



An Evaluation of Stress Induced by Neet Coaching among School Children

K. Esha Gayathri ^a, G. Sridevi ^{b*} and S. Preetha ^b

^a *Saveetha Dental College and Hospitals, Saveetha Institute of Medical and Technical Sciences, Saveetha University, Chennai-77, Tamil Nadu, India.*

^b *Department of Physiology, Saveetha Dental College and hospital, Saveetha Institute of Medical and Technical Sciences, Chennai-77, Tamil Nadu, India.*

Authors' contributions

This work was carried out in collaboration among all authors. Author KEG Literature search, survey, data collection, analysis, manuscript writing. author GS Study design, data verification, manuscript drafting. All authors read and approved the final manuscript.

Article Information

DOI: 10.9734/JPRI/2021/v33i59A34248

Open Peer Review History:

This journal follows the Advanced Open Peer Review policy. Identity of the Reviewers, Editor(s) and additional Reviewers, peer review comments, different versions of the manuscript, comments of the editors, etc are available here: <https://www.sdiarticle5.com/review-history/74390>

Original Research Article

Received 02 August 2021

Accepted 07 October 2021

Published 16 December 2021

ABSTRACT

Aim: Stress is the feeling of emotional or physical tension. The body produces a surge of emotions when you are in a stressful situation. Human beings of all age groups are more prone for stress. Students are more stressed due to the huge syllabus, pressure from family and parents. Stress causes immune suppression and myocardial infarction. In today's highly competitive world, students face various academic problems including exam stress, disinterest in attending classes and inability to understand the subject. It can cause students to be unable to perform to their full potential in an exam. The purpose of the present study is to examine the prevalence of the effect of NEET coaching stress among private secondary school students in Chennai.

Materials and Methods: Participants were 115 adolescent students from private secondary schools in Chennai who were studying in grades 10, 11 and 12. Participants were selected using a simple random sampling technique and were assessed using a study-specific questionnaire.

Results: Most of the students reported higher stress levels, but males reported significantly higher stress levels than females. The main sources of stress were examinations, academic reasons, and family troubles. The students' main responses to stress were listening to music, talking with someone about the problem, and exercise.

Conclusion: The study concluded an innovative finding that Private high school students in Chennai report high levels of NEET coaching stress. As such there is a need to develop effective interventions to help these students better manage their stress and anxiety.

Keywords: Academic stress; adolescence; NEET students; innovative.

1. INTRODUCTION

Stress is the feeling of emotional or physical tension. Your body produces a surge of emotions when you are in a stressful situation[1]. The stress hormones increase your heart rate, blood pressure, blood vessels to narrow and increase overall cortisol output[2]. Chronic stress increases activation of the HPA axis[3]. Some of the symptoms are headache, dizziness, body pain etc. Stress can cause hypertension through repeated blood pressure elevation as well as by stimulation of the nervous system to produce large amounts of vasoconstricting hormones[4]. Students are more stressed due to the huge syllabus, pressure from family and parents. Stress causes immune suppression and myocardial infarction[5].

Students are more bothered about failures and resolve to score better[6]. They put extra effort for success and are worried about their jobs. Students have pressure to fulfil their parent's expectations and compare the study hours with that of peers[7]. Students often don't reveal their marks to better performers and have desires to outperform their peers[8].

In today's highly competitive world, students face various academic problems including exam stress, disinterest in attending classes and inability to understand the subject[9]. It can cause students to be unable to perform to their full potential in an exam[10]. Excessive stress raises the risk of psychiatric issues such as depression, anxiety, drug abuse, and suicidal ideation. Learning, thought, and reasoning systems, as well as self-expectation, parental expectations, and peer relationships, have had a short and long-term effect on high school students' mental health and quality of life.[10,11]

In several research on academic stress, there was a lack of specificity in terminology of the word "stress," according to a report on student stress. Several studies have focused on traumatic life experiences linked to stressors or subjective stress, but they may not have looked at high school students' true stress. Our team has extensive knowledge and research

experience that has translate into high quality publications[12–16][17–21].

The aim of this study was to determine the prevalence of mental health issues, educational stress, and other potential risk factors among high school students.[22]

2. MATERIALS AND METHODS

Sample: A sample of 115 adolescents studying in XI and XII class between the age ranges of 16-19 years participated in the study. These subjects were those who attended full time coaching to prepare for entrance examinations and did not attend school to prepare for board examinations. This cross-sectional study was conducted from January 2021 to February 2021. A questionnaire was used in this study and circulated among the students through an online survey. The results were analysed statistically using descriptive statistics, frequency analysis and Chi square test in SPSS software.

