



HEALTH AND WELL BEING



Health and Well Being

At UPES (University of Petroleum and Energy Studies) in India, we recognize that the well-being of our students is essential for their academic success and personal development. As a university committed to nurturing the holistic growth of our students, we understand the importance of addressing mental health concerns and providing adequate support services. Therefore, we are dedicated to offering comprehensive mental health and student counseling services to ensure that every student has access to the resources and assistance they need to thrive during their time at UPES.

Physical Health Care Services

Health And Medical Services

<https://www.upes.ac.in/student-space/student-support>

1. **Infirmiry:** The University provides the students a well-equipped First-aid support in the Infirmiry, It's also equipped with Ambulance evacuation for the students. There are two male and two female doctors to provide medical support to the students.
2. **Ambulance:** Medical supports which are beyond the infirmiry are facilitated through a high-tech medical ambulance which is present with emergency management facilities.
3. **Medial Insurance:** All the registered students in UPES are medically insured for a sum of Rs 100,000/- by Universal Sompo General Ins Com. The insurance also covers Road Accident causality.



Infirmiry

How to avail Medical Insurance: (Below Links to be copied from the Lower Tab-Student Space)

- Cashless hospitalization process
- Reimbursement Process

- Applicable Terms and Conditions
- List of Documents Required for Insurance

UPES-CSR Health Care

https://www.linkedin.com/feed/update/urn:li:activity:7217498111097679873/?updateEntityUrn=urn%3Ali%3Afs_updateV2%3A%28urn%3Ali%3Aactivity%3A7217498111097679873%2CFEED_DETAIL%2CEMPTY%2CDEFAULT%2Cfalse%29

We are proud to announce that UPES-CSR recently organized free medical camps in three villages near UPES, marking a significant milestone in our mission to enhance community health through proactive initiatives.

With our dedicated infirmary team comprising doctors, nurses, and interns, we provided comprehensive health check-ups to patients. The camp effectively diagnosed and treated various health issues, garnering positive feedback from the attendees. Many expressed satisfaction with the care received and indicated their interest in recommending our services to others in need.

This enthusiastic response underscores the impact of our efforts in fostering community health awareness and improving access to healthcare. We look forward to building on this success and continuing our journey towards making a lasting difference in the lives of those we serve.



SPORTS ACTIVITIES

https://upes-production-cvb3e7frghdda0a4.z01.azurefd.net/drupal-data/2024-02/UPES-2022-23-Annual-Report_new_0.pdf

Sports play a pivotal role in shaping the mental and physical health of the student. Keeping in view the importance of sports in today's era and its importance in the shaping of individual's personality, health and fitness, the university lays considerable emphasis on student's participation in various games, sports and other physical activities. The university has a well-developed sports department

under the aegis of Department of Student Welfare, which encourages students to participate in various sports activities.

S.No	Activity	Event	Date	Number of Participating Students
1	44th Chess Olympiad	Sports	27-07-2022 to 10-08-2022	1
2	Football Trials	Sports	13 to 15-09-2022	207
3	Reliance Foundation Youth Football	Sports	17-09-2022 to 21-10-2022	20
4	UPES Volleyball Team Trials	Sports	20 to 21-09-2022	140
5	Basketball Trials	Sports	26 to 28-09-2022	312
6	Friendly Football Match	Sports	07 to 10-10-2022	20
7	Doon Business School Sports Fest	Sports	08 to 10-12-2022	40

S.No	Activity	Event	Date	Number of Participating Students
8	Spardha – IIT BHU Sports Fest	Sports	14 to 16-10-2022	10
9	1 st Ph.D Sports Fest	Sports	14 to 17-10-2022	160
10	2 nd Uttarakhand State Para Swimming Championship	Sports	22 to 24-10-2022	1
11	Surge - Sports Fest Shiv Nadar University	Sports	11 to 13-11-2022	37
12	13 th Senior National Drop Roball Championship	Sports	16 to 22-11-2022	1
13	Intramural Badminton Tournament	Sports	04 to 05-12-2022	259
14	District Khel Maha Kumbh - Judo	Sports	25 to 27-11-2022	9
15	Intra-Mural Table Tennis Championship	Sports	06 to 12-12-2022	160
16	North Zone Inter University Table Tennis Men Championship	Sports	01 to 02-01-2023	4
17	1 st Indo Nepal International Games	Sports	07 to 09-01-2023	4
18	Kampuchea Inline Cup - Cambodia	Sports	13 to 14-01-2023	1
19	Doon Business School Premier League	Sports	02-04-2023	12
20	All India Shooting Championship	Sports	09 to 11-02-2023	1
21	Spandan	Sports	24 to 27-02-2023	450
22	North Zone Inter University Cricket Men Championship	Sports	21 to 28-02-2023	16
23	75 th District Cricket League	Sports	27-02-23 to 06-03-2023	18
24	Agneepath – Ashoka Sports Fest	Sports	17 to 19-02-2023	44
25	2nd Monal Cup Cricket Tournament	Sports	10 to 17-03-2023	16
26	Sportikon'23 - Annual Sports Festival of Bennett University	Sports	06 to 09-04-2023	50
27	Intra Mural Volleyball Tournament (Men & Women)	Sports	30-03-23 to 10-04-2023	280
28	All India Shooting Championship	Sports	01 to 05-04-2023	2
29	All India Shooting Championship	Sports	05 to 09-04-2023	3
30	Friendly Matches - Lal Bahadur Shastri National Academy of Administration	Sports	15-04-2023	36
31	Sphurit Investiture Ceremony	Sports	04-03-2023	70
32	All India Chess Federation National Arbiter	Sports	22 to 27-05-2023	1

Sexual Reproductive Health Care Services

Health and Medical Services

<https://admission.upes.ac.in/portal/feel-home/health-and-medical-services>

UPES ensures best of Medical and Health services for its Students

UPES is providing medical care to students and Faculty through well- equipped Infirmaries located at both its campuses. Two Ambulances with Basic Life Support equipment are stationed one each at both campuses for quick emergency response. Four doctors including two lady doctors are available during working hours assisted by 6 Nursing staff.

A resident doctor attends to patients during off duty hours. In addition, a male and a female Nursing Assistant residing in boys and girls hostel respectively provide First Aid round the clock.

Doctors of UPES are conducting regular sanitary check of Hostel messes, Food courts and other eateries within the campus. To promote Health awareness among the students Health Education Lectures are conducted. Timely health advisories are also circulated to prevent outbreak of diseases.

Apart from these medical professionals, UPES also conducts workshops for its staff to equip them to handle medical emergencies and provide first-aid facility.

We also have a clinical psychologist to ensure the psychological health of our students, provide crisis intervention and counselling to those in need so that their academic progress do not suffer. Psycho-educational programs and developmental workshops, addressing high frequency mental and emotional health issues are presented throughout the year by our trained and experienced clinical psychologist

[UPES takes a step towards supporting adolescent girls](https://blog.upes.ac.in/upes-takes-a-step-towards-supporting-adolescent-girls/)

<https://blog.upes.ac.in/upes-takes-a-step-towards-supporting-adolescent-girls/> [5]



EKTA KASHYAP · DECEMBER 15, 2021

Adolescent Reproductive and Sexual Health (ARSH) drive by UPES

ARSH drive in progress

UPES Social Internship Team and student society GS3, in collaboration with an NGO, organised a drive in Than village of Uttarakhand to inform adolescent girls about reproductive and sexual health

In 2020, the World Health Organisation (WHO) released a fact sheet on adolescent reproductive health. The statistics were alarming.

