

Review Article Volume 11 Issue 5 – November 2017 **DOI:** 10.19080/GJ0.2017.11.555825



Glob J Otolaryngol Copyright © All rights are reserved by Susheel Kumar V Ronad

Mental Health Counselling to the Adolescence in Indian Context



Susheel Kumar V Ronad^{1*}, Ramesh Basavaraju Babu³, Shrinivas K², Chetan S Patali⁴, Santosh S Ugargol⁵, Shridhar H Gondabal⁶, Kiran Kumar TC⁷ and Smt Pankaja TC⁸

¹Department of Psychiatric Nursing, India

²Department of Psychiatry, Medical Superintendent, India

³Department of Psychiatry, India

⁴Principal, AV School of Nursing, India

⁵MSC Nursing student, India

⁶Indiragandhi Children's Hospital, India

⁷Department of Management Studies, Karnataka Arts College Dharwad, India

⁸RL Law College Davangere, India

Submission: October 28, 2017; Published: November 27, 2017

*Corresponding author: Susheel Kumar V Ronad, Department of psychiatric nursing, India, Email: susheelronad@gmail.com

Abbreviations: CBT: Cognitive behavioural therapy; NICE: National Institute for Health and Care Excellence; PTSD: Post-Traumatic Stress Disorder; IBS: Irritable Bowel Syndrome; CAT: Cognitive Analytical Therapy; DBT: Dialectical Behaviour Therapy

Introduction

Mental health counselling to the adolescence involves talking about your problems with a trained counsellor or psychotherapist. Talking therapies can help you understand what may have caused your problems and how to manage them. There are many different types of talking therapy that can help. These include:

Cognitive behavioural therapy (CBT)

This type of mental health counselling focuses on the 'here and now'. It aims to change negative patterns of thinking and behaving. Cognitive behavioural therapy living with a mental health problem can sometimes make it hard to know where to turn for support. If you are not comfortable talking to your friends and family, you may turn to a professional. Cognitive behavioural therapy is a talking therapy. It looks to help you manage problems by enabling you to recognise how your thoughts can affect your feelings and behaviour. CBT combines a cognitive approach (examining your thoughts) with a behavioural approach (the things you do). It aims to break overwhelming problems down into smaller parts, making them easier to manage. Cognitive behavioural therapy has become one of the most popular forms of talk therapy. It is recommended by the National Institute for Health and Care Excellence (NICE) for common mental health issues, such as depression and anxiety. During the treatment, your therapist will work with you and help

you focus on the «here and now». They will help you recognise how past events may have shaped your thinking and behaviours [1-6].

a. What is cognitive behavioural therapy?: Cognitive behavioural therapy (CBT) combines two different approaches for a practical and solution-focused therapy. The therapy is very active by nature, so you may be expected to take a proactive role within your treatment. This may include completing tasks at home. The idea behind CBT is that our thoughts and behaviours have an effect on each other. That by changing the way we think or behave in a situation, we can change the way we feel about life. The therapy examines learnt behaviours, habits and negative thought patterns with the view of adapting and turning them into a positive.

Unlike some other therapies, CBT is rooted in the present and looks to the future. While past events and experiences are considered during the sessions, the focus is more on current concerns. During a CBT session, your therapist will help you understand any negative thought patterns you have. You will learn how they affect you and most importantly, what can be done to change them. Cognitive behavioural therapy looks at how both cognitive and behavioural processes affect one another and aims to help you get out of negative cycles. The emphasis on behavioural or cognitive approaches will depend on the issue you are facing. For example, if you are suffering from anxiety or depression, the focus may be on the cognitive approach [7-12].

If you have a condition that causes unhelpful behaviour (such as obsessive compulsive disorder), the focus is likely to be the behavioural approach. This type of therapy is particularly helpful for those with specific issues. This is because it is very practical (rather than insight-based) and looks at solving the problem. Some of the people that may benefit from cognitive behavioural therapy include:

- i. Those who suffer from depression and/or anxiety.
- ii. People who are suffering from post-traumatic stress disorder (PTSD).
- iii. Those who have an eating disorder.
- iv. Those who have an addiction.
- v. People who are experiencing sleeping problems, such as insomnia.
- vi. People who have a fear or phobia.
- vii. Those who suffer from obsessive compulsive disorder.
- viii. Those who want to change their behaviour.

