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Journal publishes Research Articles, Case Reports, Book Reviews, Brief Communication and Letter to Editor. The journal encourages the articles related to theory-based interventions, studies that investigate mechanism of change, effectiveness of treatment in real world setting. Journal also accepts the articles int eh area of Women, Child & Adolescents and Community Mental Health. Articles related to epidemiology, critical analysis and metal analysis of treatment approaches; health care economic etc. are also accepted.

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Editorial

Care of Severely Mentally ill: Where We Are

Tej Bahadur Singh

The beginning of the Community Mental Health program in the 1960s in the U.S., led to the de-institutionalization of mental health care and is known as the era of emergence of Psychosocial Rehabilitation of persons who have a severe mental illness (SMI). In mid-1970s in India, the first community mental health unit was set up at the National Institute of Mental Health and Neuro Sciences (NIMHANS) with rural mental health center provision at Sakalwara, Bangalore Rural District. In addition to extending services in the rural locality, many professionals working in the field of mental health were trained at this center.

Subsequently, the National Mental Health Programme (NMHP) was launched in the early 1980s at Raipur Rani to integrate mental health care with the Primary Health Care centres. All these service models proved beneficial but could not be expanded due to some reason or the other, even after realizing that they were replicable service models elsewhere in the country and beneficial to the community.

Before the beginning of the Community Mental Health Movement in the U.S., during the 1950s, Dr. Vidya Sagar at Rohtak, Haryana involved families in treating persons with severe mental illness. This initiative proved helpful in reducing hostility and criticality towards family members and minimizing stigma during those early years in the post-independence era (Kapur 1992). This development paved the way for community care of persons with severe mental illness in India, signifying that only drugs are insufficient for managing these cases in a comprehensive manner.

The voluntary community care efforts through NGOs also played a significant role in expanding mental health services through their service delivery initiatives and awareness programs. A few known among all them are SCARFF (Chennai), SNEHA (Chennai), Richmond Fellowship Foundation (Bangalore and New Delhi), CADABAMS (Bangalore). Dr. Sharda Menon is also a well-known name in setting up the management and care of persons with severe mental illness.

Shifting mental health care from mental hospitals to psychiatry departments of general hospitals during the early 1970s was a significant development in severe mental illness care where this population drew sufficient attention from mental health professionals. A realization had gone into the mind of service providers about this population when they described the group as "the forgotten millions" Agrawal (1998), "The neglected lot" (Kulhara, 1997), with a lucid description of their life in the family and the kind of treatment they are getting.

There had been well-described observations available about the magnitude of the problem (Kulhara, 1997; Reddy & Chandrashekhar,1998; Ganguli,2000). These findings suggest that 1 - 2% of people have a severe mental illness at any given point of time, and 0.5% to 1% of people go through disabling conditions on account of severe mental illness. The majority of this population is living in rural areas. Thus, extending services in the community remains always a significant challenge in the coming years.

District Mental Health Programme (DMHP) of MOH&FW: The government of India has facilitated the manpower development and expansion of services in rural areas. Community care has always been proved to be financially viable, ensures availability of benefits of non-institutional quality care to a larger population.

The emergence of various approaches to help this population on a temporal continuum; like skill training supplemented with the token economy, social skills learning through modelling, application of cognitive methods into skill training promoting living and social skills, and video modelling are strategies are well known.

Now a good number of Clinical Psychologists are employed under DMHP. Their observations are of utmost importance given the psychosocial care in the community, categorically stated by Gopinath & Rao (1994). Currently, few priorities in terms of care by clinical psychologists are ensuring integration of persons with SMI into their families by offering psychoeducation, promoting living skills, social interaction strategies, and relapse prevention techniques remain to be achieved for the larger population in the community. These interventions have been documented to be beneficial by minimizing

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the caregiver burden and expressed emotions. In addition, the efforts are to be focused more towards prevention in nature, in conjunction with functional assessment, disability certification and availability of rehabilitation services. Recently, local adaptations are also being discussed to ensure continuity of care, support for psychoeducation, provision for welfare benefits, and access to meaningful social activities (Tirthali, 2020).

Integration of mental health care into primary health care is the felt need of the time. Still, at the same time, integration of these services into community based rehabilitation has also been talked about in the welfare sector by MOSJ&E: Government of India (Raja et al., 2008). Regional rehabilitation centres, district rehabilitation centres and provision of rehabilitation camps are some of the existing programs under this Ministry. As per the Persons with Disabilities Act (PWD) provisions, these centres are committed to extending mental health services to persons with severe mental illness in the community.

Keeping in view the urgent need for an apex institute in this service area, Government of India under MOSJ&E established (in 2019), National Institute of Mental Health Rehabilitation near Bhopal in Madhya Pradesh. The defined objectives of NIMHR are service delivery, development of replicable service models, manpower development, research and community oriented services. Currently available resources show that early efforts of setting up community mental health services in Sakalwara, Bangalore Rural District or Raipur Rani in Punjab were proved fruitful in the recent past with a lot of psychological awareness evolving in the community and a ray of hope among the working professionals and family members who offer care to persons with severe mental illness.

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Presidential Address

Challenges and Perspectives in Clinical Psychology: A Way Forward

Kalpana Srivastava

The challenges of the Clinical Psychology profession correspond with its growth and like a true progressive discipline, there are several of them. Clinical Psychology in India has seen progress as an independent profession despite multiple hurdles and challenges. The evolution of the field in the country corresponds well with the world scenario. A little recap on the advent of the profession in the country will help us understand the relative development in the context of world scenarios and future challenges we have to overcome. Clinical Psychology in the current arena has got wide and varied focus. Clinical Psychologists have positioned themselves in managerial and administrative positions apart from making unique contribution in the field of consultation, training and research.

The Backdrop: It is heartening to note that the early development of the field started as an objective and measurable science. Although its earliest foundations lay in general psychology when the first clinic was established by Lightner Witmer in 1896 in Pennsylvania. Several traditions within psychological thinking are credited as contributing significantly to the development of clinical psychology in the country. Its beginning can be traced to Calcutta where 'Experimental Psychology' was introduced as an independent subject and the first department of psychology was established in 1916. As early as 1967, the applied section of the psychology department was also established in Calcutta University. It was at tandem with the world history of development of the discipline. Diploma in Medical Psychology which advanced to the level of current nomenclature of M.Phil in Clinical Psychology had commenced at the then All Indian Institute of Mental Health, currently known as the National Institute of Mental Health and Neurosciences (NIMHANS), Bengaluru, in the year 1955. Central Institute of Psychiatry (CIP) at Ranchi started it in the year 1962. Later, B.M. Institute, Ahmedabad also started the training of Clinical Psychologists in 1973.

The Indian Association of Clinical Psychologists (IACP) was formed in 1968 (Prabhu, 1983; Prasadarao & Sudhir, 2001). The recapitulation of stages of development of clinical psychology in India will remain incomplete if Prof G.G. Prabhu's analysis is not included. Prof. Prabhu in 1983 classified the growth of clinical psychology in India in three phases.

1. The first phase marked slow but steady growth of psychology including clinical psychology, in tandem with international thinking. This phase (1905-55) was also marked by emphasis on a dynamic approach in diagnostics and therapeutics.
2. The second phase was highlighted by growth of courses introduced in the country in the field of Psychology.
3. The third phase of development was marked by the publication of the official Journal by the Indian Association of Clinical Psychologists (IACP), and the commencement of clinical training programs (Prabhu, 1998).

If we follow this analysis, I can say with confidence and sense of pride that we are currently in the fourth phase of development of Clinical Psychology profession in the country *which witnessed an exponential growth of training institutes in the country*. This phase is also marked by focus on awareness about the profession in the country.

As of now, approximately 36 institutes in the country are conducting approved M. Phil. in Clinical Psychology training. The total number of students/professionals rolled out may be approximately 300 every year for the last 05 years. This itself accounts for approximately 1500 professionals trained in 05 years. If we consider other trained professionals added during the last 28 years i.e. since accreditation given by Rehabilitation Council of India (RCI) to clinical psychology in the country, the most conservative estimates can touch the figure of approximately 3000 to 3500 professionals trained during this period. The exact number is not available because all trained professionals are not registered with RCI. The mandate of these lacunae can be to make registration with the RCI necessary after successful completion of the degree.

The scope of clinical psychology in India is huge and the implications for expansion of the discipline are far more than one can envisage, although much more development is still needed. In fact, clinical psychologists are an essential part of care in various settings such as psychiatry, oncology, cardiology,

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neurology, neurosurgery, sports medicine and in schools and colleges.

Whether it is the field of academics or research, or military psychology, the development was at pace with the development elsewhere in the world. However, the specialization and development of various branches missed the focus somewhere in between. What was left unmet was the policy of accreditation, and involvement of clinical psychologists in decision making pertaining to mental health issues.

RCI provided the context and platform for regulation of the profession. Even though there is a parliamentary legislation to take care of the profession, much is still awaited and clinical psychologists need more representation in policy making and the regulatory process. Though there are a good number of institutes providing training, there is a need to evaluate the mismatch. The issue of mismatch in the whole scenario raises questions like whether the mismatch is in training or is it in regulation or inadequate representation to the stakeholders and finally the inclusion of clinical psychologists in the policy making. These questions have been intriguing the psyche of professionals. The reason that these points need to be summarised is to take the challenges ahead and be part of the future perspectives.

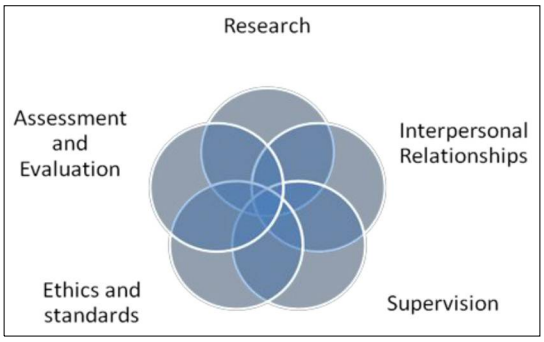
Talking of present challenges and perspectives, one must not forget the following:

Participative role of Clinical Psychologist: There is a strong and pressing requirement for inclusion of clinical psychologists in the apex level of policy making. The inclusion of trained professionals in the decision making will facilitate enhancement and empowerment of the profession which in turn would lead to an overall improvement in the mental health care infrastructure.

Qualification and employment issues: In wake of implementation of various schemes to fill the vacancies in the district mental health program, the requirement is created. However, the notification of qualifications as M.Phil. and nomenclature from Psychologist to Clinical Psychologist keep changing, hence there is a need to create awareness among policy makers.

Future Perspectives:

Focus on competencies: As a master trainer in human resource development and having apt understanding of human nature, it is required that Clinical Psychologists themselves focus on certain competencies. One of the future perspectives in Clinical Psychology is the focus on Competencies.



Clinical Psychology goals are required to be assessed and indexed by outcomes in applied settings. Following are six competencies which are important for the practitioner to inculcate.

Evidence-based practice: This area needs special emphasis on evidence-based practice (EBP) will help in aligning assessment and interventions as a part of training. Empirically supported therapies (ESTs), which focuses on specific therapeutic techniques, is already an established method. EBP is an approach to clinical decision-making. The movement toward EBP, in contrast to the movement to develop ESTs, emphasizes the scientific evaluation of evidence (Spring, 2007).

Consultation Liaison in Clinical Psychology (CLCP): Development of new areas of connection between clinical health psychology and medicine are required to be explored. There is a lot of scope in specialization of other fields, such as psycho-geriatrics, psycho-pneumology, and psycho-endocrinology etc. It is important to recognize and nurture the role of clinical psychologists in varied settings. The Consultation-Liaison approach documents the provision of expert opinion about the diagnosis and advice on management. The term "Liaison" refers to linking up of groups for the purpose of effective collaboration (Lipowski 1983). The clinical psychology referrals are made in general medical setting. This gives an opportunity to raise awareness among health care givers and improve identification of psychological problems in patients. CLCP has to develop standards of treatment which are based on Evidence Based Medicine.