3. RESULTS

The present study has observed that out of 115 study participants, 71.3% were male and 28.7% were female .20% of the subjects were 17 years old. 38.3% of the subjects were 18 years old.13.9% of the subjects were 19 years old and 22.6% of the subjects were 20 years old. 65.2% of the subjects were studying 12th grade and 14.8% of the subjects were studying 11th grade. 53.2% of the subjects were attending NEET coaching and 45.9% of the subjects were not attending NEET coaching. 22.9% of the subjects were attending akash institution. 31.2% of the subjects were attending Fiitjee.14.7% of the subjects were attending byjus and 31.2% of the subjects were attending other coaching institutions. 72.2% of the subjects feel stressed out too much and 27.8% of the subjects do not feel stressed out too much. 23.5% of the subjects consider academic reason for their stress. 43.5% of the subjects consider personal reason for their stress. 23.5% of the subjects consider both reasons for their stress and 9.6% of the subjects consider none of the reasons for their stress. 52.2% of the subjects consider huge syllabus

and time management for the reason of academic stress. 31.3% of the subjects consider strict attitude of the staff for the reason of academic stress and 15.7% of the subjects consider pressure from parents to get good marks for the reason of academic stress. 37.4% of the subjects consider adjustment with friends for the reason of personal stress. 33.9% of the subjects consider financial problems for the reason of personal stress and 24.3% of the subjects consider health problems for the reason of personal stress. 20.9% of the subjects think that headache makes them feel stressed out. 28.7% of the subjects think that breathing rapidly makes them feel stressed out. 41.7% of the subjects think that insomnia makes them feel stressed out and 8.7% of the subjects feel that they are not able to share their emotions which makes them feel stressed out. 13 % of the subjects think that yoga helps them to manage stress. 9.6% of the subjects think that singing or dancing helps them to manage stress. 22.6% of the subjects that listening to music helps them to manage stress. 19.1% of the subjects think that exercise helps them to manage stress. 9.6% of the subjects think that meditation helps them to manage stress and 10.4% of the subjects think that hanging out with friends helps them to manage stress. 60.9% of the subjects participate in the yoga day conducted in school and 39.1%

of the subjects do not participate in the yoga day conducted in school. (Fig. 1) 23.5% of the subjects think that anti anxiety drugs help to fight stress. 25.2% of the subjects think that antidepressant drugs help to fight stress and 22.6 % of the subjects think that there are other ways to fight stress.47.8% of the subjects think that coffee helps them to stay awake during examination. 31.3% of the subjects think that tea helps them to stay awake during examination and 16.5% of the subjects think that Psychoactive drugs help them to stay awake during examination. 28.7% of the subjects share their problems with family. 55.7% of the subjects share their problem with friends and 15.7% of the subjects do not share their problems with anyone.27.8% of the subjects want mandatory yoga or exercise classes in school. 45,2% of the subjects want frequent academic counselling in school and 27% of the subjects want accessibility to staff in school. 11.3% of the subjects experience loss of appetite during stress. 22.6% of the subjects experience sadness during stress. 17.4% of the subjects experience muscle aches during stress. 9.6% of the subjects experience nausea during stress. 7% of the subjects experience vomiting during stress and 13.9% of the subjects experience continuous headaches during stress.