It was found that at least 10 million unintended pregnancies occur each year among adolescent girls. Complications during pregnancy and childbirth were the leading cause of death for 15–19-year-olds globally. WHO further estimated that two-thirds of all sexually-transmitted diseases worldwide occurred in teenagers and people in their early 20s.

According to the International Journal of Gynaecology and Obstetrics, Adolescent Reproductive and Sexual Health (ARSH) forms a major part of the global burden of sexual ill-health. This, unfortunately, is a consequence of a knowledge gap among the youth. Therefore, there is an urgent need to educate adolescents in a safe and healthy environment, where they can freely communicate their concerns.

The ARSH awareness drive

On this matter, UPES Social Internship Team and student society GS3, in collaboration with the Global Organisation for Research, Education, and Development (GORED), organised a drive in Uttarakhand's Than village. The event took place at a government school.

Adolescent Reproductive and Sexual Health (ARSH) drive by UPES



The team created a supportive space to interact with girls of age groups 13-18. They informed them about sexual health and provided them with sanitary kits that were sponsored by GORED.

Talking about how the stigma surrounding the issue hinders discussion, Shramishtha Tomar, Social Internship Officer, Career Services, UPES, said, “ARSH is rarely discussed with the right beneficiaries. It is the fear of the unknown and the stigma surrounding menstruation that prevents young girls from having a dialogue about periods. Through the ARSH workshop, hopefully, we could clear clouds surrounding the topic. As expected, the audience was initially reserved and quiet. However, as the session progressed and we shared our experiences with them, we could notice a significant difference in their demeanour. It ended up being an informative and interactive workshop. We also demonstrated how to use the reusable sanitary kit. I am hopeful that through these sessions, we can also include other genders in the dialogue, and debunk the taboo surrounding menstruation.”

Mani Chaudhary, a first-year student at the School of Design, was grateful to be a part of this drive. She said, “ARSH was a successful event. It was a valuable experience for me to enhance the knowledge of young girls. The sweet and innocent souls of those girls filled my heart with joy. It was an extraordinary experience for me, and I am looking forward to more opportunities like this.”

For Shivani Yadav, Social Internship Officer, UPES Career Services, this was a learning experience. She said, “ARSH was one of the best sessions I had attended and delivered in months. This session taught me how to connect with young girls, debunk the myths, and break the stereotypes. I also learnt how difficult it can be for young girls to talk about healthcare and menstrual hygiene. I tried to put my knowledge into practice.”

Adhering to its values of being a ‘University with a Purpose’, UPES continues to lead the discourse on significant matters that shape society. Such awareness campaigns broaden the students’ mindset and benefit the community at large.

[A UPES student’s quest to make periods pain-free for women](#)

<https://blog.upes.ac.in/a-upes-students-quest-to-make-periods-pain-free-for-women/> [6]

[EKTA KASHYAP](#) · APRIL 22, 2022



Nuveni Raina, a second-year design student at UPES, has built a start-up 'Vindyavasini' to manufacture period pain relief belts. They are meant to alleviate cramps by giving out regulated heat and vibrations

Around 80% of women across the world suffer from period pain or dysmenorrhoea, according to a study by Women's Health Concern. Characterised by pain in the lower abdomen, it is the most common symptom of menstruation. Women experience cramps at some stage during their lifetime – from early teens right up to menopause. For 10% of the women, the pain is so severe that it can disrupt their daily lives.

For Nuveni Raina, too, the problem was no different. She researched and found that period pain affected females at schools, universities, workplaces, and social activities. According to a study published in the British Medical Journal, period pain led to nearly nine days of lost productivity per woman per year. One in five young women reported missing school or university due to dysmenorrhea. And out of those who attended classes while feeling ill (presenteeism), two in five said that pain impacted their concentration and performance in class. Several young girls fell behind during their final years of schooling.

So, Nuveni decided to take the matter into her hands, quite literally. A second-year [design student at UPES](#), she developed 'Vindyavasini', a period cramp relief belt that alleviates period cramps by giving out heat and vibrations. Users can change the heat intensity with an app.

However, there are several products in the market that claim to relieve period pain. "But no one offers this particular product in India," Nuveni says. She explains, "There are heating belts, which are not very handy, so you cannot carry them to say your workplace; hot water bags need to be reheated several times, and then there are heating patches, but you cannot regulate the heat and it does not last for more than five hours per use."

The target audience of this product is women of all age groups. Nuveni says, "First, I am focussing on the women working in the urban sector. Then, I would like to expand the reach to rural areas. I will try to tie up with governments and NGOs so we can take it to the grassroots level. The goal is for every woman, irrespective of their geographical location and economic background, to have access to the product and live better lives. Every woman deserves a pain-free period."

How does she plan to market the product? "I would like to advertise the product on every channel possible. I would also give the prototype to women to try for themselves and then pass the information to more women around them. I would also reach out to the companies already working in this sector," Nuveni says.

Her promising start-up recently raised a funding of INR 1 lakh from investor Rahul Narvekar, Founder and Chief Executive Officer of The India Network, through the Runway Incubator. "I will be using the money to improve my prototype by making changes to accommodate the needs of the user. I am looking forward to helping women get through their period without pain," Nuveni signs off.

Affordable Food Services

UPES Protocol for Food Safety

<https://upes-production-cvb3e7frghdda0a4.z01.azurefd.net/drupal-data/pdfs/Event-Management&F&B-Policy.pdf>

1. Purpose

The purpose of this policy is to ensure the safe, hygienic, and efficient management of internal food and beverage operations, day-to-day event management, and external vendor activities at UPES University. This policy outlines standards and protocols for food safety, event organization, and vendor management to comply with FSSAI regulations and university standards.

2. Scope

This policy applies to all internal food and beverage operations, day-to-day event management activities, and external vendors operating on UPES University campuses.

7. Internal Food & Beverages Operations

- **Compliance:** All internal food and beverage operations must comply with the Food Safety and Standards Authority of India (FSSAI) regulations and university standards.
- **Licensing:** The university's food outlets must have valid FSSAI licenses and adhere to all relevant health and safety regulations.

09. Food & Beverages Outlet Standards

- **Quality:**

- **Hygiene:** Food stalls must adhere to strict hygiene standards, including the use of clean utensils, proper handwashing facilities, and safe food storage practices.

- **Equipment:** Stalls must use equipment that is clean, in good working condition, and appropriate for the type of food being prepared or served.

- **Waste Management:** Proper waste disposal facilities must be provided at food stalls. Vendors are responsible for managing their waste and ensuring it is disposed of in accordance with university policies.

- **Health Certifications:** Vendors must provide health certifications for all staff involved in food preparation and service, demonstrating compliance with health and safety regulations.

12. Sustainable food & vegetation

All food served on campus will be sourced from sustainably managed farms, prioritizing locally grown, organic, and ethically produced ingredients to minimize environmental impact and support sustainable agricultural practices.

[Food technology can save the world. And you can be a part of it](https://blog.upes.ac.in/food-technology-can-save-the-world-and-you-can-be-a-part-of-it/)

<https://blog.upes.ac.in/food-technology-can-save-the-world-and-you-can-be-a-part-of-it/> [2]



Food technology

Technological advances in food have clearly changed what goes on our plate and how. With growing scope and advances in the field, private and public organisations are increasingly hiring food tech professionals. As a profession, Food Technology is not only lucrative but also a fulfilling career that promises security, a diverse environment, good earning possibilities, as well as recognition

During their long expeditions, explorers such as James Cook and Christopher Columbus carried foods preserved in syrup and brine (a highly concentrated salt-water solution) for their longer shelf life. In 1810, French confectioner Nicholas Appert developed the canning process – an airtight food preservation method that is used practically everywhere today. In 1863, Louis Pasteur developed the Pasteurisation process, which helps improve the shelf life of food products. In 1961, Soviet cosmonaut Yuri A. Gagarin became the first human to eat in space, squeezing beef paste from an aluminium tube into his mouth. Day by day, novel techniques are continuously being employed in food processing for minimal nutritional and sensory losses.