Technology-based Mental Health Intervention Delivery: Digital technologies will become increasingly integrated into service delivery systems and will lead to more personalized care. This will also

fill up the gap of distance to reach an early attention to problems. The field of mental health is burgeoned by technology-interface delivered services. The advantages of technology in accelerating the proximity of care in distant places is far too encouraging. The trend has distinct advantage in providing the environment of care for those combating with inability to reach mental health professionals. There has been increase in development of software programs to be launched on web platform. The software programs which have been developed are mostly self-help programs. Some of the more outcome-based programs endorsed by users are based on Cognitive behaviour therapy (CBT) modules (Andersson, 2014). Mental health intervention delivered on web-based interventions have shown efficacy in a varied range of mental health outcomes" (Mohr et al., 2013).

The application of digital platforms may include remote supervision, screening support of distant workers in the mental health field. Blended care involves internet-based cognitive behavioural therapy (iCBT). Depression and anxiety have shown effective outcome, it also has shown effects on improving affect, and well-being (Massoudi et al., 2017). Future of mental health care delivery rests in the development of digitized interventions. This is one of the important phases wherein training and development has to be focused in these domains. The theoretical models have not integrated this aspect of training, however upskilling in these domains cannot be avoided.

Indigenous Development of Tests: There is a strong need to establish an academic affairs committee to look into the matter of research and development of tests. The indigenous development of tests is required in the Indian setting. The Association has to play an important role in this area. The indigenization of psychology started in India after its independence in 1947 (Sinha, 1997). However, ever since then, we have not been able to make significant strides. There is an explicit difference in Indian and Western norms. The multiple languages, geographic location, rural and urban differences, etc. are some of the factors to be borne in mind while developing indigenous tests. As per the Census of India of 2011, India has 121 major languages and 1369 other languages, many of which are dialects with no written script. The tests which are developed in local languages may not be beneficial for other languages. The breadth and width of cultural diversity poses a lot of challenges in development of the test to suit the requirement of population. There are 22 official languages recognized in the Eight Schedule of the Constitution of India. These factors of socio-cultural adaptation need rigorous methods to develop the test to suit the normative requirement. The development of tests also needs strong methodical back up and stringent normative measures. In Indian scenario there has been a trend of "adaptive indigenization" (Sinha, 1997). However, in the domain of Neuro cognitive assessment test development efforts have led to important contribution from National Institute of Mental Health and Allied Neurosciences Sciences, Bengaluru and Post Graduate Institute, Chandigarh (Pershad, Verma, 1990; Kar, Rao, Chandramouli & Thennarasu, 2004). There is a strong need to introspect and encourage young scientists to the area of test development. It is worth mentioning that original contributions in the text book from Indian authors are few. There is hardly any mention in the textbook of the developmental history of clinical psychology in the Indian context (Misra & Rizvi, 2012).

Future directions: Our Association i.e. the IACP has to look into the growth of the profession by having International collaboration and partnerships to come up to International standards. The specialized division in the field of Clinical Neuropsychology, Forensic Clinical Neuropsychology, Psycho-oncology, Child and Adolescent Clinical Psychology, Psychotherapy and Supervision are required to be introduced for development of the profession with a specialized focus.

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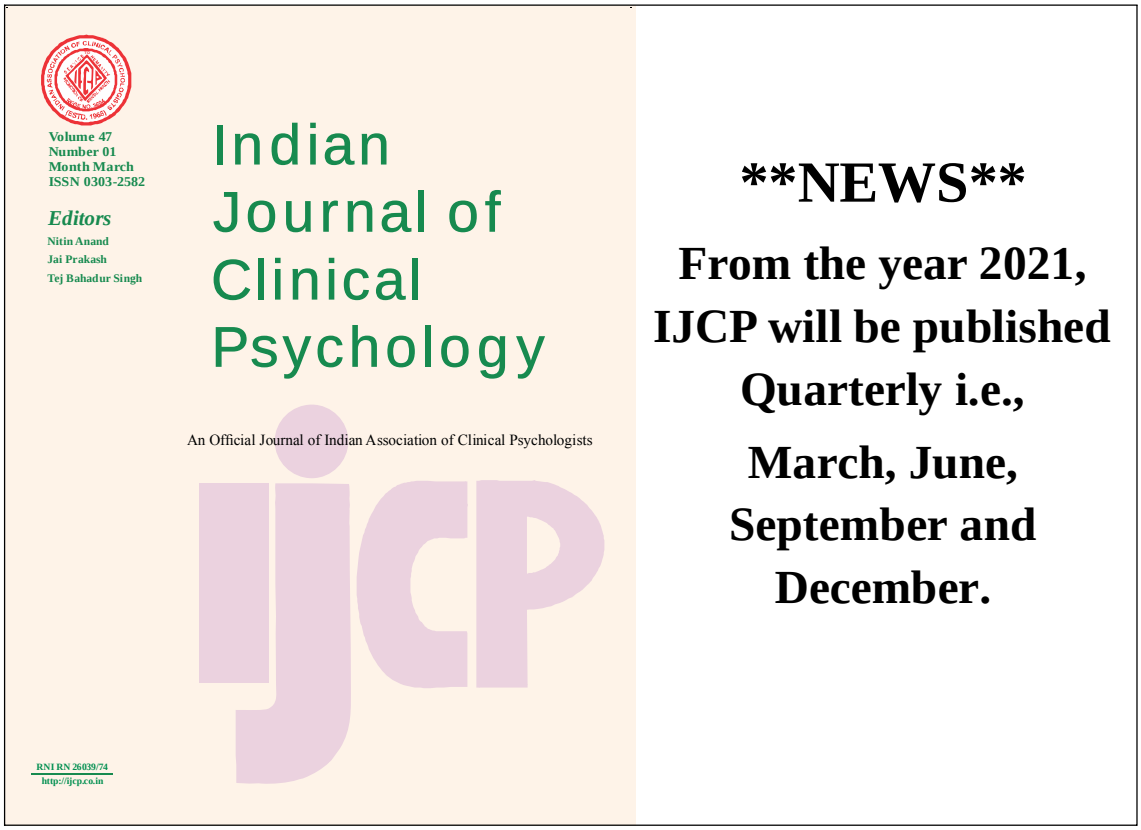

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Review Article

Nutrition and Mental Health

Ratan Singh

ABSTRACT

Three links bridging the nutrition with mental health are addressed, namely, the amino acids, supplements and neurotransmitters; hormones and mental conditions; and, gut-brain connection and "food and mood" including the food allergies and their home-based testing, sugar and prediabetic hypoglycemia causing acute psychotic reaction, the gluten free casein free diet (GFCF) in relieving mental disorders. Respiratory allergies to fungal spores in wet weather, dust mites and pollens are relevant to brain ailments but will not be included in this article. Some case reports from literature and author's own case files will be briefly cited. Theoretical/academic discussion on definition of mental health will be avoided.

Keywords: *Neurotransmitters, brain allergies, hypoglycemia, GFCF diet, "leaky gut", Candida fungus.*

INTRODUCTION

Broadly the following links between nutrition and optimal mental health are important: gut health (candida albicans fungus), sugar, the food and neurotransmitters, food and mood, food and brain allergies. Some home-based self-tests will be described to "nail down" the cause of disordered mental health.

Food and Neurotransmitters: Known important neurotransmitters are serotonin, dopamine, GABA (gamma-amino-butiric-acid).

Serotonin is a happy molecule that keeps us satisfied and when it converts into melatonin it gives us sleep. Its path starts with the amino acid (protein in food) tryptophan. Tryptophan converts into niacin (vitamin B3) if enough niacin is not in body, otherwise, its path is 5-hydroxy-tryptophan with cofactor vitamin B6, serotonin and lastly melatonin. Both tryptophan and melatonin are available online. Surprisingly gut makes 95 per cent of serotonin, the brain makes only 5 per cent.

The path of dopamine starts with the amino acid (protein in food) phenylalanine and tyrosine (both are available in food) to L-dopa to dopamine to noradrenaline to adrenaline. Adrenaline can convert into adrenoleutine, but in schizophrenic cases, it converts into adrenochrome that is toxic. This toxic path can be blocked with the help of niacin that steals methyl group that is needed for the path. Coffee—to some extent tea---is excitatory and attaches to dopamine receptors, therefore, can be addictive.

The GABA is an inhibitory amino acid and also a neurotransmitter. It calms down the excited brain. Our body can make it from glutamine and butter. Glutamine or L-glutamine is available in gym shops for bodybuilders. The brain can use it as alternate fuel if it cannot process glucose for energy as otherwise happens in type-3 diabetes (diabetes only of brain).

Also important are the brain's own opioids called endorphins or encephalins that are far more strong than opium---that is why you can cut brain but it will "feel" no pain. An easily available food source is dark chocolate and is addictive for the reason of phenyl-ethyl-amine that is a constituent part of endorphins. Chocolate can also remove a special form of depression that is accompanied with crying/weeping in tears without apparent reason and dark chocolate also reduces fibromyalgic pain.

All these amino acids need vitamins and minerals to move in their neurochemical paths. All essential amino acids are available in a non-vegetarian food. Milk, cheese are fine sources if you are not allergic to milk. Those allergic to milk can take whey or Peptamen peptide drink of Nestle. Egg can be allergic to some persons. Fish and meat are good sources of proteins. Strict ovo-lacto vegetarians have hard time taking all the essential amino acids.

The DMG (dimethyl-glycine) is a very special amino acid (glycine) with two methyl molecules. The trimethylglycine can convert into DMG. The TMG is vitamin B called betaine found in rice and wheat. The DMG is the active form of TMG and is available online. I have found it extremely useful in cases who can't speak although they are not retarded nor they are deaf. These cases can say sounds without any

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meaning or combination of sounds forming one or two words. I specially recall of a 19-year old boy who could make sounds but not words. He was borderline in IQ. I started DMG on him. After two weeks his sister came to me that there was no change in her brother. I then asked her to double the dose of DMG. The starting dose of DMG is the lowest available (generally 125mg) and is slowly increased until you achieve the result. It's a nutritional supplement, therefore it does not give us side effects that "medicines" give. Its upper limit has not been set. In my case when the sister came after starting the increased dose of DMG, she reported much improvement and narrated the following incidence. They attended a marriage ceremony and took the case/patient along with. His maternal uncle was in a wheelchair but was trying to rise up from it. The boy's mother was far away. But the boy shouted, "Ma (mother), come. Mama (maternal uncle) cannot stand". Imagine the mother who for the first time from her 19-year old son heard a meaningful sentence. She fainted in excessive joy!!! I have seen almost similar effect of DMG in my autistic children who did not have language. But the autistic children need ABA (applied behavioural analysis) in addition to DMG.

Oils: The n-3 or omega-3 is a known anti-depressant. In my early days when I did not know enough of nutrition to treat depression, I was using only the omega-3. I have used cod liver oil (7 to 11 gels) for severely psycho-motor retardation type of depression. It took me in one case 3 months to notice the initial signs of recovery. Another case I recall was a mainstream physician who came to me with severe depression. I gave him 23 capsules of Mega-3 in a day and in one month he came to meet me with "ear to ear" smile! We reduced the dose slowly. No relapse. Mexepa of Merck can be used in place of Mega-3. Omega-3 converts into EPA (Eicosapentaenoic Acid) and, if needed, into DHA (de-cosahaxaenoic acid) in the body.

GLA or gamma-linolenic acid addresses a specific type of depression that doesn't respond to omega-3. The GLA capsules have borage oil and primrose oil.

Refined oils available are superheated to increase their shelf life, therefore they are not of much use for our body. In some cities, cold-pressed oils are available. They are omega-6 and we need them as anti-inflammatory

Pure ghee and butter are good omega-6 fats. The fear of cholesterol is a fear only. All our hormones, including sex hormones and cortisol are made from cholesterol, except the thyroid hormones and melatonin. What blocks our arteries is not so much the cholesterol but the by-products of sugar.