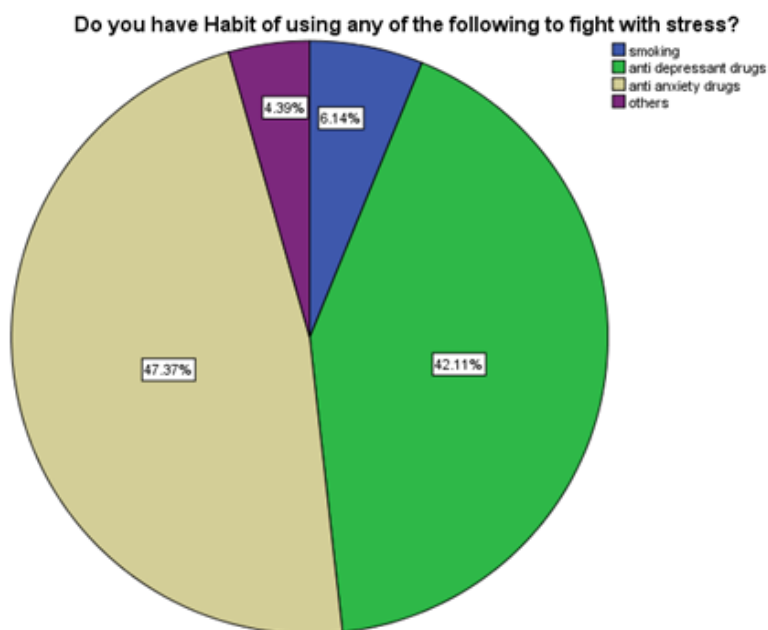


Fig 1. Pie chart showing the responses to the question habits to fight stress. Majority of the respondents responded that antidepressant drugs help to fight stress (47.37%). Blue colour represents smoking, green colour represents antidepressant drugs, yellow colour represents anti anxiety drugs and purple colour represents others

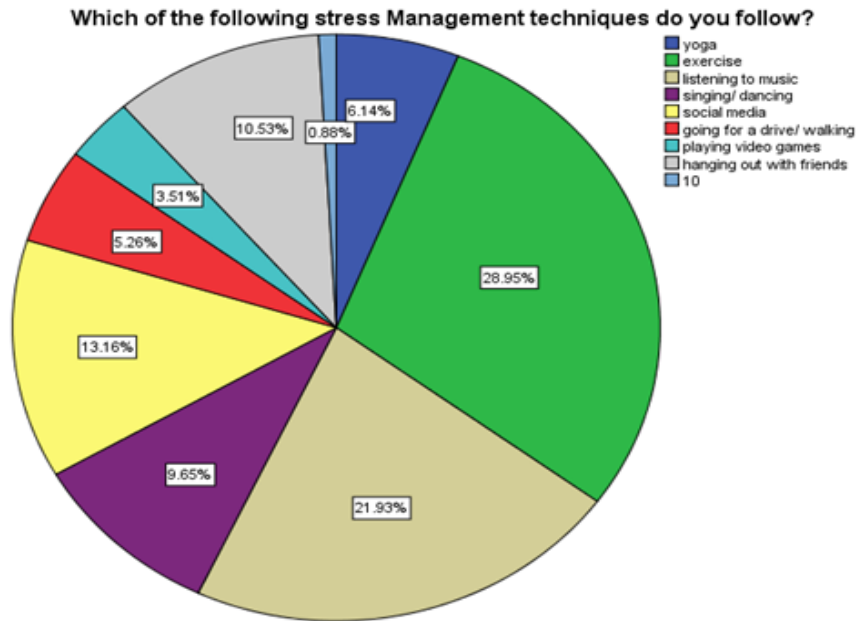


Fig. 2. Pie chart showing the responses to the question stress management techniques. Majority of the respondents responded that exercise is a stress management technique they follow (28.95%). Dark blue colour represents yoga, green colour represents exercise, yellow colour represents listening to music ,purple colour represents singing/ dancing, bright yellow colour represents social media, red colour presents going for drive, light blue colour represents playing video games, grey colour represents hanging out with friends and pale blue colour represents all