In some cases, CBT is used for those with long-standing health problems, such as chronic pain or irritable bowel syndrome (IBS). While the therapy cannot cure such physical ailments, it can help people cope emotionally with the symptoms and lower stress levels. CBT is also a popular treatment for conditions such as schizophrenia and psychosis. The aim is to identify any connections between your thoughts and feelings and how they affect the symptoms you are experiencing.

b. CBT sessions: What to expect?: Cognitive behavioural therapy can be provided on a one-to-one basis, or as part of group therapy. Whichever format you choose, the relationship you have with your therapist should be a collaborative one. This means that you will take an active involvement in the therapy and have a voice when it comes to future progression. The issues you discuss with your therapist will be in confidence and without judgement to help you gain a new perspective. The course of CBT can be anywhere from six weeks to six months, depending on your individual circumstance. Usually you will attend one session a week, with each session lasting between 50 minutes to an hour. At the start of your therapy, you will meet your therapist and discuss why you are seeking treatment. Here you will have the opportunity to talk with the therapist. You will be able to outline what you hope to gain from CBT and set goals for the future [1-6].

Together with your therapist you will work on the content and structure of your sessions. Your therapist may also set you certain tasks to do after the sessions, at home. As your therapy progresses, you will take a more prominent role in the sessions. You will start to decide on the content and structure of the session, without the help of your therapist. The idea is that once your treatment is over, you should feel confident and comfortable enough to continue the work on your own.

c. How does CBT work?: Cognitive behavioural therapy looks to help you make sense of what can feel like an overwhelming problem by breaking it down into more manageable parts. These smaller parts are your thoughts, feelings, actions and even physical sensations. These elements are interconnected and can often trap you in a negative spiral. For example, if your marriage or relationship has come to an end, you may think you have failed and that you are not capable of being in a functional relationship. These thoughts can result in you feeling lonely and lacking energy. When you feel like this, you are unlikely to want to socialise or go out and meet new people. This negative spiral can then trap you into feeling isolated and unhappy [13-16].

Rather than accepting the negative thought patterns, CBT aims to show you other ways of reacting so you can break out of negative cycles. Instead of thinking that you are a failure when a relationship ends, you can choose to learn from your mistakes and move on, feeling optimistic about the future. This new way of thinking may result in you feeling more energised and confident, helping you meet new people and one day, start a new relationship. While this is a simplified example, it does illustrate how easy it is to get trapped in negative cycles and how changing the way you think and behave can affect you in a significant way. In CBT, you will learn to recognise your thoughts, behaviours and feelings while learning other, potentially more helpful ways of thinking and behaving.

d. Advantages and disadvantages: As well as identifying negative thought patterns, cognitive behavioural therapy can teach you the skills you need to help you deal with different problems. The hope is that once you are equipped with these coping skills, you will be able to turn to them in the future.

For example, if you have a phobia or suffer from anxiety, you may discover through therapy that avoiding certain situations can actually increase your fears. Confronting the fears in a gradual and manageable way can help you gain faith in your ability to cope. Perhaps you suffer from depression, your therapist may ask you to note down your thoughts so you can explore them in a more realistic way. This can help you gain perspective and start to break the negative cycle. Just like all psychological therapies, CBT may not be a suitable treatment for everyone. Speaking to a professional, such as a counsellor or doctor, will help you decide which therapy type is right for you and which approach to consider [17-21].