Carbohydrates: They are energy source. They are two types: Mono-saccharides and di-saccharides. Monosaccharides are safe to eat. They are glucose, fruits and honey. Di-saccharides are the white sugar (Mahatma Gandhi rightly called it "sweet poison"), all grains including rice and wheat. The disaccharides are difficult to digest if we don't have ---as happens in many ASD children and old people—low level of the enzyme saccharidase. Take example of sugar. Candida fungus takes over it before we do and "digests" it by anaerobic processes called fermentation. Fermentation of course produces alcohol. So sugar eaters' intestine is "auto-brewery". The "leaky gut"--- made so by pathogenic bacteria digging holes into the intestines---, is the path through which this alcohol goes into our blood. As if that is not enough, alcohol converts into acetaldehyde which is more dangerous. It changes the structure of the cell walls such as those of thyroid. Our immune system then considers our thyroid as a "foreign" substance and attacks it. This is called auto-immune thyroidism. Both hypothyroidism and hyperthyroidism produce mental health disorder with known mental symptoms including sexual.

Sugar psychosis has been reported in the literature. Sugar is "empty" calorie. One clever lawyer was able to defend his client by arguing that his client did the crime under the influence of "Twinkie" which is a sugary junk drink. It got famously known as the "Twinkie defence" (Schoenthaler S.,1991. Forward by Hans J. Eysenck). The thrust of the book is that sugar causes low scholastic performance and behavioural abnormalities and perversions. I have noticed in children coming to me in Jaipur Hospital (India) where I was a consultant, that they performed alright until 8th standard/class but, as the scholastic pressure increased, the mental health started to deteriorate and in the "cooker pressure" stage of PMT/PET competition, their mental health collapsed either into depression and suicide or schizophrenia.

Nutritionally speaking, there are two type of depression (Larson, 1990).. The tryptophan deficiency depression and the tyrosine deficiency depression. In tryptophan deficiency disorder the symptoms are agitated-depression, insomnia, irritability. In tyrosine deficiency the symptoms are lethargy, sleeping much, immobility. These, as you know overlap with "negative symptoms" of schizophrenia.

The Diets:
The GFCF diet. Its the famous gluten-free, casein-free diet. Partially digested proteins---gluten in grains and casein in milk---enter through the "leaky gut" and, in the brain they become gluto-morphine and caso-morphine. Morphine as we know is toxic to brain resulting in abnormal behaviour. This diet is No. 1 top choice among mothers of ASD (Autism Spectrum Disorder) children, who rated GFCF diet above all other treatments including ABA (Applied Behaviour Analysis) which in turn is rated above the medicines. In my cases I have seen stunning change in hyperactivity if dairy is stopped for 7 days (initial withdrawal symptoms last the first 3 days). Gluten-free diet takes at least 12 days to show effect, if gluten is the cause. To repeat, gluten is protein in wheat, rye, barley and oats; casein is milk protein. Whey is fine in place of milk but, to be 100 per cent free of casein, egg (if you are not allergic to it) and non-veg foods are good. A girl was brought to me having suicidal depression. She had made 25 cuts on her forearm. She was on psychiatric medicines for over 7 years without benefit---only the side effects. As was my practice, I asked her to stop gluten as my first line of treatment. The stunning change came in 10 days that lasted as long as she stuck to gluten-free diet. She had no issue with casein. The family wanted me to help her stop the psychiatric drugs because being a girl she would face difficulty getting a boy for marriage. Stopping the psychiatric drugs was a major challenge because she had become addicted to psychiatric drugs. But finally, she won over this by her herculean effort and got married.

Gluten can be a cause of schizophrenia (Elena Lionetti., Salvatore Leonardi., Chiara Franzonello., Margherita Mancardi., Martino Ruggieri. & Carlo Catass, 2015). A son brought to me his mother who was disturbingly paranoid and spoiled the peace in the family. She would always suspect her husband having sexual relation with the daughter-in-law. The said daughter-in-law's husband, who brought this "mother" of course denied such a possibility. I did nothing else but asked the son to shift his mother to South Indian food, removing the wheat. I could have a long follow up because the son was closely known to my relative and said that his mother had become calm and was happy playing with her grandchildren!. Gluten protein is in wheat, rye, barley, oats, bread, "MAIDA", "SUJI", "SAMOSA", "KACHORI". This is typical North Indian diet. South Indian diet is rice-based.

Dr. Feingold Diet: This is the next choice among diets for hyperactive children if GFCF fails. It involves removal of salicylates and phenols. As an example, salicylic acid is in aspirin. These foods are spices, chillies specifically the red ones commonly found in "junk" food. The ASD children may be allergic, yet addictive, to such junk food. By the way, allergy and addiction are flip sides of the same coin. What you like most or have been eating/drinking for years becomes addictive and gives you withdrawal and you have brain's allergic reaction when you don't get the addictive food/drink. One person in Bangalore, India, said he cannot "live" without coffee and, with slight delay in getting it, he would physically attack his wife!

The Hypoglycemic diet: You may not be diabetic but you may be pre-diabetic hypoglycemic. Normal fasting blood glucose level is 90 to 110 mg/dL Post-prandal one hour after food is normal up to 160 mg/dL. If the level 1-hour after meal is above this then you have allergic hypoglycemia. In hypoglycemia, the glucose level first rises beyond the normal and then collapses way below the normal bottom. I ask the patient to maintain a 3-day diary to note what he ate or drank within two and half an hour before his abnormal behaviour (in which case its allergy to that item) or did not eat or drink (water is exception) anything in which case it is a hypoglycemic reaction. I remember the owner of a medical institution who brought to me his daughter. She would return home from school, toss her school bag on table, and rush to mother who would be cooking for her. This was usual for her. She would not wait. But the crisis that brought her to me was when, one day, she took kitchen knife and attacked her mother. This in her was the reaction due to hypoglycemic state in which her brain was craving for food/sugar. Generally, in people, hypoglycemic state causes drowsiness and slumber. The rule of hypoglycemic diet is to eat SOME protein or good fat snack every two
and a half hours.

The Anti-Candida Diet: Candida albicans is a fungus that thrives in wet viscera like intestines It is bad for us. It even migrates and spreads its hyphae. It can even reach the brain. It is dangerous because it releases its toxin just as, another fungus called ergot found in grains, does. Typical case history is allergies in childhood, overuse of antibiotics (should not continue beyond 3 or 4 days). I remember several cases having this history. Antibiotics can kill all bacteria including the friendly bacteria called probiotics but cannot kill the candida fungus. The fungus thus finds a free field to grow. Along with the fungus, the pathogenic bacteria also settle down and attach themselves to the "leaky gut". Study on rat has

shown how the pathologic (bad bacterium) Toxoplasma Gondii could control the rat's brain and literally force the rat to do perverted behaviour including suicidal behaviour of exposing itself to a cat to be eaten (Mosley, M. 2017).

In my cases, I almost invariably find constipation or use of antibiotics and candida fungus as the root cause. In constipation, the food stays undigested by us but digested by fermentation by the fungus. One girl in her early twenties was having auditory hallucinations. She was on psychiatric medicines for over five years nonstop but without any relief. She was living in another city with her parents. I used fluconazole which is allopathic medicine. Her father reported to me on phone that the first dose of fluconazole had stopped her hallucinations. I used fluconazole not as treatment but simply as a diagnostic tool for two days. I later shifted her to a useful fungus that fights this nasty candida fungus more effectively and without side effects than fluconazole. This useful fungus is from the skin of lychee fruit. This fungus is called saccharomyces boulardii. Brand name in the market of chemist shops is Econorm but I use a more potent form sold under the brand name Reflora-R. Please note, these are all nutritional supplements. No side effects. Available in India ---as they should be---so far without prescription. After all, do we need a prescription for what we eat? We may be advised but the decision should be ours'.

The SCD (Specific Carbohydrate Diet): It is the diet found very useful for ASD children (Gottschall E., 2004). It is focused on monosaccharides such as glucose, fructose, galactose that are found in honey, fruits and vegetables. Sugar, starch and maltose found in white sugar, jaggery, all grains and rice are disaccharides—to be avoided. Fats are ok. A good diet under this title should consist of high monosaccharides, moderate protein and fats, least disaccharides.

Heavy Metal Toxicity:

It is another area of work we must do for restoring mental health. Some metals are toxic to us. It is said that the Ganges water has arsenic. The heavy toxic metals are arsenic, lead, aluminium, mercury. Zinc, copper (safe to a limit), calcium, magnesium, manganese, selenium, lithium are examples of good minerals in trace amounts. The heavy metals can be "chelated" out with the help of zinc, calcium and of course with our "all-weather-friend" the vitamin C. One sitting IAS came to me for memory problems. His secretary was so good that he shielded this secret from colleagues and others in the office did not notice dementia in this IAS officer. I sent this IAS officer's hair tissue for heavy metal analysis. This test in those days was not being done in India so we had to send to a US lab for the purpose (now, of course, we have a lab in South India). The report showed that this IAS officer had aluminium much above the normal level. Aluminium is a toxic metal and should not be in our brain/body. How was this metal going into this officer? It was probably through the kitchen utensils of aluminium. These utensils should be of steel.

The procedures to remove the heavy metals are: chelation, detoxification for example by HBOT (hyper-baric oxygen therapy), daily at least two glasses of juices of mixed fruits. One mother reported that her ADHD son's urine analysis was not showing up mercury but mercury came out "in loads" when she gave HBOT to her son. Apparently, mercury was "hiding" inside the cells and came out only with HBOT. The HBOT is a costly machine available in major medical institutions and private "5-star" hospitals. One enterprising physiologist has bought it in over one crore (ten million) rupees and charges 35000 rupees for each session.

Vitamins and Minerals:

It is argued vitamins and minerals should be taken in their "natural" form, not as pills. Sounds good. But when our mental health is compromised or we are old or our soil is depleted with useful minerals or our vegetables and fruits are grown in sewerage water or factory waste, what do we get? To add, greedy sellers are colouring the bringles, turmeric, farmers are injecting the hormone oxytocin to rapidly grow "GHIYA" (bottle gourd) long, and ripening the bananas artificially than naturally. Chicklings are injected with oxytocin to rapidly grow them into fat chicken. We don't need fatty chicken but chicken having protein muscle mass free from hormones.

We may be ill or old having poor digestive acids and enzymes and cannot extract these nutrients from food. We may even not have enough teeth for the purpose.

Therefore you decide what is good for you, namely just the diet or diet with supplements.

Possibly you will find my book as a useful guide if you wish to practise nutritional therapy for mental illness (Singh, R., & Shilpa, H. 2006).

Some famous quotes:

"Death begins in colon"---Dr. Ilya Matchnikov, nobel laureate in medicine. He was the discoverer of the first probiotic namely the lactobacillus acidophilus.

"No fungus, virus, cancer can thrive in alkaline environment"---Dr. von Otto Warburg, the discoverer of cancer.

"If a substance makes a well person sick, how can it make a sick person well?"---Dr. A. Hoffer, MD, Ph.D. (Note: By "substance" he means psychiatric medicine).

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UPDATE

Online Publication of IJCP likely to commence from March 2021

Possibilities are being explored actively to publish IJCP online also from March, 2021; onwards by the Editors. For the same, we need a separate ISSN No. Editors welcome any input from honourable members to facilitate online publication of IJCP. Kindly send your suggestions to **editorijcp@gmail.com**

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Review Article

Therapeutic Alliance Revisited

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ABSTRACT

The concept of therapeutic alliance has gained a somewhat steady definition since the 1970s. Since then, various aspects of this concept have been addressed in scientific literature, though some areas get more attention than others. Not many recognize that more than one model influences the developments in this area. Moreover, therapeutic alliance changes across different formats of therapy like individual and couple psychotherapy. The course of therapeutic alliance across psychotherapy sessions is also more perplexing than it was initially imagined. Moreover, internet-based psychotherapy has raised many familiar questions about therapeutic alliance all over again. This article describes these issues and presents some knowledge relevant to India.