What began as an attempt to conserve food has gradually transformed into a comprehensive field known as Food Technology. Today, along with preservation, it involves the production, quality control, as well as research and development of food products. Processing of food prevents food wastage, improves economical gain, and generates employment. The processed food with higher shelf life can be supplied to longer distances, leading to a surge in food markets.

In a world that faces the challenge of feeding 9.7 billion people by 2050 – a sharp rise from the current global population of 7.9 billion – governments are looking at ground-breaking innovations in food technology to solve the issue of food security. Food technology is also getting attention due to increased consumer awareness about what goes on their plate, where it comes from, as well as changing food preferences that seek alternatives to conventional food items. Environmental concerns are also augmenting the need for a better understanding of the subject.

It is crucial to provide enough nutrients and nutraceuticals in food in addition to satisfying the satiety. A micronutrient deficiency, which affects more than 2 billion people, not only has negative effects on one's own health but also on the global economy. When someone has a disease, special foods and individualised diets are created. Both weight gain and weight loss foods are created. Energy drinks and protein powder are now widely available in the market as sports foods.

With growing scope and advances in the field, private and public organisations are increasingly hiring food tech professionals. Food Safety and Standards Authority of India (FSSAI 2011) enforces each food processing industry/restaurants/hotels to follow all FSSAI regulations for maintaining hygiene, cleanliness, safe food production, and supply. As a profession, food technology is not only lucrative

but also a fulfilling career that promises security, a diverse environment, good earning possibilities, as well as recognition.

However, it is crucial to study the program from a university that is abreast with the latest developments in the industry. If you want to learn, learn from the experts.

Why UPES School of Health Sciences and Technology?

A B.Tech. in Food Technology from UPES School of Health Sciences and Technology lays a solid foundation in all areas of the subject and offers specialisations such as Food Biotechnology and Food Plant Engineering. Besides classroom teaching, students are given clinical and community exposure so that they become active change-makers and solution providers for the healthcare sector. The jobs and entrepreneur-oriented knowledge and facilities are provided to students.

UPES School of Health Sciences has a tie-up with Taipei Medical University, Taiwan to provide opportunities for students, research scholars, and faculty for academic collaboration and joint research projects.

The industry-aligned curriculum taught by faculty who are specialists in their respective fields along with active collaborations with industry leaders enables students to develop professional competencies required to address the world's health challenges.



Food start-up incubated at UPES seeks to empower local communities

<https://blog.upes.ac.in/food-start-up-incubated-at-upes-seeks-to-empower-local-communities/> [3]

UPES EDITORIAL TEAM · OCTOBER 1, 2021



FitBread UPES Alumni

UPES alumnus Aryan Singh

(seen in the picture) founded 'FitBread' with Akshit Saxena and Aditya Kashyap

Three passionate youngsters including UPES alumnus Aryan Singh founded 'FitBread' to provide preservative-free, whole-wheat bread. Their hiring of women workforce and using locally-sourced ingredients has resulted in the financial empowerment of Uttarakhand communities

In the past decade, the Indian market has hardly seen any variegation in bread products. Consumers have to choose from the same monotonous range of brown bread, atta bread or multigrain bread. Being produced commercially, they use preservatives, artificial colours, emulsifiers, improvers, acidity regulators, flour treatment agents, and often do not divulge complete information about the ingredients they use. Some of the most popular brands have only 38% wheat flour in their atta bread and only 32% in brown bread, the remaining is maida or white flour. In multigrain loaves of bread, the grains are just used on the outer layer of the loaf.

Three young minds, Akshit Saxena, Aditya Kashyap, and UPES alumnus (MBA in International Business, 2017-19) Aryan Singh, understood the gap and began working to create a healthy and genuine alternative for bread-lovers. And in 2021, 'FitBread' was born as India's first fitness bread brand. Incubated by UPES Council for Innovation and Entrepreneurship (UCIE), it has already started garnering appreciation from the consumers.

Baking the recipe to health

One of the founders of FitBread, a diet chef, started experimenting with various combinations, to find out where he could make improvements. It took him six long months and almost 20 batch trials to come up with the right mix. Each loaf of FitBread is made from whole wheat atta dough, expertly kneaded with flax seeds, oats, and amaranth seeds, so that the grains are found not just on the crust, but inside the loaf as well.



‘FitBread’ Co-founder Aditya Kashyap

FitBread products are produced with whole wheat grain atta, and are free from preservatives, molasses, improvers, acidity regulators, flour treatment agents, artificial colours, and emulsifiers. They are nutritious and, most importantly, tasty too!

FitBread range is available in six different flavours and is made with common everyday ingredients found in household kitchens.

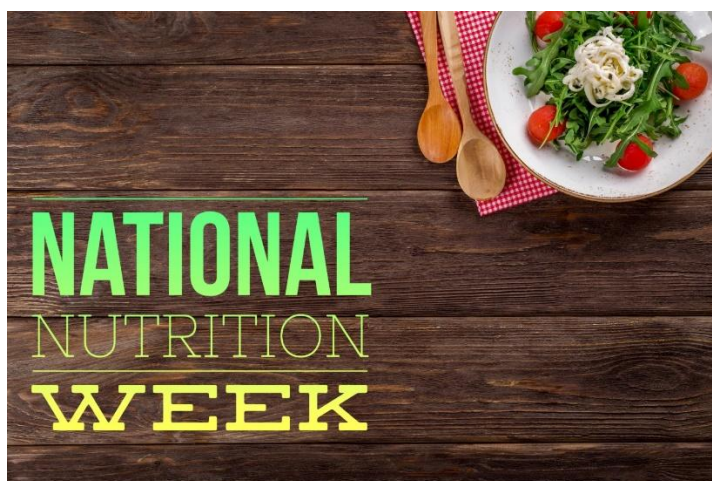
Strengthening local community through inclusion and skill-training

At FitBread, ingredients are sourced locally from small vendors, thus creating additional Business-to-Business (B2B) revenue channels. The procurement of regional superfoods for FitBread products is a boon to local businesses. The hiring of a women workforce for the bread-making process while also imparting additional bakery skills and training to them, has resulted in financial empowerment of the local communities in Uttarakhand.

The founders of FitBread are working with the vision to expand their operations to other states as well. They are passionate about educating people about wellness and creating post-pandemic sustainable and scalable growth opportunities for local businesses. These entrepreneurs are working with the core belief of staying “committed to being connected” to their roots.

[How a nutritionist can help you monitor your diet](https://blog.upes.ac.in/how-a-nutritionist-can-help-you-monitor-your-diet/)

<https://blog.upes.ac.in/how-a-nutritionist-can-help-you-monitor-your-diet/> [4]



National Nutrition Week focuses on the importance of a balanced and nutrient-dense diet, thereby building a healthier society

Nutrition Week is celebrated from September 1 to September 7 to spread knowledge about nutrition and its importance for the human body, after the Food and Nutrition Board launched it in 1982. For a healthy lifestyle, energetic body and better immune system, a nutritious diet plan is extremely important. The theme for National Nutrition Week 2020 is 'Eat Right, Bite by Bite'. This time the theme focuses on the main sources of nutrition which should be chosen wisely and advises people to explore the nutritious food groups which are abundantly and locally available. Also, nutrition week propagates a holistic approach towards a healthier society. Awareness generation camps, workshops and educational programs inform people about nutritious foods and how a balanced diet reduces the risk of diseases.