Cognitive behavioural therapy has been shown to be as effective as medication in treating many mental health conditions, including depression. CBT is highly structured and can be provided in a variety of formats. This may include group therapy or self-help, but you need to fully commit to the process in order to benefit from the therapy - including the homework tasks. While CBT is solutionfocused, it is thought to be more beneficial to those with specific concerns, rather than more complex mental health issues. However, the skills you learn in CBT can be incorporated into everyday life. They can help you cope and manage situations after treatment has finished.

e. "Is CBT for me?": Now that you know a little more about the therapy, you should be in a better position to decide whether or not CBT is right for you. The therapy will be more useful to those who relate to the ideas behind it. This includes the solution-focused approach, the ideas about behaviour, thinking patterns and the importance of completing at-home tasks. Being committed and doing the assignments set for you is an integral part of CBT. While the sessions offer support and space to explore your concerns, it is the work you do outside of your sessions that is likely to have the most impact. By staying focused and completing assignments, you will help yourself progress quicker. This way you will hopefully start to develop a stronger sense of self-confidence and self-belief.

Cognitive analytical therapy (CAT)

Explores new ways for the client to cope with problems. Cognitive analytic therapy (or CAT) is a type of therapy that marries together ideas from analytic psychology with those from cognitive therapy. Looking at past events and experiences, the therapy aims to understand why a person feels/thinks/behaves the way they do, before helping them problem solve and develop new ways of coping. Each programme of therapy is tailored to the individual's needs, taking into account their current situation and problems they're dealing with. Considered a time-limited therapy, cognitive analytic therapy can last between four and 24 weeks depending on the nature of the problem being explored, but an average of 16 weeks is considered the norm [22-30].

a. What is cognitive analytic therapy?: The foundations of cognitive analytic therapy rely on an empathetic relationship between the client and the therapist. The purpose of which is to help those seeking help make sense of their situation and uncover ways of making changes for the better. Forming a trusting relationship is key, as this will help you be more open about the way you feel during your sessions. Allowing you to work together as a team, cognitive analytic therapy has two elements - the analytic side and the cognitive side.

The analytic side of the therapy involves the exploration of previous events and experiences that could link to current issues being faced. The therapist will aim to help you understand why events from the past could be affecting you now, and why things may have gone wrong in the past. After your therapist helps you understand the implications of such experiences, they will look at the ways you currently cope with the problem. Investigating the effectiveness (or otherwise) of your current coping mechanisms, a CAT therapist will then use techniques from cognitive therapy to help you develop new tools to help you cope in a way that is healthy and beneficial to your well-being. In a similar vein to cognitive behavioural therapy, cognitive analytic therapy focuses on helping you develop tools so that you can better deal with any future psychological problems yourself [31,32] **b.** Origins of cognitive analytic therapy: Cognitive analytic therapy was developed in the early 1980s by Dr. Anthony Ryle at Guy's and St Thomas' Hospital in London. The therapy was developed as a response to the mental health needs of a busy inner-London city. Dr Ryle felt it was important to be able to offer a time-limited therapy within the health service that integrated the best of different approaches. The therapy was created with the view that it would continue to be researched and refined with the growing experience of therapists and clients-which has happened. It is also worth noting that the initial concern of equity and access to mental health support remains a core part of this therapy type.

c. How does cognitive analytic therapy work?: Cognitive analytic therapy is considered a very active therapy type and one in which you as an individual ultimately have control. Inviting you to observe your life from an objective standpoint and take part in what needs change, the therapy allows you to have a say throughout every step of the process. The therapy works by investigating any learned behaviours or beliefs from your past and whether or not they are contributing to your current difficulties. Cognitive analytic therapy aims to show you how you can change such beliefs and help you focus on ways of making better choices in the future. The process also allows you to work with the therapist to devise ways of coping that will be suitable for you in your life. This collaborative effort will therefore require you to be honest with your therapist about what works and what doesn't, so that together you can devise a strategy that will work for you [33-36].

d. What are cognitive analytic therapies sessions like?: Your therapy sessions will be tailored to you and your individual needs, however there is a model of practice that most CAT therapists follow that may work in the following way:

i. During your first few sessions, you will get the opportunity to talk openly and confidentially to your therapist about your personal history and life experiences. You will explore when things went wrong and also when things went right.

ii. After this initial phase, your therapist may ask you to complete some questionnaires to establish mood shifts or symptoms. The purpose of these papers is to decipher what sort of thinking or behaving is contributing to the problem.

