:1407-1416. doi:10.1111/inm.12896. Epub 2021 Jun 9.
- [23] Ka Ming Chow et al(2018), resilience and well-being of university nursing students in Hong kong: a cross-sectional study, *BMS med Educ*.20189 jan 12; 18(1):13. doi: 10.1186/s12909-018-1119.
- [24] Besser A(2020), Adaptability to a sudden transision to online learning during the COVID-19 pandemic: Understanding the challenges for students. *Scholarship of teaching and learning in psychology*, 8(2), 85-105. <https://psycnet.apa.org/doi/10.1037/stl0000198>.

- [25] Tyler A Kuhn et al,(2021), Distress and prevention behaviours during COVID-19 pandemic among college students,A moderating role resilience, *Int J Behav Med* 2021-12;1-6. doi: 10.1007/s12529-021-10034-w.
- [26] Tina antill Keener et al(2021), “Quality of life, resilience and related factors of nursing students during the COVID-19 pandemic”,published in *Nursing education journal* May-jun 01; 46(3): 143-148 doi: 10.1097/NNE.0000000000000969.
- [27] Nureva et al (2021), “ academic resilience and subjective well being among the college students using online learning during the COVID-19 pandemic,International conference of psychology Pages 202-214(9).
- [28] Leodoro J Labrague et al(2021)” Social and emotional lonliness among college students during the COVID-19 pandemic: The predictive role of coping behaviours, social support and personal resilience *PerspectPsychiatr Care*. 2021. PMID: 33410143(2).
- [29] Muyor-Rodriguez et al(2021) Covid-19 fear, resilience, social support, anxiety and suicide among college students, *International Journal of environmental Res Public health* (Aug 2021) 18(15):8156. doi: 10.3390/ijerph18158156(3).
- [30] Zeyu Zhang et al (2021), Professional identity of Chinese nursing students during the covid-19 pandemic outbreak: A national wide cross sectional study, *Nurse education in practice*, Volume 52, March 2021.
- [31] Rizal Angelo N Grande (2021), Association between perceived resilience and mental well being of saudi Nursing students during COVID-19 pandemic, *J Holist Nurs*. Dec:39(4):314-324. doi: 10.1177/08980101211009063. Epub 2021 Apr 20.
- [32] Andrea V Fuentes,(2021), Coping, resilience and emotional well-being in pharmacy students during the COVID-19 pandemic, *Ment Health Clin*. Sept 24(2021;11(5); 274-278. doi: 10.9740/mhc.2021.09.274. eCollection 2021 Sep.
- [33] Daniel Joseph and Rizal Angelo(2022), Quality of life and academic resilience of Filipino nursing students during the COVID-19 pandemic; A cross sectional study,*Int J Nurs Educ Scholarsh*. Jan 7; 18(1). doi: 10.1515/ijnes-2021-0115.
- [34] Joanna Forycka et al,(2022), Polish medical students facing the pandemic-assessment of resilience, well-being and burnout in the COVID-19 era. *Plos One*.Jan 24(2022);17(1) :e0261652. doi: 10.1371/journal.pone.0261652. eCollection 2022.
- [35] AzizahAlyoubi et al,(2021)” The impact of the COVID-19 pandemic on the students mental health and sleep in Saudi Arabia, *Int.J.Environ. Res.Public health* 2021.
- [36] Borjian, A. (2018). Academically successful Latino undocumented students in college: Resilience and civic engagement. *Hispanic Journal of Behavioral Sciences*, 40(1), 22–36(9).
- [37] Castle, S. R., & McGuire, C. J. (2019). An analysis of student self-assessment of online, blended, and face-to-face learning environments: Implications for sustainable education delivery. *International Education Studies*, 3(3),
- [38] The Global resilience Research Network (2020), <https://Globalresilience.northeastern.edu>.
- [39] University of Michigan, <https://umich.edu>.
- [40] Robin Jacobs et al(2021) predictors of emotional well being in osteopathic medic al students in a COVID-19 world, *J Osteopath Med*, 2021 Feb 18;121(5):455-461. doi: 10.1515/jom-2020-0272).
- [41] Joa Bohn and Stephanie Hogue(2021), “ Changing the Game: College Dance Training for Well-Being and Resilience amidst the COVID-19 crisis, *Health Promot Pract*. Mar: 22(2): 163-166. doi: 10.1177/1524839920963703. Epub 2020 Oct 14