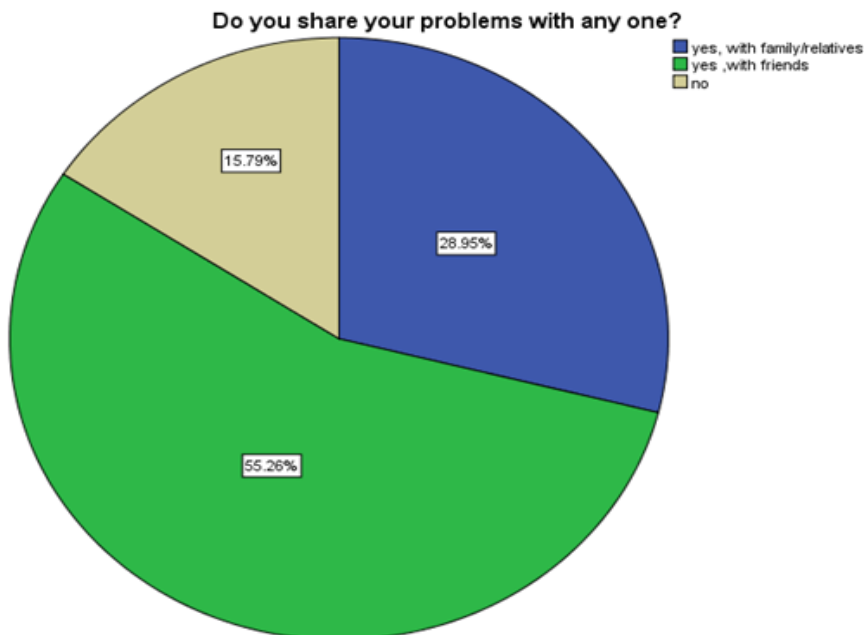


Fig. 3. Pie chart showing the responses to the question sharing problems. Majority of the respondents responded that they share their problem with friends (55.26%). Blue colour represents sharing problems with family, green colour represents sharing problems with friends and yellow colour represents sharing problems with nobody

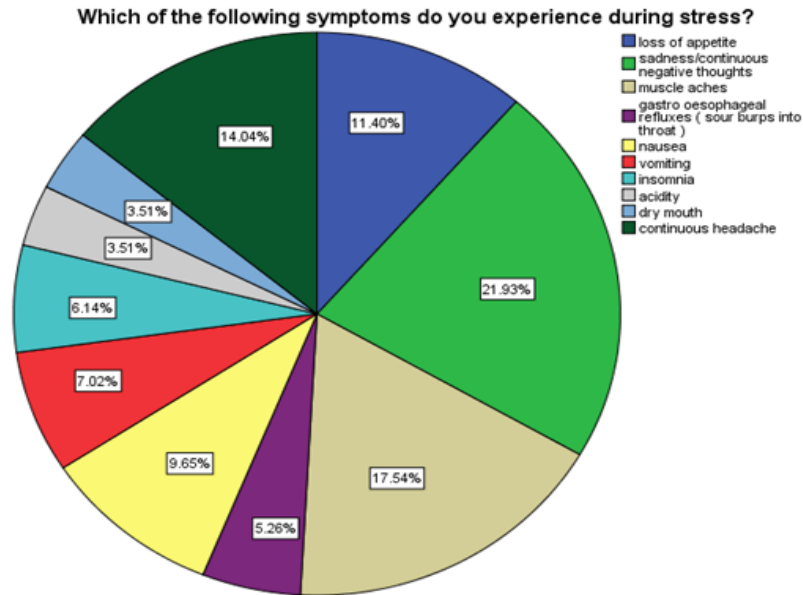


Fig. 4. Pie chart showing the responses to the question symptoms experiencing during stress. Majority of the respondents responded that sadness and continuous negative thoughts are the symptoms they experience (21.93%). Dark blue colour represents loss of appetite, green colour represents sadness and continuous negative thoughts, yellow colour represents muscle aches, purple colour represents gastro oesophageal reflux, bright yellow colour represents nausea, red colour presents going for vomiting, light blue colour represents insomnia, grey colour represents acidity and pale blue colour represents dry mouth and dark green colour represents continuous headache Cross tab evaluation

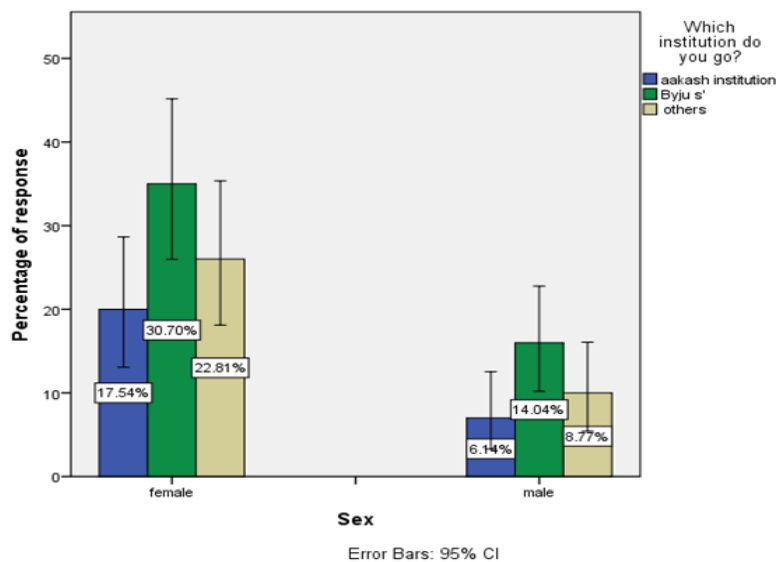


Fig. 5. Bar graph depicts the association between the gender of the students and the type of institution. X-axis represents the gender of the students and the y-axis represents the number of students. Blue colour depicts aakash institution, green colour denotes byju's and yellow colour denotes others. Byjus' was the most commonly attended institution by both genders compared to other institutions. However, the aakash institution was commonly attended by the females. This difference was statistically significant. (Chi square test;p value = 0.015 - significant)

