

HYDRATION OF PROTEINS

Hydration dynamics of proteins plays a pivotal role in the aggregation of several proteins which is a preliminary step towards various neuro-degenerative diseases. Thus aggregation process could be spotted early by detecting altering water network dynamics and modulated using inactive substances that serve as the vehicle or medium for a drug or other active substance. Understanding debilitating neuro-degenerative diseases at the molecular level is crucial to find treatments or solutions for them. A phenomenon called 'Liquid Liquid Phase Separation' (LLPS) underlines the formation of cells organelles like P-bodies, nucleolus which are membrane-less compartments in the cytoplasm of cells. LLPS, a self-aggregated system, is an intermediate step during the formation of the stable protein aggregates. When multivalent proteins interact they undergo rapid transformation from small complexes to large polymeric assemblies with increase in protein concentration. This dense phase often resembles liquid droplets exhibiting higher protein density and weaker molecular motion than the surrounding medium. This process, initiated through liquid phase transfer, plays crucial role in inducing human diseases, especially age-related neuro-degenerative diseases like Alzheimer's disease, Parkinson's disease and cataract. Therefore, understanding the process of phase separation at a molecular level has become an emergent area of research in molecular biology fraternity. Scientists at S.N. Bose National Centre for Basic Sciences, an autonomous institute of Department of Science and Technology (DST) have explored how the hydration of proteins, gets altered as LLPS sets in. The researchers have spotted the crucial role of water in Liquid phase separation which holds the key to neuro-degenerative diseases. They found that some excipients or inactive substance that serves as the vehicle or medium for a drug or other active substance like sucrose can stabilize LLPS while some can inhibit it. Thus aggregation process of these diseases could be modulated by altering water network dynamics using these excipients. In a paper published in J. Phys. Chem. Lett. the scientists, under the leadership of Prof. Rajib Kumar Mitra, examined four excipients ---arginine, glucose, ubiquitin, and bovine serum albumin. Some excipients like sucrose were found to stabilize the LLPS process while Bovine Serum Albumen (BSA) was found to inhibit the process. Their experiments have identified that both protein and excipient hydration are important in regulating the LLPS process. Monitoring a change in hydration could therefore act as a potential marker for an early and easy detection of LLPS onset.



OFF 'D' CUFF

Deprogramming Previous Tunings...

Cell reprogramming is possible through auto-suggestion in dhyan. Sit in dhyan and visualise that the cells are happy, dancing, and getting reprogrammed. Listen to instrumental music. Music makes the attention more focused and relaxes the nerves. Keep the faith that it is happening. Like a bird starts singing at dawn, even when it is still dark, knowing well that morning is about to come, and it does arrive daily... similarly, we need to keep the faith, everything is happening according to the Divine Plan.

It is very important to deprogramme the subconscious. If some incident is recalled repeatedly it gets resurrected in the subconscious mind, it has to be released; it is not to be forgotten but one can certainly stop being affected by it. Once you stop thinking about it, it will leave the subconscious. If there is still craving for something, money, physical gratification, some desires etc. stop getting disturbed by it, focus on growth. Stop succumbing to the demands; instead pray sincerely that the distraction may leave. Imagine it leaving in your dhyan. So channelise that energy into something more constructive.

Maintain a journal. Write to pour out the voice from the depths of your inner being. Do not judge the quality of your writing, but just let the flow happen. Write elaborately as often as possible. Empty your mind into it. This way the burden is reduced and the subconscious becomes clearer. Clearing of the subconscious can reduce gravities and propel one towards a productive life.

The Geta states that the mind is our greatest friend or greatest enemy, depending on how it is used.

Human is the best creation of Nature. Work on yourself so as to imbibe the attributes of the sublime, which are based on the universal scale of satyam shivam sundaram — truth, benevolence and beauty. You are here for a special purpose; follow the steps below to de-programme the tuning of your past -

Meena Om

No experimentation with Kashmiri Pandits please

■ OMKAR DATTATRAY

The minuscule minority of Kashmiri Pandits have all along been experimented in the gas chambers of the secular laboratory of the country. This experimentation is continuing even today with the exiled Kashmiri Pandits and the NDA government headed by the BJP is also busy in doing experimentation with the Kashmiri Pandits.

To the ill luck of the community, it is being treated as a laboratory product of experimentation and to put it rightly the Kashmiri Pandits are treated as an experimental animal.

The Kashmiri Pandits are passing and suffering in the thirty two of the exile and the successive centre and state governments seem to be insensitive and indifferent to the sad plight, woes and demands as well as concerns of KPs.

The uprooted and displaced Kashmiri Pandits have suffered enormously in all most all spheres of the life and no sincere efforts are being made to address and solve the demands and issues of the Kashmiri Pandits.