iii. Once you and your therapist have developed an understanding of your problems and what brought you to therapy, your therapist may write what is known as a 'reformulation letter' to put these thoughts onto paper.

iv. Next, your therapist will work with you to map out problem patterns on paper to help develop your capacity to understand why you may repeat certain patterns of thinking.

v. The therapy will continue in an active nature, helping you to figure out ways of changing such negative patterns. Your therapist should be very upfront with you, telling you their thought processes as well as encouraging you to share your own. vi. Towards the end of your programme, your therapist will look back over at what you've learnt and achieved through therapy and how you can progress after the therapy sessions are over.

vii. Your therapist may then invite you to a follow-up appointment two or three months after your sessions finish seeing how you are doing.

e. What can cognitive analytic therapy help with?: Cognitive analytic therapy looks to focus on the issues that brought you to therapy and the underlying reasons, rather than traditional psychiatric terms or labels. The aim of this is to treat each person as an individual, rather than treating the condition. Issues that are often looked at within cognitive analytic therapy include:

- i. Addictions
- ii. Anxiety
- iii. Depression
- iv. Disordered eating
- v. Obsessions and compulsions
- vi. Phobias
- vii. Relationship issues
- viii. Self-harm
- ix. Stress.

If you think this type of therapy may work for you, speaking to a counsellor who offers CAT should be your next step. This way you can ask any further questions you may have and gain a clearer understanding of how the therapy could help you.

Creative Therapies

Art therapy and drama therapy can be used in counselling for mental health. Creative therapies explore ways of channelling emotions.

a. Arts therapies: Creative expression plays an important role in our development and in many cases has been found to assist in the recovery of mental distress. Arts therapies employ creative arts in a therapeutic setting with a trained therapist, with the aim of encouraging individuals to draw on their inner creative resources and express their feelings without necessarily using words.

b. Art therapy/Art psychotherapy: Art therapy or art psychotherapy is a form of psychotherapy that uses art materials such as paints, clay and paper. These tools are used to communicate issues, emotions and feelings and can provide an insight into any conflicts that may be present.

c. DRAMA THERAPY: Drama therapy is a form of psychological therapy that applies acting and performance

techniques within a therapeutic environment. The aim of drama therapy is to help those taking part to express themselves while helping to address difficult emotions.

d. Music therapy: Music therapy is a type of creative therapy that harnesses the communicative power of music to foster positive change. Versatile by nature, music therapy can be used for a range of issues including autism, dementia and anxiety.

Family Intervention

Encourages the family to engage as a unit to solve problems that affect home life.

a. Family/Systemic therapy: Family therapy, also referred to as systemic therapy, is an approach that works with families and those who are in close relationships to foster change. These changes are viewed in terms of the systems of interaction between each person in the family or relationship. It is understandable that families and those in relationships sometimes get into difficulties due to their differences, or feel the strain when loved ones have troubles. The aim of therapy is to work on these problems by encouraging family members and loved ones to help and empathise with each other. They are given the opportunity to understand and appreciate each other's needs, build on family strengths and ultimately make useful changes in their lives and relationships.

b. What is family/systemic therapy?: Systemic therapy is rooted in family therapy, a therapeutic adaptation of a larger interdisciplinary field known as systems theory. Systems theory is a study of the complex systems present in nature, science and society, and its framework investigates and describes any group of objects that work together to produce a result. This could be a single organism such as a plant or a single human, or it could apply to a large organisation or indeed a family. While the systems theory and systemic therapy can be applied to individuals, couples and in a variety of other settings, it is most commonly practiced in a family setting, as it doesn't seek to address people on an individual level and instead focuses on understanding problems in a contextual framework. On this page we will therefore be exploring the use of systemic therapy in a family setting.

c. How can family therapy help?: Family therapy and systemic practice supports the notion that family relationships form a key part of the emotional health of each member within that family. This type of therapy can help people who care for each other find ways to cope collaboratively with any distress, misunderstanding and pain that is affecting their relationships and putting a strain on the family unit. Common problems that a family therapist will work with include stressful and traumatic life events such as: divorce and separation, illness or death of a loved one, and transitional stages of family development that can cause pain and upset. Work and school-related problems, psychosexual difficulties and parent-child conflict can also be explored through family therapy.