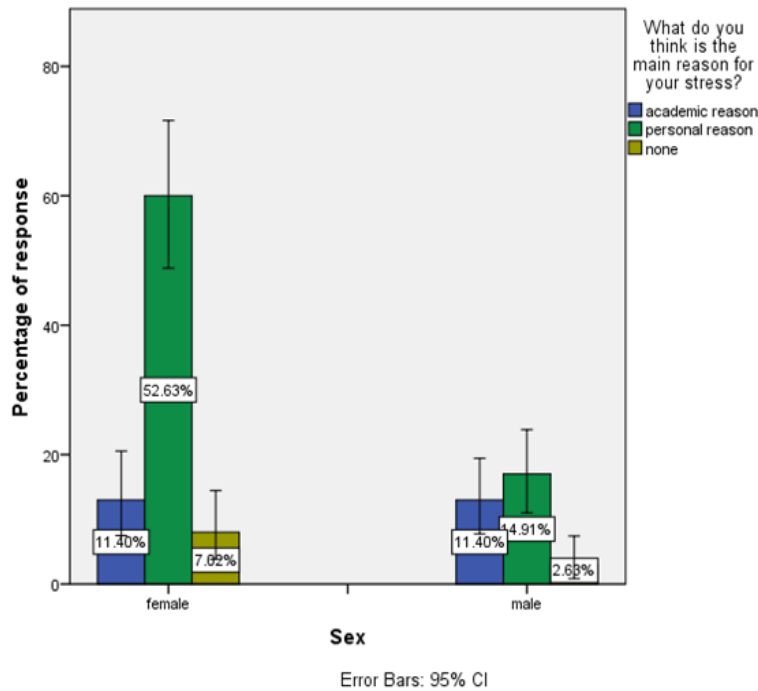


Fig. 6. Bar graph depicts the association between the gender of the students and the type of reason for their stress. X-axis represents the gender of the students and the y-axis represents the number of students. Blue colour depicts academic reason, green colour denotes personal reason and yellow colour denotes none. Personal reasons were the most common reason for their stress for both genders compared to other reasons. However none of the reasons was experienced by the female. This difference was statistically significant (Chi square test; p value = 0.015 -significant)

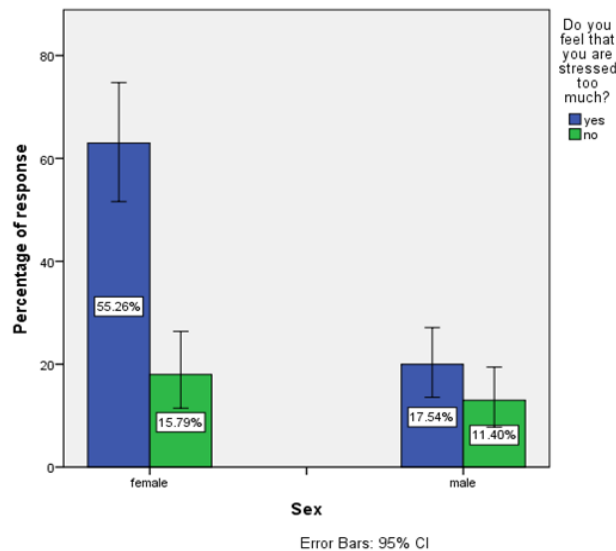


Fig. 7. Bar graph depicts the association between the gender of the students and the level of stress they experience. X-axis represents the gender of the students and the y-axis represents the number of students. Blue colour depicts yes and green colour denotes no. However females were commonly stressed more compared to the males. This difference was statistically significant (Chi square test; p value = 0.017 -significant)

4. DISCUSSION

Adolescence is considered to live in a period in life when peer influences are most intense[23]. These children are also members of their parental family and have to play social roles and are exerted with important socialization functions[24]. This poses them to land up with peers or to parental influences[25][26]. Also there is a “generation gap”, with adolescents making them assumed to function completely independently and in opposition to the world of adults[27].