The future of the displaced Kashmiri Pandits seems very bleak and uncertain and the threat of their extinction is lurking and they are becoming proverbial Kashmiri Hangul so far as their existence is concerned. Serious efforts need to be done to conserve and preserve the culture, tradition and even the life of the Kashmiri Pandits.

All these 32 years of their fateful migration from their place of birth the governments have been talking of the honorable return and rehabilitation of the displaced Pandits and every year and every dispensation has been parroting of the safe return and rehabilitation but the powers failed to rehabilitate even one family of the Kashmiri Pandits at the place of their birth.

All the talks and promises to rehabilitate uprooted Pandits back in Kashmir valley failed to mature because the governments lacked the political will and determination to rehabilitate Kashmiri Pandits in Kashmir and there is no sincerity in the governments all these years to embark on the plan of the safe and honorable return and rehabilitation in Kashmir, with the result all talks and declarations of taking back Kashmiri Pandits could not materialize.

The half-hearted measures and adhoc arrangements cannot help in the rehabilitation of the Kashmiri Pandits but it needs a comprehensive, well integrated and a policy full of compassion and a pragmatic and practical policy to implement the return and rehabilitation of the Kashmiri Pandits in Kashmir. The mere pious declarations and loud talks only are of no use in the practical rehabilitation of the Kashmiri Pandits back in Kashmir, but no return and rehabilitation of

Kashmiri Pandits should be thought of and sought to be implemented on the ground without consulting and deliberating with the various Kashmiri Pandit organizations.

Therefore, the Government, if serious and sincere on question of the return and rehabilitation of the KPs in Kashmir, should hold dialogue and talks with the KP leaders and should take the whole community of the Pandits in confidence for embarking the plan and policy of return and rehabilitation of the Kashmiri Pandits in Kashmir. But the fact should not be overlooked that the ground situation in Kashmir is not conducive and feasible for the return and rehabilitation of the Pandits as the targeted Killings of the Kashmiri Pandits, PM package employees, other Hindu minorities, Jammu based reserved category employees and Sikhs has taken place in the recent past and the sporadic killings still continue. The security forces and state police personnel are also martyred more or less on daily basis.

All this has created fear, panic and an atmosphere of fear psychosis particularly among the Hindu minorities and Kashmiri Pandits and Pandit Package employees posted across Kashmir valley. Majority of the PM package employees working in Kashmir have fled and migrated to Jammu after the brutal killing of one of their colleague Rahul Bhat in his well crowded Tehsil office in Chadoora Budgam in broad day light while performing his duty.

These package employees are on indefinite protest in Jammu for the last over two months for the only and genuine demand of their relocation /shifting/attachment with the Relief commissioner's office till complete normality is restored in Kashmir.

The government is only experimenting with the Package employees and is not considering their genuine demand of relocation to Jammu which is closely related with their life, safety and survival. The government is not paying any heed towards the striking PM Package employees and it seems that BJP government of Modi with whom the community of KPs has high hopes are letting them down and neglecting their woes and problems.

The government should attend towards the problems, concerns and issues of the Kashmiri Pandits living in exile in camps and in their own accommodation and solve them on priority and balm the hurt psyche and wounds of the KPs till the time situation becomes conducive for their return and rehabilitation in valley. Succor should be provided and their genuine problems should be addressed to provide some relief to the suffering community of KPs and they should not be left in lurch and fend for themselves. The displaced Kashmiri Pandits cannot and should not be allowed to suffer till

the time situation becomes complete normal in Kashmir for their dignified and safe return and rehabilitation. The BJP led NDA government is overlooking the genuine and pressing issues and problems of the Kashmiri Pandits and is showing lackadaisical attitude towards the demands of KPs and is making no sincere efforts to solve the problems confronting the uprooted community of Pandits. It is very surprising and disturbing that the same BJP which flourished on the theme of the sad plight of the exiled Pandits in the past and KPs remained the pet agenda of the politics of the BJP is now showing no concern towards the concerns and demands of the displaced Pandits.

It is now crystal clear that the BJP has used the Kashmiri Pandits and their sufferings to cultivate and dividends and in fact used them for vote bank politics in different states of India.

It seems that BJP has mastered the art of using and dumping the KPs. As now it has totally ignored the sentiments and aspirations as well as the demands of the Kashmiri Pandits and has infact overlooked the demands and pressing problems of the displaced Pandits. So for as the return and rehabilitation of the displaced Pandits to Kashmir is concerned, no haste and hurry should be made on the issue as it is very complex and sensitive issue which involves the life, survival and safety of the Kashmiri Pandits and all things and facts should be well considered by the government before embarking on the plan of return and rehabilitation.