Family therapists may also work alongside health professionals to address specific conditions such as ADHD, eating disorders, addictions, depression, and any other conditions that may be having a damaging effect on family life. This makes family therapy useful for times of crisis and long-standing problems that are taking their toll on the family. Essentially, by evaluating these issues and providing support, family therapy can help families and individuals to:

i. better understand how their family functions

ii. identify strengths and weaknesses within the family system

- iii. set goals and devise strategies to resolve problems
- iv. develop their communication skills
- v. Make the entire family unit stronger.

d. Who can benefit from family therapy?: As well as addressing a range of problems and health conditions, family therapy is sensitive to diverse family forms and relationships, beliefs and cultures. It is also considerate of the needs and problems of each individual within a family unit and takes into account all other key relationships in people's lives. This makes it a useful approach for people of all ages and backgrounds. Families from socially and economically disadvantaged backgrounds may find family therapy particularly beneficial. This is because they are generally more vulnerable to external issues such as unemployment, which can negatively impact family life and relationships. Families who have children with behavioural issues may also find family therapy particularly valuable.

What does family therapy involve?: Family therapy will e. typically take place in the form of sessions in which individuals and their loved ones will be brought together with a family therapist to discuss the issues that are affecting their relationships. These sessions - and the family therapy techniques used - will be adapted according to the therapy goals and the ages, needs, resources and preferences of the individuals involved. Sessions involving children for example may include drawing and play exercises to help them express their emotions in a more creative and engaging manner. Most forms of family therapy will borrow from other approaches, such a systems theory - an integrated approach that explores behaviour patterns and human experience of individuals as part of a group or family. Other models of family therapy are based on experiential, cognitive-behavioural or psychodynamic approaches. Ultimately though, they are all designed to help families and loved ones overcome problems affecting their relationships and develop a deeper sense of connection to one another.

f. What happens during a session?: Generally family therapists will aim to adopt an approach that does not take sides or blame individuals, but instead engages families in sharing understanding and views with each other - getting them to discuss the problems that are putting a strain on their relationships. By supporting this system of interaction, and giving everyone an

opportunity to contribute to discussion, family therapy enables family members to explore ways forward that will work for them as a unit. The number of family members who attend each session can vary, depending on therapy goals. Sometimes a family therapist will offer individual sessions to supplement the family meetings. These can be particularly beneficial for those who want to meet with the therapist before a family session to decide on the best ways to express their thoughts and feelings with others.

In family therapy involving parents and children, therapists may wish to chat with parents separately following family sessions. Whilst some family therapists work individually, others will collaborate with a co-therapist or team. In some cases, these colleagues will observe sessions to monitor how the family therapist and clients interact. They will then be in a position to share reflections and explore possibilities to help resolve issues. Many families find this approach to complex issues very helpful.

g. How many sessions will be needed?: Family therapy tends to be a solution-focused and short-term approach, and generally around six to 20 sessions are needed for families to realise their strengths and find ways forward. For families and loved ones who are experiencing more complex difficulties however, further sessions may be needed. Sessions can last from between 50 and 90 minutes, and intervals between each one could be several weeks at a time depending on various factors, such as the problems being addressed, the stage of treatment and the needs of family members. Ultimately all elements of family therapy, including the setting, family therapy techniques and length of sessions will result from a collaboration and mutual agreement between the therapist and family.

h. Dialectical behaviour therapy (DBT): Teaches clients how to react normally to emotional triggers.

i. Psychotherapy: Encourages clients to use their own insight to solve problems.

j. Counselling: Allows clients to talk freely without fear of criticism or judgement.