Says well-known nutritionist Nmami Agarwal, "Healthy nutrition goes way beyond just fuelling your body. It provides you energy, keeps your organs healthy, helps you manage weight and strengthens your immunity. A healthy and balanced diet essentially eliminates or limits the consumption of processed, junk and saturated fat foods while the focus is more on food derived from natural sources like fruits, vegetables, and whole grains. Portion control is the key when it comes to following a balanced diet and healthy nutrition. The focus should be on having regular meals filled with all five food groups which are carbohydrates, proteins, fats, vitamins and minerals balancing your macronutrients and micronutrients."

Healthy nutrition goes way beyond just fuelling your body

Here's how a nutritionist can help monitor your diet:

Encourage healthy eating habits: Nutritionists use a scientific and food-based approach to evaluate an individual's eating habits and to create a personalized dietary plan. They will guide their clients towards eating fresh, natural foods, eventually promoting healthy eating.

Achieve better health and maintain weight loss: Nutritionists help create individualized meal plans for weight loss, mood, and energy. Family meal planning is often part of a weight loss plan, as well. In addition to meal planning, a nutritionist may also suggest basic wellness supplementation to assist a client in achieving health and weight loss goals.

Implement behavioural-change modifications and dietary approaches: The underlying behaviours that affect healthy lifestyle choices also need to be addressed and modified. A nutritionist can help a client identify destructive eating habits and help implement a healthier dietary plan. In addition, a

nutritionist can assess a client's level and choice of activity and make appropriate modifications based on individual needs and goals.

Suggest ways to improve lifestyle and manage stress: Stress is the root cause of all the problems. Nutritionists take classes on wellness and holistic nutrition to help clients improve their lifestyles and manage daily stress.

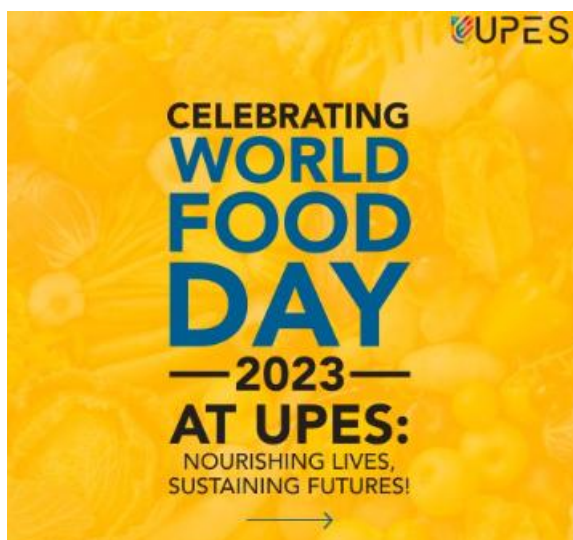
To tackle various health problems and create awareness among students about the importance of nutrition and a balanced diet, UPES School of Health Sciences also commemorates National Nutrition Week. Presentations, webinars, activities and fun games are a part of the celebration.

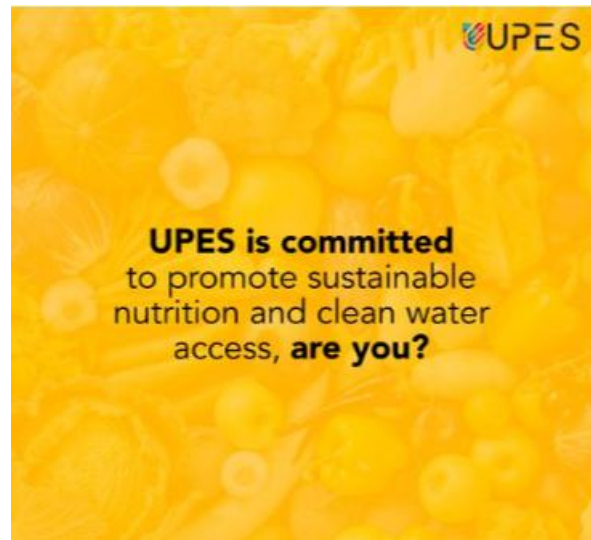
According to the Dean of UPES School of Health Sciences, Dr. Neeraj Mahindroo, "UPES celebrates National Nutrition Month to emphasize the importance of a nutrient-dense diet to thrive both physically and mentally. Here, the role of a nutritionist becomes vital in selecting the right kind of food to meet an individual's requirement and boosting immunity. There are a few sessions lined up that will create awareness about health, nutrition, the importance of workouts and ways to get essential nutrients from local produce."

World Food Day

https://www.linkedin.com/posts/upesdehradun_world-food-day-at-upes-activity-7119633667982815233-YoL0 [5]

School of Health Sciences & Technology, UPES celebrated World Food Day on October 5th, echoing the theme, "Water is Life, Water is Food, Leave No One Behind," in alignment with Sustainable Development Goals. Ms. Amandeep Kaur, Additional Secretary, National Health Mission (NHM), Government of Uttarakhand, shared enlightening keynotes with students. The 'Explore, Evaluate, and Express' video contest showcased students' creativity, emphasizing our dedication to sustainable nutrition and clean water access. Join us in championing sustainable nutrition and clean water access for all!





Why is it important to recycle food waste?

<https://www.facebook.com/photo?fbid=359444922864581&set=a.356095576532849> [6]

Food waste that is not recycled may be sent to landfill where it rots, causing a huge negative impact on the environment by releasing methane – a harmful greenhouse gas that is 25 times more potent than carbon dioxide.

Some local councils send their non-recyclable waste to be incinerated to create useful energy. However, food waste is composed of about 70% water, requiring considerably more energy to burn it, making this a less efficient method of disposal than recycling.

More and more people are recycling their food waste. If we all stopped wasting the food which could have been eaten, it would have the same CO2 impact as taking 1 in 4 cars off UK roads.

Two generations from now, people are going to look back and wonder how we allowed for food waste to become such a big problem. After all, it's not like finding a cure for cancer – you don't need special expertise to contribute to a solution. Every time you do your groceries or consider throwing away food that can still be used, you get an opportunity to make those future generations happy. Use it.



Mental Health Care Services

Our mental health and student counseling services are designed to provide confidential, compassionate, and professional support to students facing a range of challenges, including academic stress, personal difficulties, relationship issues, and mental health concerns. Through these services, we aim to promote mental wellness, resilience, and self-care among our student body, empowering them to overcome obstacles and achieve their academic and personal goals.

At UPES, we understand that seeking help for mental health issues can be daunting, which is why we strive to create a safe, non-judgmental, and inclusive environment where students feel comfortable seeking support. Our team of trained counselors and mental health professionals is committed to providing personalized care and guidance, tailoring interventions to meet the unique needs and circumstances of each student.

In addition to individual counseling sessions, UPES offers a variety of mental health and wellness programs, workshops, and support groups to promote self-awareness, coping skills, and emotional resilience. These initiatives aim to foster a culture of well-being and self-care within the university community, empowering students to prioritize their mental health and seek help when needed.

By prioritizing mental health and student well-being, UPES demonstrates its commitment to fostering a supportive and nurturing academic environment where every student can thrive academically, emotionally, and socially. We believe that by providing accessible and effective mental health services, we can empower our students to overcome challenges, fulfill their potential, and lead fulfilling lives both during their time at UPES and beyond.