Adolescents entering into a new academic world are confronted with multiple transition challenges[28]. These challenges are intensified with the experience of higher academic workload[29]. The students of class 12 are caught in the midst of hysteria that holds them every year around examination time[30]. They seem to be very stressed due to endless rounds of tuition and coaching classes for NEET , IIT and JEE. They develop big hopes of getting through magical entrance examinations to a prestigious course[31]. Also there is a fact that there is a limited number of seats and even ordinary courses in small local colleges tend to have high cut- off marks[32]. This aggravates the problems students face when they prepare for entrance examinations[33].The present study investigated the stress and its responses in students preparing for competitive exams like NEET[34].

The present study found that students undergoing NEET coaching were much more stressed and developed more symptoms of stress related changes[35]. Adolescents assess themselves primarily on academic success[36]. This stress of academic performance may not even be noticeable to close friends because students who begin to feel overwhelmed and hopeless tend to hide their feelings[37]. This thereby increases their self inflicted stress and develops potential hazards to their health[38].

Adolescent's stress is usually expressed in terms of loss of self esteem, ;lack of self confidence and self worthiness and the way he/she perceives him/herself[39]. Although peer influence is an important factor for adolescent's education, educational aspiration is one area where parental influence is more important than peer influence[40][41].

5. LIMITATIONS

The sample size was small and more sample size would be beneficial to assess the stress experienced by the students more accurately.

6. FUTURESCOPE

The survey can be conducted in offline mode rather than online so that the inner and real feelings of the subjects could be analysed. Equal number of male and female samples can be evaluated without difficulty.

7. CONCLUSION

Thus the study concluded that the student population undergoing training for NEET in coaching institutes for admission in professional courses experience high levels of self-inflicted stress, parent as well as peer inflicted stress. Also that the highly competitive education and the learning processes in the present academic syllabus are affecting adolescents' mental state. Thus, both parents and peers play an important role in influencing adolescent's stress. Positive support from parents may offset some negative influence of peers on academic performance and supportive peers may similarly provide offsetting effects on negative parental influences.

CONSENT

As per international standard or university standard, Participants' written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Altin M. Strategies of High School Students to Cope With Stress through Leisure Time. International Journal of Higher Education 2018;7:195. Available:https://doi.org/10.5430/ijhe.v7n4p195.
2. Tahmasebi S, Qasim MT, Krivenkova MV,