Keywords: *Therapist and Client Factors, Couple Therapy, Individual Therapy, Internet-Based Psychotherapy, India*

INTRODUCTION

Therapeutic alliance is one of the most central concepts across all psychotherapies. The notion of therapeutic alliance began when Freud introduced the terms transference and resistance in 1913. The therapeutic bond, as understood today, is related to his idea of an "unobjectionable" positive transference which improves the therapeutic relationship and promotes cooperativeness that will aid in the treatment. Between the 1930s and 1950s, Sterba introduced the term "alliance", which he defined as the healthy part of the client's ego that enables them to work together with the therapist. Rogers put forth the concepts of unconditional positive regard, congruence and empathy as the active ingredients in therapy, and Zetzel coined the term 'therapeutic alliance' and described that clients move back and forth between transference and reality-based alliance. In 1965, Greenson coined the term 'working alliance' which focused on the collaborative aspect of alliance. Later, Bordin (1979) developed the working alliance theory. According to him, therapeutic alliance includes three components: (i) bond between client and therapist, (ii) agreement on the tasks, and (iii) agreement on therapeutic goals. He described therapy as work, where the client and therapist are working together and this requires collaboration. He also emphasized that negotiation of expectations regarding tasks and goals is required for effective work engagement. But he underplayed the client's active contribution in this negotiation process. Subsequent decades saw more interest in developing standardized alliance measurements. Some of the alliance measures include: Vanderbilt Therapy Alliance Scale by Hartley and Strupp, Penn Helping Alliance Scales by Alexander and Luborsky, Working Alliance Inventory by Horvath and Greenberg, and California Psychotherapy Alliance Scales by Gaston and Marmar (Ardito & Rabellino, 2011).

In contrast to Bordin's underplaying of the client's role in negotiation, Safran and Muran's (2000) formulations focused on working with confrontation and withdrawal ruptures. This is considered as a significant theoretical advancement in the conceptualization of therapeutic alliance. They highlighted the idea of giving importance to client's doubts and disagreements about treatment. They have also put forth the rupture resolution model where both (therapist and client) openly discuss disagreements. Safran's group proposes two most basic elements of all therapeutic relationships. These may be termed as the working or therapeutic alliance and the real relationship. These two elements merge and the real relationship is considered embedded as part of the therapeutic alliance. A recent revision by Gelso and Kline (2019) conceptualized that the real relationship and working alliance emerge simultaneously but discretely, and work in concert, with each feeding the other. The client is inclined to be motivated to do the work in therapy when s/he personally resonates with the therapist, and working well together creates a sense of personal connection and liking. This buffers against the potentially damaging effects of the transference reactions, especially those that endanger

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the treatment. Repairing ruptures in alliance for a better outcome has been advocated by them.

A different model emerged from integration of research on alliance in individual psychotherapy. Zilcha-Mano (2017) proposed a state-trait conceptualization to understand the effect of therapeutic alliance on psychotherapy outcome. According to this model, there are two components of alliance: (a) trait-like component: client's general ability that enables him/her to form satisfactory relationships with others and this, in turn, predicts treatment outcome. (b) state-like component: client may not have the general ability to form strong and satisfactory relationships and during the process of therapy s/he develops this ability, which in turn produces better outcomes. Trait-like component cannot be interpreted in such a way that improving alliance improves outcome, but rather that this component can be useful to decide which kind of therapy works best with which client. State-like component, on the other hand, indicates the therapist's ability to change the client's interpersonal relationship capability. This can be curative by itself. Untangling these two components is crucial to understand whether therapeutic alliance itself is producing better outcomes. This model is based on psychodynamic and interpersonal theories. The importance of the trait-like / state-like distinction for facilitating therapeutic change has been reiterated by Zilcha-Mano (2020) recently while referring to the selection of psychotherapies for clients. She says ''In a clinical decision-making process of this type, it is therefore of great interest to identify the active ingredients expected to bring the most consequential state-Like change for that individual, based on the individual's trait-Like signature'.

Nevertheless, therapeutic alliance is now well-accepted as a significant common factor that consistently predicts outcome across a variety of cross-sectional as well as longitudinal studies, a wide range of clinical populations, and specific psychotherapies. The meta-analysis by Horvath et al. (2011) helps reach some conclusions. They report that the combined effect size for the 190-independent variables of alliance–outcome representing over 14,000 treatments was $r = 0.275$. This is considered to be a 'moderate but extremely reliable relationship between alliance and outcome'. Several other correlational studies have shown alliance to be curative in itself rather than just a precondition for therapeutic work, although a general pattern of alliance development is yet to be discovered.

Therapist and Client Factors in Therapeutic Alliance

There is currently a wide acceptance in psychotherapy literature that both therapist and client factors are relevant for therapeutic alliance. Some of the recent conclusions are described here. In one of the first meta-analytic studies by Nienhuis et al. (2018) on therapeutic alliance and therapist's genuineness and empathy as perceived by clients, 53 studies from the year 1970 were used. The findings reveal a moderate relationship between therapeutic alliance and perceptions of therapist's genuineness and empathy. The positive relationship between alliance and empathy is found to be moderated by client's race or ethnicity. They also acknowledge that halo effect, i.e., the individual's bias towards consistency in rating these variables can affect scores and results.

Patterson, Anderson and Wei (2014) analyzed the relationship between pre-therapy role expectations, therapeutic alliance and outcome. They also studied whether the relationship between client's pre-therapy role expectations and therapy outcome is mediated by therapeutic alliance. Personal commitment, facilitative conditions and counselor expertise are three factors related to expectations. Personal commitment means the commitment and responsibility of the client towards the therapy. Facilitative conditions are the expected attributes about the therapists and the therapist activities. Counselor expertise indicates the expectations about the knowledge and helpfulness of a therapist. They found that all the three expectation factors are related to therapeutic alliance. Furthermore, alliance significantly predicted the outcome when counselor expertise was present.

Bachelor (2011) identified the components of alliance of the client and the therapist, their relationship to therapy outcome, and the relationship between the components as well. He identified that there are six basic components by which clients view alliance: bond, active commitment, productive work, non-disagreement on goals/tasks, collaborative work relationship, and confident progress. Results showed that all the components except confident progress predict therapy outcome (confident progress implies the client's confidence of functioning without therapy). Further, there are four basic components by which therapists view alliance: client commitment and confidence, confidence and dedication of the

therapist, collaborative work relationship, and client working ability. Here, all the components except client working ability predicted therapy outcome. It was also found that bond and confident progress as reported by the client were unrelated to components of the therapist. The client constructs and the therapist component of client working ability were not related. All other components of client and therapist are mild to moderately related to each other. Such studies highlight the intricacies involving client's and therapist's experiences of therapeutic alliance.

In India, Ullrich (2019) has addressed cultural aspects, symptoms, rituals, marriage, therapist's neutrality, empathy and therapeutic alliance using five case studies. She illustrates how culture and respect for client's belief systems promote empathy and therapeutic alliance. In a research study, Srimal (2010) used Horvath's Working Alliance Inventory with 3 adult individual psychotherapy clients seen for a total of 34 sessions. Therapist and client reports were obtained after the 3rd session and the 6th session. Therapist's ratings were consistently lower than client's ratings. Fluctuations on goals across sessions suggest that therapeutic alliance is dynamic and the course of therapeutic alliance doesn't have to be linear across sessions. In a later research, Thakur (2012) used Tracy's Working Alliance Inventory-Short form with 5 adult individual psychotherapy clients (36 sessions), where the therapist completed the measure after each of the sessions. Slight decrease in therapeutic alliance was seen in the middle phase of therapy with definite increase in sessions 9 and 10. Above studies emphasize the dynamic nature of therapeutic alliance across sessions in the client's as well as the therapist's reports.

These multidimensional characteristics of therapeutic alliance from clients' and therapists' perspectives perhaps explain many psychotherapy experiences.

Therapeutic Alliance and Therapy Formats

Alliance with each partner is a constant struggle for couple therapists. In contexts like India, psychotherapists do individual as well as couple therapies, and often with back-to-back sessions. Hence, alliance can be a bigger challenge than one realizes. Evidence from literature can be useful to orient and alert therapists towards these issues.

Therapeutic alliance in couple therapy, like in individual therapies, has been examined for its connection with client variables and disorders. Miller et.al. (2015) studied whether attachment styles of couples predict better therapeutic alliance in couple therapy. They studied two attachment styles of wives and husbands: anxious attachment style and avoidant attachment styles. The results indicated that there is a limited impact of attachment styles on therapeutic alliance. However, one significant result was that in wives, avoidant attachment predicts lower therapeutic alliance. Kuhlman, Tolvanen and Seikkula (2013) examined therapeutic alliance, subjective distress in each session, and depression in couple therapy. They assessed subjective distress in the start of every session and therapeutic alliance at the end of every session. They found that a better alliance in the session influences improved well-being in the following session, and this, in turn, creates a better alliance within that session as well. Also, depression outcome is associated with alliance rated by the therapist and each partner.

A few studies from India further demonstrate the relevance of this concept in couple psychotherapy practice. Kalra (2008) used Couple Therapy Alliance Scale, by Pinsof and Catherall, with 9 couples seen in 94 sessions. Client reports of alliance showed high alliance across therapy. However, consensus on goals was average, with a drop in alliance in session 6 and recovery in session 9. Split alliances are also common in couple therapy. A fluctuating pattern across sessions with 33% to 56% of couples showing split alliances between session 3 to session 6 was noticed. Only 22% of couples showed consistent split alliance. More recently, Nagpal (2016) interpreted the therapeutic alliance from interviews of 40 individuals undergoing combined couples therapy. Therapists' professional qualities, creating a facilitative atmosphere, empathy, listening skills, facilitative interpersonal skills, being professional in conduct, being available, dependable and providing timely help seem to be important for them to experience good alliance.

In one of the latest studies on systemic couple therapy, Wu, Mcwey, & Ledermann (2020) scrutinized systemic attribution and therapeutic alliance in 85 couples using a longitudinal design. Results supported the disagreement hypothesis, i.e., couples with disagreements on systemic view of their presenting problem showed discrepancies in therapeutic alliance in the initial phase, though this evened out in subsequent phases of therapy. Their work also illustrates the importance of using couples

as a unit of analysis in couple therapy studies, though that does make it more difficult to design a research. Comparison of couple therapy alliance with individual therapy has also been addressed somewhat. Knerr et al. (2011) scrutinized age, differentiation level, stress and depression in clients and therapeutic alliance in clients undergoing individual and couple therapy. Differentiation level is the ability to separate thinking from feeling and to stay emotionally connected to others even though there is a difference of opinion or views with them. The results indicate that a higher level of bonding with therapists is perceived by clients who were less likely to cut-off in intimate relationships (emotional cutoff) and those who were younger. Emotional cutoff is a dimension of differentiation level. They affirm that creating alliance with a couple is more difficult than with an individual. Clients who experienced more stress also showed difficulty in developing alliances. Here stress refers to the stress that brought them for therapy. Yet, with higher marital distress, a faster bond develops between each partner and the therapist. Bartle-Haring et al. (2012) also investigated differences in the path of therapeutic alliance in individual and couple therapy. They have analyzed two components of therapeutic alliance: bond and work. Work includes tasks and goals of therapy. In individual therapy, bonds depend more on the client, in couple therapy it depends on the therapist. Bond with the therapist is experienced early on and this increases over sessions in individual therapy. In contrast, in couples therapy, bonds with the therapist develop gradually. A curvilinear course on combined scores of task and goal was found for individual therapy but not for couples therapy. Curvilinear course means that initially there will be a high agreement, towards the middle of the sessions this decreases and then more agreement emerges again in the last phase.

Going a step further, Alvarez, Herrero, Martinez-Pampliega and Escudero (2020) assessed the structural validity of the System for Observing Family Therapy Alliances- self report measure (SOFTA-s) across three distinct therapeutic modalities (individual, family, group). The structural validity for its applicability in different contexts of therapy has been addressed. The four dimensions examined are: safety within the therapeutic system, engagement in the therapeutic process, a shared sense of purpose and emotional connection with the therapist. Safety within the therapeutic system indicates an individual's feeling of comfort and openness. In family and group therapy, shared sense of purpose indicates the degree of collaboration of therapy goals and tasks. This dimension is not applicable to individual therapy context. Factor loadings of these dimensions in all the three contexts were done and the results showed that the client and therapist versions of SOFTA-s are usable to measure therapeutic alliance in individual, family, and group.

Generally, the evidence seems to suggest strongly that the therapists' preparedness for these differences in therapeutic alliance across formats and phases of therapy is extremely essential.