STUDENT SUPPORT

<https://www.upes.ac.in/student-space/student-support>

Mental Health And Emotional Wellbeing Support

We at UPES have a well-developed team of professionals offering empathetic hands to lift students out of the pit of ambiguities, disappointments, confusion, and depression. Our full-time psychological counselor adopts a holistic approach and includes all domains of student's life while providing group and one to one counseling. Difficulties in academics and learning are dealt with through faculty mentors. UPES is among one of the few universities that understand the student's need for a friend, guide, role model and mentor. Thus we introduced the department of Student Engagement and Experience. This team works closely with students to ensure a wide range of initiatives and activities for engaging them throughout the academic year.

- Contact Person: Dr. Veena Krishnan
- Email : vkrishnan@ddn.upes.ac.in

STUDENTS SUPPORT AND EXTENTION ACTIVITIES

https://upes-production-cvb3e7frghdda0a4.z01.azurefd.net/drupal-data/2024-02/UPES-2022-23-Annual-Report_new_0.pdf

The Dean of Student Welfare Office (DSW Office) is conceptualized to foster all round development of UPES students. UPES understands that Extracurricular and Co-curricular activities are just as important as academics. Dean, Student Welfare Office closely works with students to ensure a wide range of initiatives and activities for engaging them throughout the academic year.

The office focuses as much on emotional well-being and mental health as it does on physical well-being through various activities such as Personal Counseling, Yoga & Meditation, etc.

The DSW office maintains a special focus on personal values, making students appreciate cultural differences, and adapt to a diverse society.

MANDATE OF DEAN STUDENT WELFARE OFFICE

- To serve as the first point of contact for students for any unheard issues.
- To develop, coordinate and run relevant prevention programs that help them become responsible citizens.
- To provide them a platform to exhibit their skills and talents, through the mode of various activities where likeminded people meet each other, exchange ideas, and develop into better human beings.
- To provide emotional support to the student in the form of personal counseling & mentoring and to help them identify personal values, appreciate differences, and adapt to a diverse society.

The Dean of Students Welfare Office encompasses the following areas:

STUDENT'S COUNSELLING:

Offers a variety of personal and Clinical Counselling and support to students in times of need.

Personal Counselling:

- Home Sickness
- Academic Overload
- Relationship problems
- Exam Pressure
- Peer Pressure
- Attendance
- Year Back
- Adjustment Issue

Clinical Counselling:

UPES's full-time Clinical Psychologist adopts a holistic approach and includes all domains of a student's life while providing group and one-to-one counseling. The Counselor aids the students with problems of adjustment, temperament, anxiety, depression, and family & relationship issues. There are special sessions on gender sensitization, drug abuse, prevention of sexual harassment, and so on. We also have tieups with hospitals & Psychiatrists in case the student needs medical intervention and psychiatric help.

Personal Counseling

<https://www.upes.ac.in/capability-enhancement-and-development-schemes>

We at UPES have a well-developed team of professionals offering empathetic hands to lift students out of the pit of ambiguities, disappointments, confusion, and depression. Our full-time psychological counsellor adopts a holistic approach and factors in all aspects of a student's life while providing group and one-to-one counselling. Difficulties in academics and learning are dealt with through faculty mentors. UPES is among one of the few universities that understand the student's need for a friend, guide, role model and mentor. The department of Student Engagement and Experience works closely with students to ensure a wide range of initiatives and activities for engaging them throughout the academic year.

Remedial Coaching

Considering the importance of supporting the students to overcome their learning difficulties and gain confidence and interest in learning, remedial classes are planned and organized each year.

The remedial classes are therefore conducted for the students whose performance is not up to the mark, i.e., for the students who secure less than 40% marks in the Mid-Term Examination.

These classes help the weak students to fill the gaps in the teaching-learning process which may be due to their slow learning pace, lack of understanding, lack of motivation, etc. and ultimately enhance their learning and skills, resulting in improvement in their performance.

Yoga & Meditation

UPES lays emphasis on both the physical and mental health of its students. Located in the lap of nature, the beautiful serene campus offers a conducive atmosphere for the students to relax. We provide ample opportunities to the students to explore new ways of keeping fit and healthy. We believe that yoga and meditation are the perfect activities to foster physical and emotional calmness and well-being. Yoga and meditation classes at UPES have proven effective in improving confidence, concentration and memory, besides ensuring optimum physical health.

“Mein Hu Na”: initiative of HR

“Main Hoon Na” is a compassionate initiative aimed at nurturing the mental well-being of both employees and students. It serves as a reminder that seeking help is a sign of strength, not

weakness, and no one should have to face their struggles alone. By fostering an environment of empathy, understanding, and open dialogue, the initiative encourages individuals to break the stigma around mental health, speak up, and support one another. Whether you're going through a tough time or simply need someone to talk to, *"Main Hoon Na"* is here to listen, connect, and help you take that important first step toward healing and emotional resilience.



UPES ON

<https://upesonline.ac.in/we-care>



At UPES ON, we understand that your holistic well-being goes hand in hand with your academic journey. That's why we've introduced the We Care Package - Wellness and Health Insurance Plan, offering comprehensive support for your mental and physical health.



EMBRACE WELLNESS ON EVERY LEVEL

Mental Health Counseling



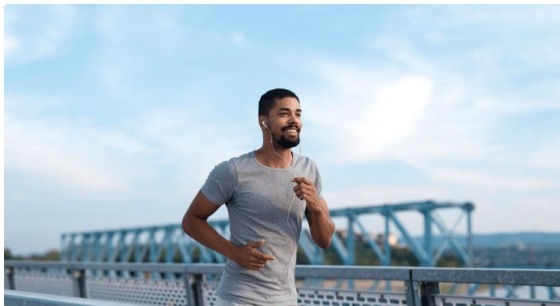
We offer structured online counseling, including telephonic and one-to-one video consultations, along with unlimited Live Chat Counseling sessions for you and your family (1+3 members). Avail self-assessment using GAD-7 & PHQ-9 grading for anger, anxiety, stress, sleep quality, PCOS etc.

Guidance for a Healthy Mind



With our round-the-clock helpline, staffed by psychological counsellors, you'll always have support on your journey. Additionally, you can opt for our AI-assisted CBT (Cognitive Behavioral Therapy) to identify and modify any behavioral aspects of your life you wish to change.

Stay Physically Fit



Your health is multidimensional, and we're here to cater to every aspect. Engage in unlimited chats with our Dietician, receive a personalized diet chart, and monitor your wellness metrics like steps taken, calories burned, water intake, workouts, and other habits.

Resources for A Resilient You



You can attend engaging webinars on Fitness & Nutrition, Emotional & Mental Well-being, and Financial well-being. Visit our Knowledge Hub to check out the full list of resources we offer on Fitness, Nutrition, Emotional Wellness, and Health.

Manoshakti - The Emotional Wellbeing Club of UPES

<https://www.linkedin.com/company/manoshakti-upes>



Manoshakti - The Emotional Wellbeing Club of UPES

Mental Health Care

"Manoshakti: Where Your Mental Well-being Finds Voice and Strength."

Manoshakti, is the mental health club of UPES. Our aim is to create a safe haven where everyone feels safe and is heard. Here, your feelings are not only just acknowledged but serve as the foundation for your empowerment and growth. We are here for you whenever you need someone to lend an ear.

Mano-fair: Where Happiness Takes the Stage at UPES!

https://www.linkedin.com/posts/manoshakti-upes_manoshakti-manofair-upes-activity-7160570244707577856-Vf4n



In a momentous celebration of mental well-being, the Manoshakti Club at UPES curated a soul-soothing experience at the Mano-fair!