The return and rehabilitation in Kashmir of the KPs should not lead to again of the migration which will be very unfortunate. So no reverse migration should be attempted in haste as it can prove fatal and counterproductive.

Thus Government should desist to experiment with the precious lives of the Kashmiri Pandits as it will lead to insurmountable sufferings and augmentation of the problems faced by the community. Government should pay attention towards the problems and issues of the Kashmiri Pandits and try sincerely to address and solve these so that sufferings of KPs can be lessened to some extent. The LG administration of the UT should hold talks with agitating Prime Minister Package employees and find a solution to their demand of relocation to Jammu province till the situation becomes normal in Kashmir for their living and working.

The powers should stop experimentation with the lives of the exiled Kashmiri Pandits and ensure that their demands and concerns are addressed while their temporarily living in Jammu so that some sort of succor and relief is provided to them.

Food -the source of life & eating disorders

■ DR AYUSHI GUPTA

Food is essential for our bodies to develop, function properly, repair cells and tissues, and produce energy for day to day chores. But over time there has been a shift from healthy to unhealthy food choices and especially with the advent of social media, entertainment industry etc. Things like body Dysmorphia has become very common. Well, what is body Dysmorphia and how it affects people is a whole different discussion but in short, it is a condition in which a person is obsessed with some or the other part of his/her body and thinks that, that particular part (which is absolutely normal and functioning) is flawed and so that person tries to hide that part and constantly compares it to other people, for eg- if someone thinks that his/her nose is flawed or have a flabby arm and that constantly haunts the person and affects his/her mental peace, that come under body Dysmorphia.

Today's topic of discussion however is a group of conditions that come under Eating Disorders. Literally it means disorders related to eating but in reality it's more than just about food, it's a range of behavioral conditions that cause a person to develop severe and persistent unhealthy eating related habits and associated distressing thoughts and emotions like obsession with food and weight, over exercising, not eating proper food or eating inedible things, binge eating and vomiting it out and this is because either the person doesn't want to gain weight as this person has body Dysmorphia and obsessed with losing weight and looking slim and in a certain shape or that person is extremely picky and instead of eating normal food eats things that are not of any nutritional value. This person can develop serious physical, psychological and social consequences like severe nutritional deficiencies, not being able to focus on work, problem in conceiving etc. And all this can affect literally each and every aspect of that person's life. Now

the question is why our elders didn't have it and why mainly one gender and a particular age group is affected more.

Well some of our elders might have had it but back then it wasn't talked about much and in fact having more weight and fuller bodies was considered sign of good wealth. Studies have shown that genetics do play a role i.e., people having a sibling or parent with eating disorder are more likely to develop it at some point in their life. Also people who are perfectionist, impulsive are also more likely to have it and how can we forget our society and its pressures to look a certain way, no matter what the person is feeling from within. Eating disorders can occur in association with other psychiatric disorders like OCD, anxiety disorders etc. Although people of any gender and age can be affected but most commonly affected are the females between age-group of 12-35 years.

These females may show dramatic weight loss, excuses to avoid meal time, always occupied with food and measuring calories of each and everything that eat, denying the feeling of being hungry, patterns of binge eating and purging, excessively exercising etc. which in turn affects them in different ways like developing constipation, feeling lethargic, dizzy and tired all the time, developing sleep and menstrual irregularities, dry skin, thin brittle hair and nails, poor immunity, difficulty in concentration etc.

Eating disorders include a group of conditions: Anorexia Nervosa - one of the most common type of eating disorder. Mainly seen in young adolescent females who don't want to gain weight even if they are underweight, so they limit their food intake and may over exercise or use laxatives or vomit out the food taken i.e., they either lose weight by calories restriction (restricting type of anorexia) or by binge eating and then purging it out (binge eating and purging type of anorexia).

Bulimia Nervosa - these people tend to

binge eat until they are painfully full and then, to compensate for the calories consumed and because of the fear of gaining weight, they purge it out by forced vomiting or using laxatives or enemas etc.

It is somewhat similar to binge eating and purging type of anorexia but in bulimia usually the weight is maintained. During these episodes of binge eating, these people can't control how much they are eating. And these recurrent purging episodes may lead to inflamed throat, gut irritation, acid reflux, electrolyte imbalance etc. Binge Eating Disorder - like bulimia and binge eating and purging type of anorexia, these people also tend to eat a lot of food usually in a short period of time and until they are uncomfortably full. After that, they start feeling ashamed or disgusted of this binge eating behavior but they do nothing to lose weight or restrict calories. They just binge eat, feel ashamed and then again binge eat with these episodes occurring as frequently as 1 week to 10 days.

Rumination Disorder - in this, the person tends to regurgitate the food eaten (usually within 30 minutes of eating) and re-chew the food followed by either re-swallowing or spitting it out.