Internet-Based Psychotherapy and Therapeutic Alliance

Tele-mental health and tele-psychotherapy has gained rapid attention in recent times. Internet interventions have become an alternative way to deliver psychological treatments. Presently, some early trends are available regarding therapeutic alliance in digital formats. Lopez, Schwenk, Schneck, Griffin and Mishkind (2019) examined studies on therapeutic alliance and tele-mental health. Findings show that therapeutic alliance can be steady with certain considerations. Technology can be added to face-to-face treatments but with back-up-plans for continuity if there are any technical difficulties. Most of the studies found that clinicians frequently have greater concerns about therapeutic alliance than clients. Simpson and Reid (2014) reviewed studies to understand therapeutic alliance in videoconference therapy. The findings indicated the following: even in videoconference psychotherapy therapeutic alliance can be developed, the client-rated therapeutic alliance is higher than therapist-rated alliance, but that despite some ambivalence, even therapists with less experience in video therapy can adapt to technology-based therapy fairly quickly. Kysely et al. (2020) explored the lived experiences of 30 couples in videoconferencing-based couple therapy and found that a less threatening space was created by the dynamics of online connection and it enhanced couple interaction with the therapist as well and gave them more responsibility over the therapy process as a couple.

Reviews and meta-analyses using many randomized controlled trials are available for therapeutic alliance across various mental disorders and a broad spectrum of therapies like CBT, ACT, DBT with internet formats, which are beyond the scope of this article. However, one tentative conclusion from this body of work is that therapeutic alliance-related outcomes for

internet-based interventions are similar to in-person therapy. However, internet-based CBT blends with self-help and email-based interventions. Some of the conclusions by Berger (2016) are: therapeutic alliance effects of internet-based cognitive-behavioural treatments (ICBT), involving guided self-help programs, were similar to those of in-person CBT. Overall, the client-rated alliance in video-conferencing therapies was high and comparable to in-person therapies, although a lot depends on the client's expectations. More evidence is required across many types of internet-based psychotherapies. Several aspects need further scrutiny as clients who have experienced face-to-face sessions and prefer that format may have altered therapeutic alliance when offered only tele-psychotherapy.

CONCLUSIONS

A major conclusion from literature is that various client and therapist factors influence therapeutic alliance and outcome. Moreover, client-reported alliances are the most powerful. Client experiences of alliance have been more critically examined in recent researches. Longitudinal qualitative and quantitative designs are now considered most suitable (Wucherpfennig, et al, 2019). Knox (2019) considers unresolved or unnoticed ruptures to be one of the harmful processes around therapeutic alliance, and stresses that 'it is with a collaborative creation of meaningful interaction and a shared mentalizing narrative that the therapeutic alliance is gradually built'. Rupture and repair aspects are most pertinent presently. In Safran and colleagues' recent article, a therapeutic rupture is defined as deterioration in the therapeutic alliance visible in the client-therapist disagreement on goals, an absence of collaboration on tasks, or a strained emotional bond (Eubanks, Muran, & Safran, 2018a).

The challenges in this area become multifold with couple, family group and internet-based psychotherapy. Future researchers need to discover more knowledge about therapeutic alliance across sessions and across various formats of therapy, since there is a clear trend that therapeutic alliance in adult psychotherapy is different, for example, from couple therapy. It would also be helpful if the model being used can be made explicit in outcome studies. With the recent emergence of internet-based psychotherapy, new studies as well as new measures are perhaps required. Client expectations, ruptures and repair processes in connection with therapist's tasks, goals and bond seem to be an inevitable reality of psychotherapy processes. More knowledge about these will promote better psychotherapy training and practice.

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Original Research Article

Effect of Life Skills Intervention on Self-Concept and Optimism of Students who are Slow Learners

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ABSTRACT

Background: Slow learners usually refers to those children who do not have Intellectual Disability but nonetheless have low intelligence. These children represent a significant student population and therefore, usually have concerns like slow information processing, academic underachievement, poor problem-solving and poor social skills. Given these problems, they are more prone to have poor self-concept and less optimism compared to the typically developing children. **Objective:** To study the effects of life skills intervention on the self-concept and the optimism of students who are slow learners. **Methods**: The study divided children who are slow learners into intervention group and waitlist control group. Intervention group (n=42) received 10 sessions of group life skills training, whereas waitlist control group (n = 31) were not given life skills training during main study, however, due to ethical reasons they received the same after the main study. Both groups were compared at baseline (pre-treatment) and at post-treatment on life skills, self-concept and optimism. **Results:** Showed significant improvements in life skills, self-concept and optimism among the students who are slow learners after intervention compared to waitlist control group. Results also showed significant high positive correlation among intelligence, life skills, optimism and self-concept, where the correlation was very high between life skills and optimism. **Conclusion:** Life skills training in group setting improves life skills as well as self-concept and optimism in students who are slow learners.

Keywords: : *Life skills, self-concept, optimism, slow learners, group intervention*

INTRODUCTION

'Life-skills' refers to adaptive abilities and behaviors that are considered positive, which enable an individual to behave in an efficient way towards the challenges and demands of everyday life. Given this, it can be said that life skills, helps to increase in well-being and promote competence in children in their day-today life. In short, life skills are what help a person to manage and navigate their surrounding environment (WHO, 1993). Basic Needs Theory (BNT; Deci & Ryan, 2000; Ryan & Deci, 2000), includes the psychological needs related to having competence and autonomy, as well as needs of relatedness. Autonomy can be explained as, 'perceiving origin on one's behavior in oneself, and having self-directedness'. This can motivate to set one's own goals, strive to achieve it, and feel competent when achieved. Competence can refer to, 'feeling oneself as effective in social interactions, and experiencing as well as utilizing the opportunities with their abilities. Relatedness usually refers to, a sense of belongingness and feeling connectedness, as well as being cared and caring for others (Ryan & Deci, 2000). The Basic Needs Theory considers that the above three, i.e. 'autonomy', 'competence' and 'relatedness', as the 'innate psychological nutrients', which can be considered as essential for continuous psychological wellbeing and development (Deci & Ryan, 2000). Another theory, Life Development Intervention (LDI; Danish & D'Augelli, 1983) takes the life span approach, which emphasis that life is full of 'change and growth'. The theory highlights the 'critical life events', such as adolescent period (with biological changes, issues with identity and independence), which is full of challenges, both positive and negative, which necessitates change and brings in growth (Hodge et al., 2013). LDI as well as BNT (especially the importance of autonomy, competence and relatedness), can act as the foundation, and provides a conceptual model to life skills development intervention modules (Sue et al., 2009; Hodge et al., 2013).

Life skills can vary from behavioral (eg. communication among peers), intrapersonal (eg., persistence on a task), cognitive (eg., decision making), and interpersonal (eg., assertiveness). There is no commonly agreed definition of life skills, as its nature and definition differ across studies and cultures. However, few of the skills can be considered

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as core skills, which can help in promoting health and wellbeing, especially in children and adolescents. Some of these skills that are considered as core skills are, problem solving skills, sound decision making ability, critical thinking, being self-aware, showing and experiencing empathy, appropriate communication skills, adequate interpersonal relationship skills, ability to cope with stress, as well as adequate emotional regulation and selfcare (WHO, 1993).

Various studies indicate that that training children on the above mentioned skills, should be part of any comprehensive life skills training program towards effective primary prevention (Errecart et al., 1991; Caplan et al., 1992; Perry & Kelder, 1992). In this regard, life skills training were included as part of various educational programs that showed significant positive effect. This included programs that targeted to improving self-confidence as well as self-esteem (Tacade, 1990; Kumfer & Turner, 1991; Singh & Mustapha, 1994), cessation of bullying (Olweus, 1990), prevent or reduce substance abuse (Botvin et al., 1980, Pentz, 1983; Botvin et al., 1984; Wodarski & Feit, 1997), mitigating delinquency (Dukes & Lorch, 1989), preventing adolescent pregnancy (Schinke, 1984; Zabin et al., 1986; Keddie, 1992; Plotnick, 1992; Wodarski & Feit, 1997), awareness and deterrence of AIDS (WHO, 1994), promotion of peace (Prutzman et al., 1988), as well as suicide prevention (Choquet et al., 1993). It is also suggested that children who are younger are need to be fully trained in life skills to foster resilience (Parker et al., 1990; Civitan, 1995), and to have ability for self-understanding (Beardslee, 1989).

'Self-concept' can be considered as a comprehensive image or awareness an individual has of oneself. It includes all the awareness of "I", "me", along with associated feelings, values, and beliefs. It exerts a tremendous influence on the way one thinks and acts as a whole (Atwater, 1994). Self-concept cannot be considered as innate, but rather as something being evolved in the individual by interacting with environment and subsequent reflections on those interactions, due to which it is possible to change the self-concept. During childhood and adolescence years, various experiences in school influence the development of self-perceptions and can have significant and long-lasting effects on the self-concept of the child. Different sources have various influences for different ages. For example, up until the age of 6 - 7 years, children get most of the information about themselves from parents and family. It is a different situation from 6-7 years onwards where the classroom teacher becomes the important source of information for the child about him/herself. From about 9-10 years, the strong influence on the children self-beliefs comes from thinking and knowing what peers of their age think about them (Franken, 1994). Research work carried out in the area of the different self-constructs (eg. self-esteem, self-consistency, self-enhancement, and self-verification), have revealed that these can be enhanced through group interventions (English, 1993; Akande et al., 1994; Ives, 1994; Lyons & Chamberlain, 1994; Raybuck & Hicks, 1994; Scheier et al., 1994).

'Optimism', is defined as a 'generalized expectancy of favorable outcomes', which is found to have positive correlation with appropriate planning, setting goals, effective coping and seeking social support (Cozzarelli, 1993). Optimism has been described or equated with a cognitive bias, dispositional attitude and/or a belief, where all of which might influence a person to favorably consider or exaggerate their chances for positive outcomes, and to minimize their own chances for negative outcomes in one's life across situations (Weinstein, 1980; Kulik & Mahler, 1987; Scheier & Carver, 1987; Dember et al., 1989; Staats, 1989; Peterson & Bossio, 1991). Further, optimism also has shown to foster problem-solving skills (Strutton & Lumptim, 1992), positive affect (Marshall et al., 1992), mental health (Hooker et al., 1992), better adjustment (Long & Sangster, 1993; Chang & Farrehi, 2001), and coping (Carver et al., 1993).

'Slow learners' usually refers to those people who are not considered as intellectually disabled, but who, nonetheless, have low intelligence (Maloney & Ward, 1979), that is for this study, those children who are considered as 'Borderline intelligence and dull normal' level of intelligence, and where the IQ ranges between 70 – 89. It is common for young children who have low IQ to experiences social problems, slow information processing affecting their work, increased conflict with peers, reduced problem-solving abilities, difficulties with achievement, general apathy, and low frustration tolerance (Gregory, 1987; Zetlin & Murtaugh, 1990). These above can be categorized into difficulties with life skills and academics (Cantwell & Baker, 1995). Given the extent of these difficulties, they are at higher risk to experience emotional disturbances and relatively have lesser skills which can help them to

successfully navigate their way in school and in society. Further, children who are slow learners have shown to have psychopathological risks, particularly mood disorders and conduct disorders (Masi et al., 1998; Steven, 2000). However, one of the major limitation is that, research in this area has been focused mainly on other neurodevelopmental conditions, such as children with mild mentally retardation, specific learning disability, autistic spectrum disorder and attention deficit hyperactivity disorder, compared to the children who are slow learners with IQ between 70 to 89 (Hassiotis, et al., 2008). When compared to those with neurodevelopmentally affected conditions or disorders, children who are slow learners are considered to be educable, and the difficulties that they experience in their day-today life can be decreased, if appropriate intervention is provided (Gregory, 1987). However, research on children who are slow learners as a group has been sparse or neglected.