The fair featured a plenty of activities designed to energize the mind. Attendees immersed themselves in brain games with "Puzzled minds", stimulating their cognitive abilities and enhancing mental agility. "Roller-coaster of emotions" fostered self-awareness and emotional intelligence, encouraging participants to explore and understand their feelings in a supportive environment. The "Endurance test", a physical and mental challenge, promoted resilience and stamina, showcasing the inseparable connection between mind and body. At the "Happiness corner", card games, known for their social and strategic elements, provided a delightful and interactive way for people to unwind and connect.

Manoshakti emphasized the importance of community support in mental well-being. Attendees engaged in discussions about mental health, fostering a sense of unity and understanding. Peer-to-peer interactions and shared experiences allowed individuals to realize they are not alone on their mental health journey.

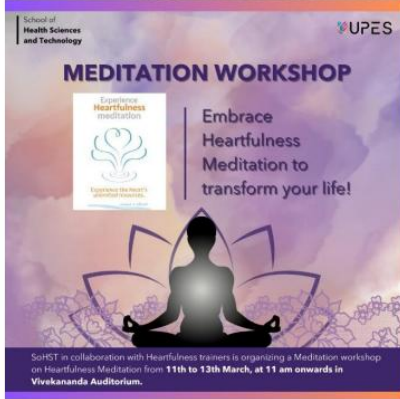
Mano-fair concluded with a sense of joy and fulfilment. Attendees left with newfound knowledge, a sense of community, and a commitment to prioritizing their mental well-being.

Manoshakti invites everyone to join the movement towards overall well-being. Follow our journey, participate in upcoming events, and let's create a supportive community that champions mental health!

Heartfulness Meditation Workshop at the School of Health Sciences and Technology, UPES

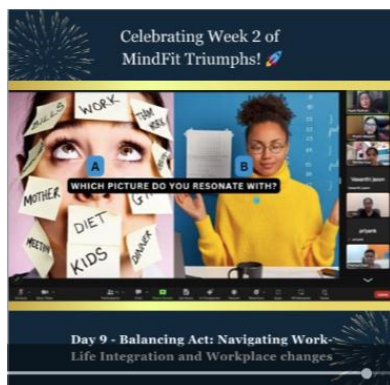
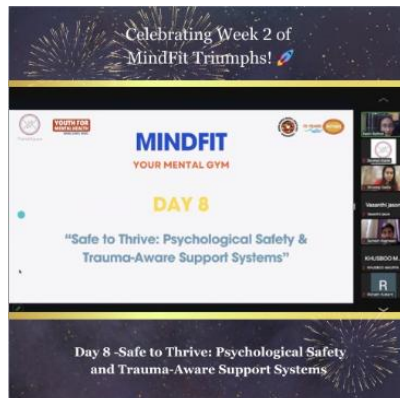
https://upes-production-cvb3e7frghdda0a4.z01.azurefd.net/drupal-data/pdfs/Heartfulness_Report.pdf

The University Grants Commission (UGC) has recently issued directives aimed at fostering mental health awareness among students and faculty within colleges and universities. The initiative entails hosting introductory meditation sessions to cultivate positive mental well-being. Additionally, the UGC has proposed the appointment of a senior faculty member as a 'Meditation Ambassador' to oversee the program's implementation. To foster these initiatives, the three-day workshop was organized from March 11th to March 13th, 2024, by the School of Health Sciences and Technology, UPES in collaboration with Heartfulness Trainers. was a transformative experience organized at UPES, Dehradun. Approximately 150 people registered for the workshop including faculty, students, and staff members. The Dean Dr Padma Venkat, Clusters heads of SoHST including Dr Dhruv Kumar and Dr Kuldeep Roy also participated in the study. The Event Coordinator Dr. Shikha Saxena, a faculty member of the School of Health Sciences and Technology, organized the workshop to provide participants with comprehensive insights into holistic well-being, blending modern scientific approaches with ancient wisdom. Throughout the workshop, participants delved into various facets of health and wellness, exploring topics such as mindfulness, stress management, emotional intelligence, and the mind-body connection. The collaboration with Heartfulness Trainers added a spiritual dimension, emphasizing the importance of inner peace and harmony for overall health. The workshop's interactive sessions facilitated meaningful discussions, allowing participants to share experiences, learn from each other, and gain practical tools to enhance their well-being. Col Manu Chopra set the context with the introduction of the Spiritual Dimension in the WHO definition of Health. Col Harshvardhan engaged the participants in meditation activities including relaxation, cleaning, and transmission which created a conducive environment for deep learning and personal growth. Dr. Deen Dayal Joshi added a unique perspective to the discussions by giving meaningful examples. Attendees left the workshop feeling empowered and equipped with valuable insights and techniques to lead healthier, more balanced lives. The collaborative effort between academia and spiritual practitioners underscored the importance of a holistic approach to health and wellness in today's fast-paced world. Initial data was also gathered on how meditation affects well-being, focusing on changes in pulse rate, oxygen saturation, and blood pressure before and after meditation sessions. Overall, the three-day workshop was a resounding success, leaving a lasting impact on participants and reinforcing UPES's commitment to holistic education and well-being.



MindFit Campaign: A Journey of Heart and Learning!

https://www.linkedin.com/posts/prachimalpani_mindfit-activity-7122919701428547585-DHLf



As we wrap up the unforgettable MindFit Campaign at FriendsSquare, in collaboration with Youth For Mental Health & World Federation for Mental Health, we're filled with a mix of emotions. 🌍💙

It's been a rollercoaster of a journey, and we've cherished every twist and turn. The love and support from our audience have touched our hearts in ways we can't express enough. Here's a deeper look into our transformative week two:

🔓 **Unlock Your Why: Discover Purpose in Your Job** kicked off the week with inspiring discussions, fueling our quest for purpose. The Word Association exercise sparked some remarkable insights. A heartfelt thank you to our guest speaker Harman Singh and I, shared personal wisdom on finding meaning in our work.

🛡️ **Reflection Day** offered a safe haven for sharing experiences, stories, and connecting on a profound level. Our very own Stuti Chatterjee led the way, creating an environment of empathy, support, and growth.

🛡️ **Safe to Thrive: Psychological Safety & Trauma-Aware Support Systems** emphasized the significance of our Circles of Care, fostering a community of understanding and healing, held by Rashi Rathod

🧘♂️ **Work-Life Balance** was a game-changer. Guest speaker Pramod Shah, Neelanjana Bhattacharjee (She/Her) and Rashi Rathod shared invaluable techniques, offering solutions to navigate the complexities of work and life.

🌀 We concluded the week with a reflection session, practicing a "Feeling Check-in" warm-up and a "Looking Forward to" cool-down, creating a space for deep connection and self-awareness.

This journey has been a profound learning experience. Each story, each experience shared, has left an indelible mark on our hearts. We were inspired, moved, and enriched by each and every attendee, who made this journey truly special. 🥰❤️

Our MindFit Campaign was more than an initiative; it was a collective realization that mental health is just as vital as physical health.

Together, we've taken steps toward raising awareness, fostering a supportive community, and embracing the significance of mental well-being.

Until we meet again, we're thrilled to have successfully seen this initiative through and extend our heartfelt gratitude to everyone who joined us on this transformational path.

[Divya Belwal](#)

<https://in.linkedin.com/in/divya-belwal-034811193>



Divya Belwal

Psychologist | Holistic Healer | Traveller | Student welfare
Uttarakhand, India · [Contact Info](#)
1K followers · 500+ connections



 [Kumaun University, Nainital](#)

About

Presently working with UPES Dehradun.