References

- 1. Lowe J, Amos LA (1998) Crystal structure of the bacterial cell-division protein FtsZ. Nature 391(6663): 203-206.
- Nicholas K Gonatas, Elliott Robbins (1965) The homology of spindle and tubules and neuro-tubules in chick embryo retina. Protoplasma 59(3-4): 377-391.
- Clément MJ, Jourdain I, Lachkar S, Savarin P, Gigant B, et al. (2005) N-terminal stathmin-like peptides bind tubulin and impede microtubule assembly. Biochemistry 44(44): 14616-14125.
- Bassot, Martoja (1966) Histological and Ultrastructural data on microtubules cytoplasmic ejaculatory channel insectsorthopteres. Z Zelforsch 74: 145-181.
- Sahu S, Ghosh S, Ghosh B, Aswani K, Hirata K, et al. (2013) Atomic water channel controlling remarkable properties of a single brain microtubule: Correlating single protein to its supramolecular assembly. Biosensors and Bioelectronics 47: 141-148.

- 6. Dusti (1978) Microtubules. Heidelberg, Germany.
- Echandia (1968) Dense core microtubules in neurons and gliocytes of the toad Bufo arenarum Hensel. Am J Anat 122: 157-168.
- Peters (1968) The small pyramidal neuron of the rat cerebral cortex The axon hillock and initil segment. J Cell Biol 39(3): 604-619.
- Stanley (1972) Fine structure of normal spermatic differentiation in Drosophila melanogaster. J Ultrastruc Res 41(5): 433-466.
- Burton (1984) Luminal material in microtubules of frog olfactory axons: Structure and distributin. J Cell Biol 99(2): 520-528.
- 11. Garvalov (2006) Luminal particles within cellular microtubules. J Cell Biol 174(6): 759-765.
- Panda D, Daijo JE, Jordan MA, Wilson L (1995) Kinetic stabilization of microtubule dynamics at steady state in vitro by substoichiometric concentrations of tubulin-colchicine complex. Biochemistry 34: 9921-9929.
- Belmont LD, Mitchison TJ (1996) Identification of a protein that interacts with tubulin dimers and increases the catastrophe rate of microtubules. Cell 84(4): 623-631.
- 14. Charbaut E (2001) Stathmin family proteins display specific molecular and tubulin binding properties. J Biol Chem 276(19): 16146-16154.
- Hanash SM, Strahler JR, Kuick R, Chu EH, Nichols D (1988) Identificationof a polypeptide associated with the malignant phenotype inacute leukemia. J BiolChem 263: 12813-12815.
- Curmi PA, Nogues C, Lachkar S, Carelle N, Gonthier MP, et al. (2000) Overexpressioin of stathmin in breast carcinomas points out to highly proliferative tumours. Br J Cancer 82(1): 142-150.
- Price DK, Ball JR, Bahrani Mostafavi Z, Vachris JC, Kaufman JS, et al. (2000) The phosphoprotein Op18/stathmin is differentially expressed in ovarian cancer. Cancer Invest 18(8): 722-730.
- Belmont LD, Mitchison TJ (1996) Identification of a protein that interacts with tubulin dimers and increases the catastrophe rate of microtubules. Cell 84: 623-631.
- 19. Cassimeris L (2002) The oncoprotein 18/stathmin family of microtubule destabilizers. Curr Opin Cell Biol 14(1): 18-24.
- 20. Brattsand G, Roos G, Marklund U, Ueda H, Landberg G, et al. (1993) Quantitative analysis of the expression and regulation of an activationregulated phosphoprotein (oncoprotein18) in normal and neoplastic cells. Leukemia 7: 569-579.
- Rowlands DC, Williams A, Jones NA, Guest SS, Reynolds GM, et al. (1995) Stathmin expression is a feature of proliferating cells of most if not all, cell lineages. Lab Invest 72(1): 100-113.
- 22. Ozon S, Maucuer A, Sobel A (1997) The stathmin family Molecular and biological characterization of novel mammalian proteins expressed in the nervous system. Eur J Biochem 248(3): 794-806.
- Charbaut E, Curmi PA, Ozon S, Lachkar S, Redeker V, et al. (2001) Stathmin family proteins display specific molecular and tubulin binding properties. J BiolChem 276: 16146-16154.
- Hirokawa N (1998) Kinesin and dynein super family proteins and the mechanism of organelle transport. Science 279(5350): 519-526.
- Vale RD (2003) The molecular motor toolbox for intracellular transport. Cell 112(4): 467-480.
- Wade RH, Chrétien D, Job D (1990) Characterization of microtubule protofilament numbers How does the surface lattice accommodate? J Mol Biol 212: 775-786.