A major reason, for the relative paucity of research on children who are slow learners is that, they are not easily identifiable in everyday setting, as the apparent difficulties observed by these children are relatively less, compared to difficulties observed in a child with Intellectual Disability. It is easier to identify the skills deficits and other difficulties experienced by these children in the school setting. Therefore, if teachers are given adequate inputs or training, they can understand the limitations and capabilities of the students who are slow learners, as well as can provide appropriate intervention. Therefore, if training module is designed and implemented in school setting, it will have less resistance and has the potential to reach maximum numbers. Life skills training in this regard offers a promising approach. Research has indicated that imparting life skills can reduce several problems, that these children face every day (Steven, 2000). Given that the life skills training shown to improve self-confidence and self-esteem as well as promote optimism / resilience (Civitan, 1995; Parker et al., 1990), the current study tried to look into the effects of group life skills training on self-concept and optimism in children who are slow learners. Given this, the objective of the study was to look at whether the school-based group life skills intervention program developed for slow learners has any impact on their self-concept and optimism. The hypothesis framed for the study are that (i) there will be a significant correlation among life skills, self-concept and optimism; (ii) the intervention group will show significant difference in their self-concept and optimism scores post-intervention compared to pre-intervention period; and (iii) there will be significant differences between intervention and control group in their self-concept and optimism at the post-intervention period.

METHODOLOGY

The design of the study was two (intervention and control) groups comparison, at three (pre-intervention, post-intervention and follow-up) time points. The current study is part of the PhD work, that involved developing and standardizing 'Life Skills Questionnaire', developing a Life Skills Intervention module for slow learners, and testing this module on one (intervention) group by comparing it with another (control) group, and also studying the effect of the intervention module on the self-concept and optimism on the slow learners. One part of the study, that is the 'effect of life skills intervention on children who are slow learners' was published (Tabassum et al., 2016). The present study focuses on the 'self-concept and optimism'. As the current article is part of one large study, it shares some of the content with the above mentioned (Tabassum et al., 2016) article.

The study involved 73 children who are in 8^{th} to 10^{th} grade, from schools in and around Bangalore City. This involved both semi-urban and urban areas. The children (n = 73) were separated into two groups, group 1 (n = 42, girls = 19 and boys = 23) were given life skills and the group 2 were treated as a waitlist group, where the remaining 31 children (girls = 14 and boys = 17) who were not given any life skills training (but nevertheless received similar intervention after the study completed). The selection of schools followed convenient type of sampling. Overall, seven school's management were contacted, but only 4 schools gave the approval. Students who are between 13 to 16 years; studying in 8^{th}, 9^{th} or 10^{th} grade; who could read, write and speak English; whose IQ ranged between 70 to 89; and who had below average scores on life skills were included in the study. On the other hand, students who had received similar life skills training earlier, and those with any suspected or reported (by class teachers) major psychiatric or significant physical conditions that could affect the study in any way were not taken for the study. The demographic data sheet and Life Skills Questionnaire that was developed for the study was administered on 1202 students with age ranging from 13 to 16 years (mean age was 14.54 for waitlist

group and 14.76 for Intervention group). Among them, children who scored 39 and below (i.e. minus 1 SD) on the Life Skills questionnaire (n=274) were further administered the Cattell & Cattell's Culture fair test of intelligence (Cattell & Cattell, 1973). Children whose IQ score ranged between 70 – 89, constituted final sample (n=73). Permission for the study was obtained from the protocol review committee of the university. Further, before starting of the research, school authorities and teachers provided approval; parents provided written informed consent and children provided informed assent.

Life skills questionnaire was administered three times for both the groups (time 1 - at baseline/pre intervention; time 2 - post-intervention after the 5 weeks duration; and time 3 – follow up after 45 days after intervention).

Tools:

Life skills questionnaire (LSQ): was developed and standardized by the study authors, consisted of 30 items that gave 6 factors (academic skills, academic anxiety management, time-management skills, social skills, social problem-solving skills, and self-care skills). Scored could range from 90 to 0, where higher scores indicated better life skills. Those subjects scoring below 39 on the life skills questionnaire were categorized to be low on life-skills (For more details about the scale, refer to Tabassum, Roopesh & Madgaonkar, 2016).

Culture Fair Test of Intelligence – Scale 2 form A (Cattell & Cattell, 1973): Is a popular test that said to measure 'G' factor, and reported item consistence is 0.76, two parts consistency is 0.67), across time consistency is 0.73.

Life Orientation Test (LOT; Scheier & Carver; 1985): Optimism was measured by with this test, which consisted of four each for positively and negatively worded, and similar number of filler items. The test has good reliability and validity (Scheier, Carver & Bridges, 1994; and for more details, refer to Tabassum, Roopesh & Madgaonkar, 2016).

Children's Self-Concept Scale (CSCS; Ahluwalia, 1986): This scale is composed of 80 items; each item has to be answered in a 'yes' - 'no' format. It has 14 items to detect the accuracy of responses. The questionnaire measures six indices of self-concept (1. Anxiety; 2. Popularity; 3. Happiness; 4. Satisfaction, 5. Self-concept related to behavior, intellectual and school status; and 6. Self-concept in relation to physical appearance and attributes). For school students, test-retest reliability coefficient was found to be .83 to .88. For Higher secondary school students, split half coefficient ranged between .74 to .79.

Life Skills Intervention program:

Children in intervention groups were assigned to small groups with 8 – 12 numbers (Loeser, 1957) and the sessions were held twice a week (Glanz & Hayes, 1971). Ethical principles of Association for Specialists in Group work (ASGW, 1989) were followed for the group intervention. The intervention was carried out for five weeks, which involved ten sessions that were divided into three stages. On the whole, the sessions consisted of group interaction, providing and receiving feedback, tasks to do after school or at home, group formation skills, rapport building, development of group cohesiveness, and goal setting. time management skills, study skills, academic skills; interpersonal skills, problem solving/decision making skills and self-health care. (For additional details about the intervention, kindly refer the article Tabassum, Roopesh & Madgaonkar, 2016).

Flow chart of the Life skill intervention program		
	Stage 1 Preparatory Stage	
Sl. No. of days	**Session no.**	**Input Session**
1	1	Knowing about each other
2	2	Preparing the participants for the intervention
3	3	Working on group cohesiveness
	Stage 2 Working Stage	
Sl. No. of days	**Session no.**	**Input Session**
4	1	Skills to build time management
5	2	Management of academic anxiety
6	3	Academic Skills
7	4	Social / Interpersonal Skills
8	5	Social problem-solving and decision-making skills
9	6	Skills to build self-health care
	Stage 3 Ending Stage	
9		Synthesizing stages one and two Concluding intervention

Analysis:

Descriptive statistics (mean and standard deviation) were carried out to assess the central tendency. Chi-square was used to assess the differences in the

distribution of gender and school class/grade levels of the students. Pearson product moment correlation was carried out to assess the relationship between life-skills, intelligence, self-concept and optimism as a whole. Student's t test was used for sociodemographic and clinical variables to analyze the group differences. Paired samples t test was used for 'baseline and post assessment scores`, as well as 'post assessment and follow-up assessment scores' to analyze the effectiveness of the intervention program. This was done for both waitlist group and the intervention group.

RESULTS

Results did not show any significant differences with respect to gender ($\chi 2 = 0.592$, NS), and school grades ($\chi 2 = 0.993$, NS), between waitlist and intervention group.

Table 1: Differences between the Intervention and waitlist groups - sociodemographic and clinical variables.

Variables	Groups				't' value and sig.
	Intervention		Waitlist Control		
	Mean	SD	Mean	SD	
Age	14.76	1.14	14.54	1.05	0.83 NS
Intelligence	80.88	5.14	79.58	4.24	1.18 NS
Life skills	31.97	5.32	29.87	4.80	1.76NS
Self- concept	30.02	6.22	27.67	4.48	1.87 NS
Optimism	26.21	5.21	25.70	5.15	0.41 NS

NS-Non-significant

Results indicated that the intervention and waitlist groups did not significantly differ with respect to age and intelligence (table 1). Similarly, it also shows that both the groups did not differ with respect to life-skills, self-concept and optimism prior to the group life-skills intervention (table 1).

Table 2: Relationship among Life Skills, Optimism, Self-concept, and Intelligence for the whole sample before the intervention (n = 73).

	Life skills	Optimism	Self-concept	Intelligence
Life skills	-	.708**	.536**	.619**
Optimism	-	-	.504**	.529**
Self-concept	-	-	-	.430**

** Correlation is significant at 0.01 level

Results showed, significant positive relationship among on life skills, optimism, self-concept, and intelligence among the entire sample (n=73) prior to intervention (table 2). The relationship is higher between life-skills and optimism and intelligence, where-as, though significant at the .001 level, the magnitude of the relationship between intelligence and self-concept is less compared to other variables in the study (table 2).

Table 3: Life skill scores at pre-assessment and post-assessment between the waitlist and intervention groups

Life Skills	Pre-		Post-		t value
	Mean	SD	Mean	SD	
Waitlist control	29.87	4.80	29.45	4.82	1.41 NS
Intervention	31.97	5.32	48.50	4.59	21.09 **

NS= Not Significant, ** $p < .01$

Results did not show any significant differences between the pre- and post - assessment for life-skills, in waitlist group, however, significant difference was observed between the pre- and post-assessment, in the Intervention group (table 3).

Table 4: Pre-assessment and post-assessment scores for the waitlist group and intervention group - Self-concept and Optimism.

Group	Variables	Assessment				't' value and sig.
		Pre		Post		
		Mean	SD	Mean	SD	
Waitlist Control	Self-concept	27.67	4.48	27.93	4.74	1.68 NS
	Optimism	25.70	5.15	26.00	4.97	1.27 NS
Intervention	Self-concept	30.02	6.66	43.28	6.47	17.74**
	Optimism	26.21	5.21	40.80	4.58	20.65**

NS= Not Significant ** Significant at .01 level

Results showed that the self-concept and optimism did not differ between the pre- and post-assessment, in the waitlist control group. However, both the variables significantly differed between pre- and post-assessment, in Intervention group (table 4).

Similarly, as observed between pre- and post-assessment scores, results showed that the self-concept and optimism did not differ between the post-assessment and follow-up, in the waitlist control group. However, both the variables significantly

differed between post-assessment and follow-up, in Intervention group (table 5).

Table 5: Post-assessment and follow-up scores (mean, SD, 't' values and significance levels) for the Waitlist Control group and Intervention group for self-concept and optimism.

Group	Variables	Assessment				't' value and sig.
		Post		Follow-up		
		Mean	SD	Mean	SD	
Waitlist Control	Self-concept	27.93	4.61	28.19	4.49	1.85 NS
	Optimism	26.00	4.97	26.35	5.03	1.88 NS
Intervention	Self-concept	43.28	6.47	45.40	6.87	1.97 *
	Optimism	40.80	4.58	41.50	4.76	1.98 *

NS- Non-significant *Significant at .05 level

Fig 1: Mean life skills scores of the waitlist control and Intervention groups across 3 different assessment points, i.e. pre-, post- and follow-up assessments.

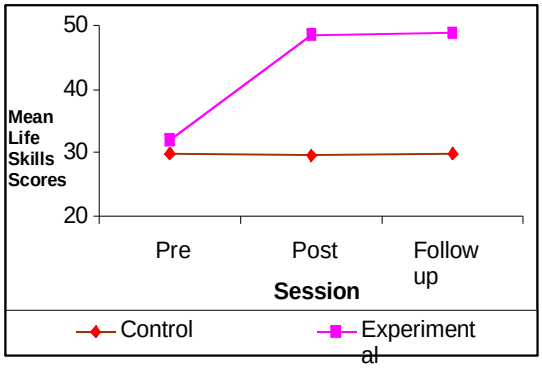


Fig 2: Mean self-concept scores of the waitlist control and Intervention groups across 3 different assessment time points, pre-, post- and follow-up assessments.

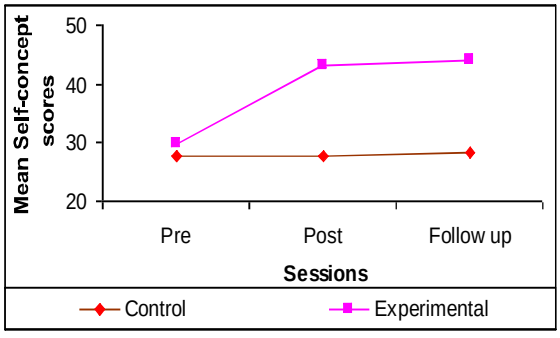
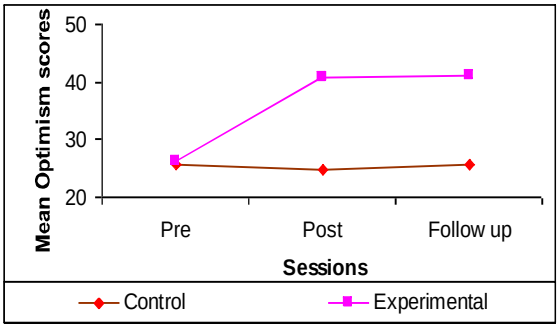


Fig 3: Mean optimism scores of the waitlist control and Intervention groups across 3 different assessment time points, pre-, post- and follow-up assessments.