Actively working on Instagram as @healing_by_divya .

I am working in the field of Mental Health for the last 3+ years providing services like personalized Counselling Sessions, Help & Support, Guidance, therapeutic solutions, And awareness. At Present, I helped 4000+ people around the world.

Having an Educational background in psychology helped me to understand Person's psyche Better!

To understand Ground levels of Mental health issues I worked as a social worker for 2 years.

After spending 3 years in Ncc I learned discipline & value of hardwork .

Being An Ex - NCC Cadet I observed and understand the psyche of people who are under very hard discipline, and focused, And the Mental health issues they faced.

Can We Talk? Children and Adolescent Mental Wellbeing with Parental Support Edition” (CHAMPs Edition)

https://www.linkedin.com/posts/m1chelle-l1m_mentalhealthforall-canwetalk-activity-7079727344847900672-wNcv



On the 24th June 2023, our team at Thrive Well organised our first “Can We Talk? Children and Adolescent Mental Wellbeing with Parental Support Edition” (CHAMPs Edition) event at Pusat Kreatif Kanak-Kanak Tuanku Bainun in TTDI.

Over the past year, our team has been hearing from parents who are concerned about their children’s well-being but didn’t know where to turn to for support. Looking at the recent statistics of rising youth-related concerns, leaders at the organisation decided that we should not be in the position of “watch and see” but to move into “creating a safe space to facilitate conversation on those difficult conversations”.

Personally, this event was definitely considered “a first” for me — even though I am no stranger to organising events. Being new in the mental health industry, it was not easy at all. Some nights I would stare blankly at the PC screen till the sun rises, to the point my good friend pointed out, “You’re in mental health but you’re not taking care of yourself well enough”.

Weeks leading up to the event, our company’s resources were stretched thin, especially with the exciting invitation to be an exhibitor at the AVPN Global Conference 2023 in the Impact Market Place from 20-22 June. The fact that we had our event in 2 days after this major international event was in itself, a huge feat!

The experience of organising this event was a huge learning opportunity for me, and also a huge reminder of what my mentor used to tell me, “What have you learned from a younger team member?”.

Coming from my 8 years of experience in Japan of being the “younger” team member, this was the first time in a while since I had over 90% team members younger than I am.

What did I learn?

- > I managed to learn how to do a “boomerang” shot on Instagram.
- > I learned what songs the younger ones listen to.
- > I learned that Facebook is for “boomers” like me 🙄
- > I learned that they’re much more capable than they think they are. And that they’re willing to do something if they know they will always have the support of the people around them.
- > I have so much to learn from everyone, and thankful for their kindness and support ❤️

I'm also humbled by this opportunity given to me by Elisha Othman — to learn how to trust myself and our team to go ahead and make things happen. While it is faaaaar from perfect, we believe in the Pareto principle — ensuring we nail that 80% first and Kaizen our way slowly.

Looking forward to the postmortem to learn from team members on how to better our deliverables.

Glad that we had enough Kleenex to support us while having those difficult conversations. And team members and both new and existing partners who were encouraging and supportive of our initiative!

So.... Can we talk?

Celebrating World Mental Health Day

https://www.linkedin.com/posts/sols-upes_worldmentalhealthday-holistichealth-creativity-activity-7168855706727649285-VYhK

Celebrating World Mental Health Day ✨ The Psychology Department at the School of Liberal Studies embarked on an extraordinary journey towards holistic well-being. 🌿 Our Kandoli campus witnessed a trailblazing event that underscored the importance of mental health in our lives. 🧠 At the Mental Health Booths, we delved deep into self-awareness through various activities:

- 1️⃣ Big Five Personality Test: Discover your unique personality traits – openness, conscientiousness, extraversion, agreeableness, and neuroticism. Understand how they shape your actions and relationships. 🧐
- 2️⃣ Attachment Style Assessments: Explore the primary attachment styles that impact our emotional lives. Secure, Anxious-Ambivalent, Dismissive-Avoidant, and more. Empower personal growth and enrich your relationships. 💞
- 3️⃣ Intelligence Test: Uncover your cognitive strengths and areas for growth through the Kohs Block Design test. Enhance your problem-solving skills and spatial reasoning. 🧩
- 4️⃣ Mood Board Creation: Express your emotions, thoughts, and aspirations artistically. Use colors to symbolize your feelings and find a therapeutic outlet for self-expression. 🎨
- 5️⃣ Talk It Out Booth: A safe space where our compassionate students lend a listening ear and support to those in need. 🗣️

This momentous event marked a significant step towards recognizing and addressing mental health's pivotal role. 🧑🏻 Let's continue to foster well-being and connection.



It's okay to not be okay: Managing your mental health in a new reality

<https://blog.upes.ac.in/its-okay-to-not-be-okay-managing-your-mental-health-in-a-new-reality/> [9]

BY A CORRESPONDENT · JUNE 15, 2020


UNIVERSITY WITH A PURPOSE
 A 24X7 COUNSELLING SUPPORT TO PROMOTE EMOTIONAL WELL BEING


UPESCare

Whether you are a student or a parent, we are here to listen.

Call us on
1800 270 7121

or

Register Yourself at
<https://itolhelp.net/uni>

UPES offers a tele-counselling service staffed by experts, called #UPESCare

As lockdown comes to an end, and the world prepares to go out, restart factories, and resume commitments again, it helps to take stock of how we're doing from a mental health perspective. Stress, fear and uncertainty are completely normal emotions at a time like this, which even the WHO have taken cognizance of. The added pressure of keeping our dreams afloat and having to continue to focus on our education and careers can cause a lot of anxiety.

If you're facing anxiety and fear over the current situation, here are some ways to stay positive:

Express yourself: A lot of us are conditioned to handle mental distress by denying them and not addressing them. Challenging that is a critical step in mental health-care. Be okay with saying 'I am not okay'. We are in the midst of an unprecedented crisis in public health that has thrown our everyday lives in turmoil. It is okay to not feel whatever you're feeling. Once we admit that there is a problem, we can take steps to remedy that. Reach out to friends and family, faculty, or university resources that make you feel safe about talking about your issues.

Lean into your community: Your peer, family or faculty community is your best resource. Reach out to friends and family if you're not doing well, and accommodate your friends when they share their stories. When a friend opens up to you, don't offer advice or invalidate their feeling. Focus on listening and empathising.

Stay informed: Reject misinformation, conjecture, or rumour-mongering. One of the biggest hindrances during the Covid-19 has been the onslaught on misreporting or deliberate misinformation through fake news. Not only do they impede public health officials from doing their job, they also trigger panic reactions in you and jeopardise your sense of peace. Make sure you maintain a healthy disbelief of news you come across on social media, and get your information from reputed websites like the WHO and the Centre for Disease Control.

Have anchoring techniques in place: When you're stressed or anxious, it helps to practice 'centering techniques' or 'anchor techniques' that can help you refocus your attention towards healing. You can deal with an anxiety attack by closing your eyes, focussing and counting your breaths, while telling yourself that this feeling will pass. Another effective technique called 'marking'. When you have negative thoughts or anxieties, just close your eyes, and label emotions as 'thought' or 'feeling'. Don't try to block them, don't jostle with them. Let the unconscious thoughts come and go, and all you have to do with your conscious mind is to label them as either 'thought' or 'feeling'. When you practice these techniques you will see that soon enough you can breathe again and the feeling has passed.