This type might even start in infancy or childhood, though like all the other types this is also most commonly seen in young adults and adolescents. However, one thing to note here is that this regurgitation is not due to any medical or gastrointestinal cause but is psychological in nature. PICA - it's a condition in which a person eats things that are not of any nutritional value and are not culturally or socially acceptable to eat. Things ingested may vary with person's age and can be paper, chalk, clay, soap, pebbles etc. to name a few. Eating these non-food substances show some degree of underlying stress or psychological problem that these people are going through.

Pica may lead to various health prob-

lems like toxicity of metals, gastrointestinal obstruction, nutritional deficiencies etc. Children less than 2 years have a tendency to put everything they see in their mouth, so they are not included in this category as their brain is not developed properly to understand the difference between edible and inedible things. People having Pica generally have no problem in eating normal food, so eating normal healthy food must be encouraged in these people.

Avoidant Restrictive Food Intake Disorder (ARFID) - these people are extremely picky when it comes to eating food and this leads to nutritional deficiencies as the less amount of food they eat don't meet their body requirements. This could be due to less appetite or lack of interest in eating or because they avoid food based on its color, odor, texture etc. (But not because of the fear of gaining weight). This leads to weight loss, nutritional deficiencies and/or poor development of body. However the key word here is extreme, as these people are not just picky (which usually a lot of people are) but are extremely picky.

Other specified feeding & eating Disorders include disturbances in eating behavior that impairs a person's family, social functions and work functions etc, but doesn't fit in the above mentioned categories, e.g., Orthorexia, atypical anorexia nervosa etc. Now that we know the types of eating disorders and how do they affect us, what's important is to know how it can be treated. Things as basic as psychotherapy, nutritional counseling to as advanced as medications like antidepressants, mood stabilizers etc can be used to help these people. A very important approach that can be adopted by family and friends of such people is to talk to them, listen to them, hang out with them, and try to build their self esteem and they will eventually let go off the underlying stressful thing that's triggering their eating disorder.

instance, if parents make their beds every morning, kids will want to adopt the same behaviour. Additionally, developing positive behaviour boosts their confidence. As children learn quickly, try to be conscious in your habits and behaviour.

Give small responsibilities: Assign your kids little tasks like arranging their toys after playing, making their beds, eating on their own, finishing a puzzle, etc. They will become autonomous and responsible as a result, and finishing even minor tasks will help build their confidence. Mothers frequently forbid their kids from working out of concern that they will make a mess or add to their workload, but if you always have everything ready for them, they won't learn the value of working hard, and they'll grow up to be more dependent and less confident.

Let them make a decision: Nowadays, kids as young as 5 or 6 years of age also like to wear the dress of their choice, but often parents do not pay attention to their words and impose their choices on them, which lowers their self-confidence. If you do not agree with any of your child's decisions, then instead of forcing your choice let them learn from their experience and then make them understand in a kind and rational manner.

Vijay.

YOUR COLUMN
Boosting confidence among children

Dear Editor,

Confidence is a key to living a happy life. Developing confidence in children at a young age is very crucial for their overall growth. Check out these few suggestions which can help to increase confidence level of your children. A child is like wet clay when they are born; they will adopt the shape you give them. Children who have more self-confidence perform better in a variety of academic and extracurricular activities. It is essential to living a fulfilling life and achieving great things. Children who lack confidence are frequently unwilling to try new things and fall behind their more confident friends in competition. Confidence is the greatest gift that parents can gift to their children and it is important to inculcate small habits since childhood that can boost their confidence so that they grow up to be a confident individual. Nowadays we observe that both parents are working due to which child is often spending most of the time at daycare. Issues such as anxiety, depression, and emotional burnout are increasing in young children. Parental care plays an important role for young children. Here are a few ways you may use to

encourage your kids to feel more confident.

Appreciate them: You should always recognise a child's effort when they try something new, even if they don't succeed. This will help the kid overcome their fear of doing new things in the future. Your compliments will boost his confidence and motivate him to be more eager to do new tasks. Give them praise for even the smallest accomplishments, such as creating a tidy origami boat, receiving high marks, or reciting a poem. Kids who receive enough praise grow up to be confident people with strong self-esteem, while lack of appreciation and motivation can lead to a complex in kids.

Never compare: As each person in the world has unique talents and limitations, never compare a youngster to his siblings or friends. When the child is compared to others, his self-esteem suffers, which causes him to develop an inferiority complex over time. Developing a sense of healthy competition in your children is good but encouraging them to be better than others could prove to be counterproductive. Children may develop anger, emotional stress, and anxiety as a result, which could be harmful to their development.

Set an example: Parents serve as the best role models for kids because the family is their first classroom and they often pick up habits from parents. Young kids frequently make an effort to mimic their parents. For