DISCUSSION

The main objective of the current research was to study the effect of life skills training on the self-concept and optimism, in school children who are slow learners. In this regard, a group was subjected to group life skills training. Another group, that is, waitlist group was not given this intervention, however, due to ethical reasons they were provided with the same training after the research. Both the intervention and waitlist groups were assessed at three different points (at pre-intervention, at post-intervention and at follow-up). Assessment showed that prior to the intervention, both the groups were not statistically different in terms of sociodemographic variables (refer table 1). Similarly, prior to the intervention, both the groups did not show any significant difference with respect to intelligence and life skills, self-concept and optimism. This indicates that both the groups were equal with respect to intelligence, life skills, self-concept and optimism at the baseline level.

Results also showed significant positive correlation among life skills, optimism, self-concept and intelligence, at the pre-intervention assessment (refer table 2). Though all were significantly correlated, the magnitude of correlation was high between 'life-skills and optimism (r = .708)' and between 'life skills and intelligence (r = .619). Whereas the magnitude was least between 'self-concept and intelligence (r = .430). The results above indicate that, individuals who are optimistic tend to experience a high level of life skills and vice versa. It is evident as observed in the present study that, an enhancement in the level of life skills has contributed to the improvement in the level of optimism. Hence, it can be presumed that when an

individual possesses a high level of proficiency in life skills, he/she may tend to feel positive, which could result in optimistic thinking. The features of optimism, such as positive thinking, expectancy of favorable outcomes, efforts to obtain social support (Cozzarelli, 1993), extroversion, positive affect (Marshall et al., 1992), good mental health (Hooker et al., 1992), better adjustment (Long & Sangster, 1993; Chang & Farrehi, 2001), coping, planning (Carver, et. al., 1993), self-rated good health (Lyons & Chambertain, 1994), and self-esteem (Davis et al., 1992) are found to be theoretically correlated with the components of life skills especially the problem-solving skills (Strutton & Lumptim, 1992). Strutton and Lumptim (1992) further reveal that, the features of optimism are associated with problem-solving, decision-making, assertiveness, and social skills. Thus, it is evident from the findings reported above, and in view of the existing literature that optimism is one of the highly associated correlates of life skills.

With respect to the self-concept and life-skills, the areas of self-concept such as generalized self-efficacy, well-being, and self-esteem are found to be theoretically correlated with the components of life skills such as, problem-solving, decision-making, assertiveness, and social skills (Ian & Catherine, 2000). Empirical studies reported in this area by Ian and Catherine (2000) and Elbaum and Vaughn, (2001), reveal that the overall self-concept is associated with problem-solving, decision-making, assertiveness, social skills, time management, and study skills. Thus, the findings of the study corroborate with the existing literature that, self-concept is a highly associated with life skills.

Current study also showed high correlation between intelligence and life skills. Intellectual abilities can be considered as one of the most important facets facilitating life skills. Thus, when an individual possesses adequate intellectual abilities, this could enable him/her to experience and utilize those life skills in his/her day to day life situations. Some of the main components of life-skills are, problem-solving skills, decision-making skills, assertiveness skills, social skills, time management skills, and study skills. Majority of these are the very skills and abilities that are said to be the components of intelligence. It can be expected that, when the intelligence level of an individual is low, his/her adaptive abilities such as life-skills will also be relatively lesser. People who are slow learners, according to Gregory (1987), experience social problems, difficulties with achievement, cognitive difficulties, irritability, poor frustration tolerance, poor problem-solving skills, and are prone to see the world in black and white. Due to these difficulties they can be considered as at risk in term of emotional disturbances (Steven, 2000). It is assumed that, people who are slow learners are at higher risk to experience mental health issues due to their deficits in life skills. Evidence from several studies indicate that, slow learners have poor self-concept, inadequate motivation and mental health issues because they have poor life skills, such as poor social, decision-making and coping, in addition to lacking in life opportunities (Steven, 2000). Given the above theoretical and research findings, it can be expected that, there was a high correlation among life skills with optimism, self-concept, and intelligence.

As expected, the current study showed that group intervention for life skills can yield positive impact, where the students in the intervention group, learned the life skills at the post-intervention assessment (refer table 3), and also retained the skills they gained for 45 days after training (refer figure 1). Contrary to it, waitlist group's life skills score at post-assessment did not significantly differ with respect to pre-assessment scores (table 3), and similarly, follow-up scores of the waitlist control group did not show any significant difference with earlier assessments (figure 1).

The current finding that, life-skills intervention help in increasing the same skill set is corroborated by other studies (Caplan et al., 1992; McAlevey & Ellen 1997; Nancy and John, 1996; Thurston, 2002). In addition, the current research highlights the usefulness of skills training in young slow learners. In addition to data objective data that highlighted the benefits of the training, several students, after the intervention reported feeling more confident with regard to their abilities in emotional regulation, interpersonal interaction, and problem solving-decision making. Students further reported that, post intervention, they felt more empathetic towards, as well as have decreased adverse interactions with their friends and classmates. The students further opined that the study has instilled hope and confidence in their academics (Tabassum et al., 2016).

Similar to the improvement observed in the life-skills, the results show that the intervention has also significantly improved the self-concept, as well as optimism in the intervention group, at post-assessment phase (refer table 4), and the improvement was maintained even after 45 days of follow-up

assessment period (refer table 5; figure 2 & 3). This was not observed in waitlist control group, where their scores remained relatively the same (table 4 & 5; figure 2 & 3). Research found that, following implementations of life skills-based programs in schools, significant improvements were observed in self-image (Kreuter et al., 1991); self-esteem (Ennett et al., 1994); and self-efficacy (Ellias et al., 1991). Studies on life skills suggest that it makes a substantial difference in all walks of an individual life (Errecart et al., 1991; Caplan et al., 1992; Perry & Kelder, 1992; Steven, 2000). These can be adaptive behaviors, which help children to interact effectively with regard to challenges in day-today life, such as, interpersonal relationships, social responsibilities, and conflicts resolution (WHO, 1993; Maurice, 1993).

LIMITATIONS

The sample size of the study was small and the study findings requires replication with larger sample size. Only children from high school (8^{th} to 10^{th} grade) were included. Children were not formally assessed or screened for any common psychological disorders. Further, only self-reported measure of life skills was used, whereas an objective rating from teachers or parents might have provided additional inputs. Added to it, students' academic performance was not recorded due to several operational reasons. It would have been better if the academic performance has been analyzed with respect to the intelligence as well as with other outcome measures. In addition, the study did not use a blind rater for pre-, post and follow-up assessments. Forty-five days duration for follow-up assessment can be considered as shorter period, and hence a gap of 6 to 12 months would have been more appropriate.

IMPLICATIONS

The current research highlights the utility of life skills training program in improving life skills, self-concept and optimism of students who are slow learners. If these children who are slow learners and who are underperforming in several areas and academics, were provided life skills training earlier in their life, it might benefit them significantly. This research shows that this kind of program can be implemented across schools and places.

CONCLUSION

As the demands placed on young people in modern times increases, young people may not have adequate skills that assist them to navigate the stresses of day-today life. Many behaviors of young people, such as, substance abuse, pregnancy, depression, delinquent behavior can be attributed to life skill deficits. These issues might be more complicated with children who are slow learners, due to the high academic expectations to match the performance of the typically developing children. Further, slow learners are at increased psychopathological risk (Masi et al., 1998). Recent finding by one of the study authors (Nabiar et al., 2019), showed that children who are slow learners do experience peer victimization, and this will adversely impact their self-esteem. Given the above, this research was carried out to impart, as well as study the life skills training on children who are slow learners. The results of the study show significant positive relationship between life skills, intelligence, self-concept and optimism, indicating that increase in any one of the factors can lead to an increase in other factors too. Further, the intervention group showed significant enhancement in their level of life skills, after undergoing the intervention program. In addition, intervention has also increased self-concept and optimism in the students, and the benefits were maintained even after forty-five days post intervention. Given the study results, it can be said that group intervention in life-skills helps in improving life-skills, as well as self-concept and optimism in students who are slow learners.

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Original Research Article

Subjective Burden, Cognitive Appraisal and Coping Strategies among Caregivers of Psychotic and Affective Disorder Patients

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ABSTRACT

The present study aimed at comparing the patterns of relationship among the perception of burden, cognitive appraisal and coping strategies of the caregivers of Psychotic and Affective disorder patients. Data were collected from the Psychiatry Department of two medical colleges of Bhubaneswar, Odisha. A total of 60 caregivers (aged 18-75yr.) of psychiatric patients, 30 from each of the groups of psychotic and affective disorder were administered the Caregiver Burden Inventory (Novak & Guest, 1989), Primary and Secondary Appraisal Scale (Gaab et al., 2005) and Brief Cope Inventory (Carver, 1997). The data were statistically analyzed by computing independent sample t-test and Pearson's Product Moment Coefficient of Correlation using SPSS. The results of the t- test reveal no significant difference between the two groups of caregivers with respect to their experiences of subjective burden, appraisal of the situation and use of coping strategies, suggesting that both the groups are comparable in terms of the variables studied. For both the groups burden was found to have significant positive correlations with threat appraisal at one hand and dysfunctional coping strategy, on the other suggesting the caregivers, who appraise their situation as more threatening, perceive more burdens in their work and are more likely to use dysfunctional strategy to cope with the situation. However significant negative correlation exits between burden and caregiver's appraisal of self efficacy as well as control expectancy. And this finding is also true in case of caregiver's appraisal of threat. The outcomes and the implications of the study were discussed.

Keywords: *Subjective Burden, Cognitive Appraisal, Coping Strategies, Caregiver, Psychotic disorder, Affective Disorder*

INTRODUCTION

So far as the care of the chronically ill is concerned, there has been a shift from traditional hospitalization mode to deinstitutionalization, a community based treatment approach. As a result, patients with long standing problems are now living mostly with their families. While this shift has positive results in the decrease of the perceived ill treatment and abuse of the patients as well as huge public expenditure due to long hospital stays of the patients (Bandera et al., 2006), but it has also been associated with some negative results such as disturbed socio-economic, physical, emotional, psychological lives of family caregivers (Chesney et al., 2005; Natalie et al., 2003; Pinquart& Sorensen, 2007; Saunders, 2003; Vitaliano et al., 2003). To put in simpler words, deinstitutionalization of chronically ill people increases caregivers' burden.

Care giving is providing long-term support and assistance, either formally or informally to persons with disability. In addition to providing personal care, a caregiver also renders emotional support to the dependent ill relative. There is a direct relationship between the patient's well-being with the nature and quality of the care provided by the caregiver.

"Caregiver burden is the emotional, physical and financial demands and responsibilities of an individual's illness that are placed on family members, friends or other individuals involved with the individual outside the health care system" (WHO, 2004). It refers to the perception of caregivers of their emotional and physical health, social life and financial status as being affected due to caring for their relatives. Thus, Caregiver burden includes both objective and subjective aspects of burden (Hoenig & Hamilton, 1966). Objective burden refers to the visible direct effects incurred in the due course of care giving, such as effects on health status and finances, while subjective burden deals with how the caregiver perceives the burden of care including her/his positive and negative experiences of care giving (Andren&Elmstah, 2005; Balducci et al., 2008).

From this, it is clear that so far as the effects of care giving are concerned, caregiver's experiences and his

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perception of these experiences are the important determinants. Though there are some positive aspects of care giving like providing a sense of satisfaction of doing a noble act, mental health benefits to the caregiver (Pallant et al., 2014), it is usually associated with negative experiences like stress, depression, loss of money, poor quality of life and health (Natalie et al., 2003). However, what the caregiver would experience in the same care giving situation i.e., satisfaction or burden, largely depends on her/his appraisal of the situation. In this context, the explanation given by Lazarus and Folkman (1984) is worth mentioning. In their 'Transactional theory of stress' they state that when individuals confront a new or changing environment they make two appraisals which are cognitive in nature.