Dealing with isolation: Human beings are social animals. The need to be around people we like is hard-coded in our DNA. Don't blame yourself if social distancing causes anguish. While it is a medical necessity in these times, it is also okay to feel fear or uncertainty because of it. If you're quarantined alone, you can handle that by –

Staying busy – learn a new skill, pick up a new hobby, upskill yourself on Coursera, or research on a project.

Having a routine – A strict routine that you follow everyday can provide a feeling of comfortable insulation from the uncertainty.

The added pressure of keeping our dreams afloat and having to continue to focus on our education and careers can cause a lot of anxiety

If you're feeling distressed, it helps to reach out to professionals who are trained in this. To facilitate this for our student network, UPES offers a tele-counselling service staffed by experts, called #UPEScares. It is available to take calls 24x7 from our students & their families, and alumni. If you're a UPES student reading this and need someone to talk to, give us a call at 1800 270 7121, and let us take care of you. Remember that the most important word in the phrase 'We will survive' is not survive, it is WE. As conversations about mental health become more important in the times to come, let's take the leap in educating ourselves about it first, and taking care of each other.

Yoga & Meditation

<https://www.upes.ac.in/student-space/student-engagement> [8]

As the proverb goes "sound mind resides in sound body". UPES pays emphasis on the both physical and mental health of its students. Located in the lap of nature, the beautiful serene campus offers conducive atmosphere to the students to relax. We provide ample opportunities to the students to explore new healthy ways of living which they may not have been exposed at home. We believe that yoga and meditation are the perfect activities to foster physical and emotional calmness and wellbeing. Yoga and meditation classes at UPES have proven effective to increase academic success and confidence, improve mental health, decrease substance abuse, improve physical health and heightened focus in class.

Can mathematical models shed light on clinical depression? UPES faculty tells us how

<https://blog.upes.ac.in/can-mathematical-models-shed-light-on-clinical-depression-a-upes-faculty-tells-us-how/> [7]



EKTA KASHYAP · MARCH 30, 2023

Clinical depression

Dr. Melissa Reneaux, Assistant Professor, UPES School of Liberal Studies

A computational neuroscientist by training and Assistant Professor at the School of Liberal Studies UPES, Dr. Melissa Reneaux is working on building mathematical models to understand inflammation-associated depression, and the effect anti-depressants and antihistamines have on alleviating depression

When we talk about mental disorders, we often view them only from a psychological perspective, ignoring the role of bodily functions. However, what happens in our brain has a direct connection with our body. For instance, clinical depression has a direct relationship with bodily inflammation.

“At the onset, clinical depression is seen as a chemical imbalance in the brain caused by a reduction in the level of serotonin – a neurochemical in the brain associated with an individual’s mood. However, recent literature shows that depression may also be associated with bodily swelling (also known as peripheral inflammation),” explains Dr. Melissa Reneaux, Assistant Professor at the School of Liberal Studies, UPES.

Peripheral inflammation increases the level of histamine in the brain – a chemical known to be commonly associated with allergies, runny nose, and sneezing to name a few. “This increase in histamine reduces serotonin levels in the brain, which leads to depression,” she says.

A computational neuroscientist with training in Physics, Dr. Reneaux is working on building mathematical models to understand inflammation-associated depression, and the effect of antidepressants and antihistamines on alleviating depression.

How does mathematics fit into solving biological and psychological questions? “If you think about medical imaging techniques like X-ray, CT scans and Functional Magnetic Resonance Imaging (fMRI) used to detect disease in the body, to using probability and statistics to validate a drug’s effectiveness, all these measures were developed by individuals with a training in mathematical sciences. Here, I am addressing mental disorders using mathematical principles,” she says.

Dr. Reneaux highlights that in mental disorders, the approach followed for treatment is psychological, however, the metrics used are grounded in mathematics. “For instance, in depression there are self-reporting assessments like the Patient Health Questionnaire (PHQ). In this test, individuals are asked a series of questions based on their mood, and the severity of depression is graded. Based on the scores obtained, individuals are classified as mildly, moderately or severely depressed, and henceforth the medication course begins.”

As part of her Master’s thesis, Dr. Reneaux worked on understanding rheumatoid arthritis – an autoimmune disease causing severe pain and inflammation in the joints of individuals suffering with this disease – using the principles of physics. She was amazed to see how physics and mathematics could be used to address questions in biology. As her interest in understanding human diseases grew, she decided to use the concepts of physics and mathematics to understand mental illnesses.

It was during her post-doctoral research work at Imperial College London, that she came across a startling revelation. “My research team was working on finding biomarkers in the body of depressed mice. We measured serotonin in the mouse brain while mice were injected with lipopolysaccharide – a chemical that elevates body inflammation. The mice also underwent a chronic mild stress paradigm. We found that another chemical, histamine, which is a marker for bodily inflammation, was also elevated in the mouse brain, which led to a reduction in serotonin. This interaction between histamine and serotonin led to clinical depression,” explains Dr. Reneaux.

This research demonstrated that inflammation in the body could lead to changes in the brain. Dr. Reneaux developed a metric termed Stress Index. “This is a scale that varies from zero to positive

values. More the positive value of the Stress Index, greater is the level of stress in the individual. Bodily inflammation causes an increase in stress levels, causing alterations in the level of the neurochemicals, which can be measured,” she adds.

While going through the literature on clinical depression Dr. Reneaux, was shocked to discover that more than 30 crore individuals around the globe were depressed according to the 2017 World Health Organisation (WHO) report. COVID-19 saw a drastic increase in these numbers. About half of the depressed population that happens to be such a large number do not respond to anti-depressant medication. And those individuals who do respond to medication, it took weeks and months for the medication to act on them and make them feel better.

“Antidepressants like the Selective Serotonin Reuptake Inhibitors (SSRIs), which are the first line of treatment for depression, show limited ameliorating effects. Serotonin until recently was known to be the only neurochemical lowered in depression. So, treating depressed individuals with SSRIs, should have made them feel better. However, this was not the case,” she says.

This fact made her team wonder if there was a missing link in the understanding of depression. The depression literature suggested that about a quarter of individuals who had depression also had bodily inflammation which meant they had increased histamine levels. “The experiments conducted by my team observed that rise in histamine reduces serotonin, and subsequently serotonin aided in the production of more histamine. Hence, when serotonin medication was provided to these mice, a rise in serotonin did occur but so did the level of histamine, that led to the lowering of serotonin. There exists a bi-directional interaction between histamine and serotonin. We found that mice for whom the underlying cause of depression was inflammation, when they were treated with a combination of SSRIs and histamine inhibitors showed a rise in serotonin,” informs Dr. Reneaux.

This study now published in the Journal of Neuroinflammation was performed on mice and used chemical recordings from the mouse brain. However, this invasive approach is not feasible in human subjects. So, Dr. Reneaux is presently involved in building a mathematical model that provides measurable outputs as brain wave frequencies to alterations in the level of inflammation. These brain wave frequencies can be measured using non-invasive electroencephalogram (EEG) recordings. “In depression, there is an observed reduction in theta frequency band (3.5 to 7.5 Hertz) in the pre-frontal cortex – the brain region involved in thinking and an increase in theta band activity in the anterior cingulate cortex – the brain region involved in emotions. This mathematical model will show the impact of antidepressants and antihistamines on these brain waves,” Dr. Reneaux describes.

One of the main concerns associated with depression is the high suicide numbers of depressed individuals around the globe. Dr. Reneaux is also working with researchers at the Miami University, Ohio, on a joint project that is investigating reasons for suicidal ideation among youth in Northern India. Dr. Reneaux is passionate about her research as she sees her research work having the potential to directly influence the well-being of people.