- Nogales E, Wolf S, Downing KH (1998) Structure of the alpha beta tubulin dimer by electron crystallography. Nature 391: 199-203.
- 28. Ravelli RBG, Gigant B, Curmi PA, Jourdain I, Lachkar S, et al. (2004) Insight into tubulin regulation from a complex with colchicine and a stathmin-like domain. Nature 428(6979): 198-202.
- 29. Nogales E, Downing KH, Amos LA, Löwe J (1998) Tubulin and FtsZ form a distinct family of GTPases. Nat Struct Biol 5: 451-458.
- Watts NR, Cheng N, West W, Steven AC, Sackett DL (2002) The cryptophycin-tubulin ring structure indicates two points of curvature in the tubulin dimer. Biochemistry 41: 12662-12669.
- 31. Gigant B, Curmi PA, Martin Barbey C, Charbaut E, Lachkar S, et al. (2000) The 4 Å X-ray structure of a tubulin: stathmin like domain complex. Cell 102(6): 809-816.
- Rodionov V, Nadezhdina E, Borisy G (1999) Centrosomal control of microtubule dynamics. Proc Natl Acad Sci 96(1): 115-120.
- Kraulis PJ (1991) Molscript a program to produce both detailed and schematic plots of protein structures. J Appl Crystallogr 24: 946-950.
- 34. Steinmetz MO, Kammerer RA, Jahnke W, Goldie KN, Lustig A, et al. (2000) Op18/stathmin caps a kinked proto-filament-like tubulin tetramer. EMBO J 19(4): 572-580.
- 35. Benoit Gigant, Patrick A Curmi, Carole Martin Barbey, Elodie Charbaut, Sylvie Lachkar, et al. (2000) The 4 A° X-Ray Structure of a Tubulin: Stathm in like Domain Complex. Cell 102(6): 809-816.
- 36. Sobel A (1991) Stathmin: a relay phosphoprotein for multiple signal transductions? Trends Biochem Sci 16(8): 301-305.
- 37. Wang HW, Nogales E (2005) Nature 435: 911-915.
- 38. Aldaz H, Rice LM, Stearns T, Agard DA (2005) Nature 435: 523-527.
- 39. Buey RM, Díaz JF, Andreu JM (2006) Biochemistry 45: 5933-5938.
- 40. Nogales E, Wang HW (2006) Curr Opin Struct Biol 16: 221-229.
- 41. Alushin GM, GC Lander, EH Kellogg, R Zhang, D Baker, et al. (2014) Highresolution microtubule structures reveal the structural transitions in $\alpha\beta$ -tubulin upon GTP hydrolysis. Cell 157(5): 1117-1129.
- 42. Gary J, Brouhard, Luke M Rice J Cell Biol 207(3): 323-334.
- 43. RFW Bader (1990) atoms in Molecule: A quantum Theory.
- 44. Becke, Edgecombe J Chem Phys 92: 5397.
- 45. Savin, Angew. Chem Int Ed Engl 31: 187.
- 46. Tsirelson, Stash Chem Phys Lett 351: 142.
- 47. Schmider, Becke J Mol Struct (THEOCHEM) 527: 51.
- 48. Jacobsen Can J Chem 86: 695.
- 49. Aslangul, Adv Quantum Chem 6: 93.
- 50. Parr J, Phys Chem A 109: 3957.
- 51. Noorizadeh M, Shakerzadeh, Phys. Chem. Chem. Phys 12: 4742.
- 52. Murray, J. Mol. Struct. (THEOCHEM) 307.
- 53. Tieleman DP, Marrink SJ, Berendsen HJ (1997) A computer perspective of membranes: Molecular dynamics studies of lipid bilayer systems. Biochimica et Biophysica Acta 1331(3): 235-270.
- 54. JW Gibbs (1902) Elementary Principles in Statistical Mechanics, Yale University Press, New Haven, CT, USA.
- 55. Feller SE, Pastor RW, Rojnickarin A, Bogusz S, Brooks BR (1996) J Phys Chem 100: 17011.