- Zekiy AO, Thangavelu L, Aravindhan S, et al. The effects of oxygen-ozone therapy on regulatory T-cell responses in multiple sclerosis patients. *Cell Biol Int*. 2021;45:1498–509.
3. Vivekanandhan K, Shanmugam P, Barabadi H, Arumugam V, Daniel Raj Daniel Paul Raj D, Sivasubramanian M, et al. Emerging Therapeutic Approaches to Combat COVID-19: Present Status and Future Perspectives. *Front Mol Biosci* 2021;8:604447.
 4. Pascoe MC, Hetrick SE, Parker AG. The impact of stress on students in secondary school and higher education. *International Journal of Adolescence and Youth* 2020;25:104–12.
Available: <https://doi.org/10.1080/02673843.2019.1596823>.
 5. Bharath B, Perinbam K, Devanesan S, AISalhi MS, Saravanan M. Evaluation of the anticancer potential of Hexadecanoic acid from brown algae *Turbinaria ornata* on HT-29 colon cancer cells. *J Mol Struct* 2021;1235:130229.
 6. Wadhwa R, Paudel KR, Chin LH, Hon CM, Madheswaran T, Gupta G, et al. Anti-inflammatory and anticancer activities of Naringenin-loaded liquid crystalline nanoparticles in vitro. *J Food Biochem* 2021;45:e13572.
 7. Sharma J, Sidhu R. Sources of Stress among Students Preparing in Coaching Institutes for Admission to Professional Courses. *Journal of Psychology* 2011; 2:21–4.
<https://doi.org/10.1080/09764224.2011.11885458>.
 8. Barabadi H, Mojab F, Vahidi H, Marashi B, Talank N, Hosseini O, et al. Green synthesis, characterization, antibacterial and biofilm inhibitory activity of silver nanoparticles compared to commercial silver nanoparticles. *Inorg Chem Commun* 2021;129:108647.
 9. Wahab PUA, Madhulaxmi M, Senthilnathan P, Muthusekhar MR, Vohra Y, Abhinav RP. Scalpel Versus Diathermy in Wound Healing After Mucosal Incisions: A Split-Mouth Study. *J Oral Maxillofac Surg* 2018;76:1160–4.
 10. Deb S, Strodl E, Sun J. Academic-related stress among private secondary school students in India. *Asian Education and Development Studies* 2014;3:118–34.
<https://doi.org/10.1108/aeds-02-20130007>.
 11. Assana S, Laohasiriwong W, Rangseekajee P. Quality of Life, Mental Health and Educational Stress of High School Students in the Northeast of Thailand. *J Clin Diagn Res* 2017;11: VC01–6.
 12. Sathish T, Karthick S. Wear behaviour analysis on aluminium alloy 7050 with reinforced SiC through taguchi approach. *Journal of Materials Research and Technology* 2020;9:3481–7.
 13. Campeau PM, Kasperaviciute D, Lu JT, Burrage LC, Kim C, Hori M, et al. The genetic basis of DOORS syndrome: an exome-sequencing study. *Lancet Neurol* 2014;13:44–58.
 14. Dhinesh B, Niruban Bharathi R, Isaac JoshuaRamesh Lalvani J, Parthasarathy M, Annamalai K. An experimental analysis on the influence of fuel borne additives on the single cylinder diesel engine powered by *Cymbopogon flexuosus* biofuel. *J Energy Inst* 2017;90:634–45.
 15. Parthasarathy M, Isaac JoshuaRamesh Lalvani J, Dhinesh B, Annamalai K. Effect of hydrogen on ethanol-biodiesel blend on performance and emission characteristics of a direct injection diesel engine. *Ecotoxicol Environ Saf* 2016;134:433–9.
 16. Gopalakannan S, Senthilvelan T, Ranganathan S. Modeling and Optimization of EDM Process Parameters on Machining of Al 7075-B4C MMC Using RSM. *Procedia Engineering* 2012;38: 685–90.
 17. Lekha L, Raja KK, Rajagopal G, Easwaramoorthy D. Synthesis, spectroscopic characterization and antibacterial studies of lanthanide(III) Schiff base complexes containing N, O donor atoms. *J Mol Struct* 2014;1056-1057: 307–13.
 18. Neelakantan P, Cheng CQ, Mohanraj R, Sriraman P, Subbarao C, Sharma S. Antibiofilm activity of three irrigation protocols activated by ultrasonic, diode laser or Er:YAG laser in vitro. *Int Endod J* 2015;48:602–10.
 19. Sahu D, Kannan GM, Vijayaraghavan R. Size-dependent effect of zinc oxide on toxicity and inflammatory potential of human monocytes. *J Toxicol Environ Health A* 2014;77:177–91.
 20. Kavitha M, Subramanian R, Narayanan R, Udhayabanu V. Solution combustion synthesis and characterization of strontium substituted hydroxyapatite nanocrystals.