00122 How to cite this article: Susheel K V R, Ramesh B B, Shrinivas K, Chetan S P, Santosh S U, et al. Mental Health Counselling to the Adolescence in Indian Context. Glob J Oto 2017; 11(5): 555825. DOI: 10.19080/GJO.2017.11.555825.

- 56. Schmidt MW, Baldridge KK, Boatz JA, Elbert ST, Gordon MS (2004) General atomic and molecular electronic structure system. Journal of Computational Chemistry 14(11): 1347-1363.
- 57. Yan Zhao, Donald G Truhlar (2008) The M06 suite of density functionals for main group thermochemistry, thermochemical kinetics, noncovalent interactions, excited states, and transition elements: two new functionals and systematic testing of four M06-class functionals and 12 other functionals. Theoretical Chemistry Accounts 120(1-3): 215-241.
- Zhao Y, Truhlar DG (2008) Density Functionals with Broad Applicability in Chemistry. Accounts of Chemical Research 41(2): 157-167.
- 59. Monajjemi M, Jafari Azan M, Mollaamin F (2013) Density Functional Theory Study on B30N20 Nanocage in Structural Properties and Thermochemical Outlook. Fullerenes Nanotubes and Carbon Nanostructures 21(6): 503-515.
- 60. Grimme S (2006) Seemingly Simple Stereo electronic Effects in Alkane Isomers and the Implications for Kohn-Sham Density Functional Theory. Angewandte Chemie International Edition 45: 4460-4464.
- Monajjemi M, Seyed Hosseini M, Molaamin F (2013) Theoretical Study of Boron Nitride Nanotubes with Armchair Forms. Fullerenes Nanotubes and Carbon Nanostructures 21(5): 381-393.
- 62. Schreiner PR, Fokin AA, Pascal RA, De Meijere A (2006) Many Density Functional Theory Approaches Fail to give Reliable Large Hydrocarbon Isomer Energy Differences. Organic Letters 8: 3635-3638.



This work is licensed under Creative Commons Attribution 4.0 License DOI: 10.19080/GJ0.2017.11.555825

- 63. Zhao Y, Truhlar DG (2006) A Density Functional Theory that Accounts for Medium-Range Correlation Energies in Organic Chemistry. Organic Letters 8: 5753-5755.
- 64. Kohn W, Sham LJ (1965) Self-Consistent Equations Including Exchange and Correlation Effects. Phys. Rev 140(4A): 1133-1138.
- 65. Perdew JP, Burke K, Ernzerhof (1996) Generalized Gradient Approximation Made Simple. Physical Review Letters 77(18): 3865-3868.
- 66. Brent H Besler, Kenneth M Merz, Peter A Kollman (1990) Atomic charges derived from semi empirical methods. Journal of Computational Chemistry 11(4): 431-439.
- 67. Lu T, Chen F (2011) Calculation of Molecular Orbital Composition. Acta Chimica Sinica 69(20): 2393-2406.
- 68. Lu T, Chen F (2012) Quantitative analysis of molecular surface based on improved Marching Tetrahedra algorithm. Journal of Molecular Graphics and Modelling 38: 314-323.
- 69. Lu T, Chen F (2012) Multiwfn: A Multifunctional Wave function Analyzer. Journal of Computational Chemistry 33(5): 580-592.

Your next submission with Juniper Publishers will reach you the below assets

- Quality Editorial service
- Swift Peer Review
- Reprints availability
- E-prints Service
- · Manuscript Podcast for convenient understanding
- Global attainment for your research
- Manuscript accessibility in different formats
- (Pdf, E-pub, Full Text, Audio)
- Unceasing customer service

Track the below URL for one-step submission

https://juniperpublishers.com/online-submission.php