- Powder Technol 2014;253:129–37.
21. Vijayakumar GNS, Devashankar S, Rathnakumari M, Sureshkumar P. Synthesis of electrospun ZnO/CuO nanocomposite fibers and their dielectric and non-linear optic studies. *J Alloys Compd* 2010;507:225–9.
 22. C A, Aswathy C. The Influence of School Type and Self-Efficacy on Academic Stress among Higher Secondary School Students. *International Journal for Research in Applied Science and Engineering Technology* 2020;8:900–3. <https://doi.org/10.22214/ijraset.2020.4151>.
 23. Sridharan G, Ramani P, Patankar S, Vijayaraghavan R. Evaluation of salivary metabolomics in oral leukoplakia and oral squamous cell carcinoma. *J Oral Pathol Med* 2019;48:299–306.
 24. Clarizia G, Bernardo P. *Diverse Applications of Organic-Inorganic Nanocomposites: Emerging Research and Opportunities: Emerging Research and Opportunities*. IGI Global; 2019.
 25. Bronfenbrenner U. Reaction to Social Pressure from Adults Versus Peers among Soviet Day School and Boarding School Pupils in the Perspective of an American Sample. *Successful Group Care* 2017;247–65. <https://doi.org/10.4324/9781315130439-14>.
 26. Andersson B-E. *YOUTH IN TWO WORLDS: UNITED STATES AND DENMARK*. By Denis B. Kandel and Gerald S. Lesser. San Francisco: Jossey-Bass, 1972. 217 pp. *Social Forces* 1973;52:140–1. <https://doi.org/10.1093/sf/52.1.140>.
 27. Egbuna C, Mishra AP, Goyal MR. *Preparation of Phytopharmaceuticals for the Management of Disorders: The Development of Nutraceuticals and Traditional Medicine*. Academic Press; 2020.
 28. Saraswathi I, Saikarthik J, Senthil Kumar K, Madhan Srinivasan K, Ardhanaari M, Gunapriya R. Impact of COVID-19 outbreak on the mental health status of undergraduate medical students in a COVID-19 treating medical college: a prospective longitudinal study. *PeerJ* 2020;8:e10164.
 29. Rajakumari R, Volova T, Oluwafemi OS, Rajesh Kumar S, Thomas S, Kalarikkal N. Grape seed extract-soluplus dispersion and its antioxidant activity. *Drug Dev Ind Pharm* 2020;46:1219–29.
 30. Ezhilarasan D. Critical role of estrogen in the progression of chronic liver diseases. *Hepatobiliary Pancreat Dis Int* 2020;19:429–34.
 31. Solai Prakash AK, Devaraj E. Cytotoxic potentials of *S. cumini* methanolic seed kernel extract in human hepatoma HepG2 cells. *Environ Toxicol* 2019;34:1313–9.
 32. R H, Ramani P, Ramanathan A, R JM, S G, Ramasubramanian A, et al. CYP2 C9 polymorphism among patients with oral squamous cell carcinoma and its role in altering the metabolism of benzo[a]pyrene. *Oral Surg Oral Med Oral Pathol Oral Radiol* 2020;130:306–12.
 33. Gowhari Shabgah A, Ezzatifar F, Aravindhan S, Olegovna Zekiy A, Ahmadi M, Gheibihayat SM, et al. Shedding more light on the role of Midkine in hepatocellular carcinoma: New perspectives on diagnosis and therapy. *IUBMB Life* 2021;73:659–69.
 34. J PC, Marimuthu T, C K, Devadoss P, Kumar SM. Prevalence and measurement of anterior loop of the mandibular canal using CBCT: A cross sectional study. *Clin Implant Dent Relat Res* 2018;20:531–4.
 35. Santhakumar P, Roy A, Mohanraj KG, Jayaraman S, Durairaj R. Ethanolic Extract of *Capparis decidua* Fruit Ameliorates Methotrexate-Induced Hepatotoxicity by Activating Nrf2/HO-1 and PPAR γ Mediated Pathways. *Indian Journal of Pharmaceutical Education and Research* 2021;55:s265–74. <https://doi.org/10.5530/ijper.55.1s.59>.
 36. Kamath SM, Manjunath Kamath S, Jaison D, Rao SK, Sridhar K, Kasthuri N, et al. In vitro augmentation of chondrogenesis by Epigallocatechin gallate in primary Human chondrocytes - Sustained release model for cartilage regeneration. *Journal of Drug Delivery Science and Technology* 2020;60:101992. <https://doi.org/10.1016/j.jddst.2020.101992>.
 37. Nambi G, Kamal W, Es S, Joshi S, Trivedi P. Spinal manipulation plus laser therapy versus laser therapy alone in the treatment of chronic non-specific low back pain: a randomized controlled study. *Eur J Phys Rehabil Med* 2018;54:880–9.
 38. Mudigonda SK, Murugan S, Velavan K, Thulasiraman S, Krishna Kumar Raja VB. Non-suturing microvascular anastomosis in maxillofacial reconstruction- a comparative study. *Journal of Cranio-Maxillofacial*

- Surgery 2020;48:599–606.
39. Huebner ES, Scott Huebner E. Research on Assessment of Life Satisfaction of Children and Adolescents. *Quality-of-Life Research on Children and Adolescents* 2004;3–33. https://doi.org/10.1007/978-1-4020-2312-5_2.
40. Valois RF, Zullig KJ, Scott Huebner E, Wanzer Drane J. Life Satisfaction and Suicide Among High School Adolescents. *Quality-of-Life Research on Children and Adolescents* 2004;81–105. Available:https://doi.org/10.1007/978-1-4020-2312-5_5.
41. Davies M, Kandel DB. Parental and Peer Influences on Adolescents' Educational Plans: Some Further Evidence. *American Journal of Sociology* 1981; 87:363–87. Available:<https://doi.org/10.1086/227462>.

© 2021 Gayathri et al.; This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Peer-review history:
The peer review history for this paper can be accessed here:
<https://www.sdiarticle5.com/review-history/74390>