1..Firstly,they appraise the situation to determine the meaning of the event like whether the event is positive, neutral or negative in their consequences. This is Primary appraisal.
2..Secondly, they go for Secondary appraisal when they assess their coping strategies or available resources needed to meet the situation.

This appraisal of the situation determines their experience of being stressed and its subsequent consequences. Relationship between cognitive appraisal of the situation by the caregiver and his/her experience of burden has been established in research studies. Subjective assessment of patients' functional capacity by the caregivers of dementia patients and the extent of their feeling upset have been found to be associated with each other (Piersol, 2013). Caregivers, who cognitively appraised patients' behavioral problems and disability as highly stressful, were significantly more depressed. The findings have been supported with other types of disorders.

Based upon subjective cognitive appraisal, the person may either gain satisfaction or caregiver burden from care giving. Again this appraisal of the situation also has an impact on the choice of coping strategies. Coping is a process of managing external or internal demands posed by the situation. It can be action oriented or intra-psychic; it is an effort to manage (master, tolerate, reduce, minimize) environmental and internal demands and conflicts among them. Simply saying, its aims are two fold; (i) to alter the relationship between the self and environment and (ii) to reduce emotional pain and distress resulting from the stressful situation. Folkman and Lazarus (1980) speak of two styles of coping: Problem focused (developing strategies to solve the problem) and Emotion focused (techniques to manage emotion and protect the ego).

In a nutshell, it can be said that cognitive appraisal of a potential stressor plays a mediating role between the stressor itself and coping actions.

Taking care of a chronically ill person is a strenuous task. Especially, caring for a mentally ill person is multiply burdensome in comparison to that for a person suffering from any physical illness (Osundina et al., 2017). Because mental illness is characterized by abnormal changes in one's thinking, feeling, memory, perception and judgment affecting the person's ability to function effectively socially, occupationally and even personally. Due to the chronic, persistent and pervasive nature of mental disorders, mentally ill people require long treatment course and close supervision. Caring for a maladjusted person for a prolonged period is likely to result in stress and exhaustion, both physical and psychological, on the part of the Caregiver. Moreover, keeping a mentally ill patient in home creates a feeling of avoidance and fear of being stigmatized among the family members, which in a way compels them to live in isolation from their neighbors (Sharma, Sharma & Sharma, 2017). Thus, family members in general and the person in charge of care giving in particular experience significant socio-economic, physical and psychological burden (Saunders, 2003).

Now the question arises whether different mental diseases, as differ from each other in terms of signs, symptoms, and prognosis, place differential amount of burden on the caregivers? Studies show that they do (Bora et al. 2017; Chadda et al. 2007; Vasudeva et al. 2013). The present study intends to study the burdens associated with two major mental disorders, i.e., Psychotic and Affective disorders. Both the two types of disorder are different with respect to their signs and symptoms. Psychotic disorders are the most severe form of mental illness. Psychotic disorders such as schizophrenia, paranoid disorder, delusional disorder etc. are characterized by altering perception, thoughts or consciousness, called as delusions and hallucinations, difficulty in thinking in an organized, rational way. On the other hand, affective disorders are basically disturbances in mood and emotions.

So far as care of the Psychotic patients is concerned, schizophrenia has the most severe impact on people's lives. It not only affects the patient but also deteriorates the quality of life of the caregivers.

Schizophrenia can severely affect a person by making them permanently disabled and largely dependent upon caregivers for the provision of care (Gater et al, 2014), largely affecting the latter's life by incurring financial burden, disrupting family routine, leisure activities, and disturbing family interaction (Awad &Voruganti, 2008; Kumar & Raguram, 2009; Mishra, 2016; Panayiotopoulos et al., 2013).

With regard to the burden of care giving to affective patients, research shows that the extent of burden depends on the social function of the patient (Bhattacharya, Sadhukhan& Sanyal, 2010), patient's depressive symptoms such as lack of interest in social life, hopelessness, fatigue, worrying, patient problem behaviors, role dysfunction and health risk behavior as well as physical health problems and the caregiver's perception of patient and family control, the extent of disruption of household routine, and health service use, and less social support (Perlick, 2007).

However, researchers have been interested to compare the perception of burden among the caregivers of patients with psychotic and affective disorders. Parija et al. (2018) assessed the extent and pattern of burden felt by the caregivers of patients with schizophrenia in comparison with bipolar disorder. The caregivers of schizophrenia group had significantly higher total burden score as compared to caregivers of bipolar disorder. The results are consistent with those of studies by Bora et al., 2017; Koujalgi, 2013; Narasipuram and Kasimahanti, 2012; Sharma, Sharma & Sharma, 2017; Vasudeva et al., 2013).

But at the same time, there is also evidence of higher burden among Caregivers of patients with affective disorders in comparison to those of schizophrenic patients with regard to their perception of violent and suicidal behavior of the patients (Zhou et al., 2016).

Differential perception of burden is likely to result in reliance on different coping styles among the Caregivers. Researchers have attempted to examine the coping strategies adopted by Caregivers of patients with bipolar affective disorder and schizophrenia. Findings reveal that problem-focused coping strategies are more common in caregivers of bipolar patients and emotion-focused strategies in caregivers of schizophrenic patients (Bora et al., 2017; Chakrabarti & Gill, 2002; Nehraet al., 2005). These differences appeared to be linked to differences in caregiver-burden and appraisal between the two groups.

But there are also research evidences which show not only similar pattern of burden, but also same coping strategies, i.e., problem solving, seeking social support and emotional coping, among caregivers of both bipolar affective disorder as well as schizophrenia (Chadda et al., 2007; Nehra etal., 2016; Sharma, Sharma & Sharma, 2017).

As evident from the above discussions, there is no consensus among the researchers, so no clear picture could be obtained. Hence the present study is designed to see if the caregivers of two severe types of mental disorder, i.e., psychotic and affective disorders experience similar patterns of burden vis-a vis coping styles. Although the caregivers encounter similar situations, they may experience a wide variety of feelings depending on their own perception or appraisal of the situation (Piersol, 2013). Therefore, the specific objectives of the present study are enumerated below:

1. To compare the caregivers of patients with psychotic and affective disorders in terms of their perception of burden, cognitive appraisal, and coping strategies.
2. To examine the pattern of relationship among the perception of burden and different dimensions of cognitive appraisal and coping strategies in the two groups of subjects.

METHOD

Design of the Study

The present piece of research is designed to study the burden experienced by the caregivers of patients with psychotic and affective disorders, their cognitive appraisal and coping strategies using a quasi-experimental design. For this purpose, an independent group comparison method was adopted.

Sample

The sample for the present study comprised 60 caregivers of patients with psychotic and affective disorder belonging to the age group 18-75 years. There were equal numbers of participants (30 each) from both the groups i.e. psychotic group (paranoid schizophrenia = 16, schizophrenia = 6, unspecified psychosis = 6, schizoaffective disorder = 2) and the affective group (bipolar affective disorder = 18, depression = 12). The data were collected from the Psychiatry Department of two famous institutions of Bhubaneswar, Odisha i.e. Kalinga Institute of Medical Sciences (KIMS) and Sum Hospital. All the

patients were being treated as inpatients in these two hospitals.

Inclusion and Exclusion Criteria.
The inclusion and exclusion criteria for the selection of the sample are given below.
Caregivers:

- Only family caregivers are included in the study.
- The caregiver must be an adult family member.
- He/she must be a co-resident.
- He/she must be helping the patient in performing the activities of daily living for more than one year during the illness.

Patient:

- The patient must be an inpatient and suffering from psychotic and affective disorder diagnosed under ICD10/ DSM 5.
- The duration of illness of the patient should be 1 year or above.
- Age range for the patient 18-75 years.
- He/she needs help of the caregiver in performing his/her daily activities.

The sample characteristics are presented in Table 1.

Table 1: Sample Characteristics of the Study

Group (N=30 in each group)	**Gender**	**Mean age**	**Education level**	**Employment status**	**Type of caregivers**	**Marital status**	**Mean duration of care giving**	**Type of family**	**Place of Living**
Psychotic	Male =15 Female =15	47.93 Yrs	Illiterate= 4 10th or less than=10 +2= 5 Graduation or above= 11	Unemployed=4 Employed=7 House wife=13 Retired = 6	Father= 4 Mother= 8 Husband=6 Wife=7 Son=3 Brother= 2	Unmarried = 3 Married=25 Widow= 2	7.48 yrs	Nuclear=26 Joint= 4	Rural = 18 Urban=12
Affective	Male = 11 Female = 19	49.86 Yrs	Illiterate=3 10th or less than= 17 +2= 4 Graduation or above = 6	Unemployed=2 Employed= 9 House wife=15 Retired = 4	Father=5 Mother=11 Husband=5 Wife=6 Son=1 Daughter = 1 Others= 1	Unmarried = 2 Married = 24 Widow= 4	5.85 yrs	Nuclear=24 Joint= 6	Rural =16 Urban=14

Instruments

Socio-Demographic Datasheet. A socio demographic datasheet was prepared to record the caregiver as well as patients personal information like, age, sex, educational status, marital status, duration of care giving, financial condition, employment status, relationship with the patient etc.

Caregiver Burden Inventory. The Caregiver Burden Inventory developed by Novak and Guest, (1989)was used to assess the effect of burden along five dimensions, namely: Time-dependence burden, Developmental burden, Physical burden, Social burden and Emotional burden. This scale consists of 24 items containing 5 items each in all dimensions except 4 items in physical health dimension. The participants are required to rate how often the statements describe their feelings on a 5 point scale.

The scores range from 0-4 (0=never and 4=nearly always). All items are positively scored.

Primary Appraisal and Secondary Appraisal Scale (PASA). The PASA scale developed by Gaab, Rohleder, Nater, and Ehlert (2005). This scale is based on the theoretical model of Transactional theory of Stress and Appraisal by Lazarus and Folkman (1984). The scale measures cognitive appraisal along the following four dimensions, namely: Threat, Challenge, Self-efficacy and Control expectancy. Out of these, dimensions like threat and challenge while represent primary appraisal and self efficacy and control expectancy represent secondary appraisal. This scale consists of 16 items containing 4 items each in all dimensions. The participants are required to respond on a 6 point scale in accordance to their degree of disagreement or agreement on each statement that best reflects them. The scores range from 1 to 6 (1=totally disagree and 6=totally agree). All items are positively scored except item no. 1,6,7,9 and 10 which are scored in a reverse direction.

Brief Cope Inventory: The Brief Cope Inventory developed by C.S. Carver (1997) was used to assess the coping strategies used by the caregivers of psychotic and affective disordered patients along three dimensions, namely,

i. **Problem focused**: this strategy aims at attempts made to change or alter the situation by adopting problem solving techniques. It has 3 subtypes, namely, active coping, planning, and use of instrumental support.
ii. **Emotion focused**: this strategy aims at regulating the negative emotion incurred by the stressor in a more positive, adaptive way. It has 5 subtypes, namely: Use of emotional support, Acceptance, Turning to Religion, Humor and Positive reframing.
iii. **Dysfunctional coping:** this strategy aims at regulating the negative emotions produced by the stressor. But continuous use of these strategies may reduce the initiative to actively deal with the problem. So it is referred to as maladaptive coping. It has 6 subtypes, namely: Denial, Substance use, Behavioral disengagement, Venting, Self distraction and Self blame.

This scale consists of 28 items distributed along 3 dimensions. The participants are required to rate how often they use the strategies described by each statements on a 4 point scale. The responses are scored ranging from 1 to 4 (1= I haven't been doing this at all and 4= I've been doing this a lot). All items are positively scored.

All these questionnaires are self report measures requiring the participants to rate their feelings independently by filling the questionnaire on their own. For the convenience of participants the researchers translated all the questionnaires along with the socio-demographic datasheet into Odia, their mother tongue.

Procedure

The researchers took prior consent of the participants (caregivers of psychotic and affective disordered patients) and established rapport with them before giving the questionnaires. Nearly half an hour was spent with each of the participants in sharing their feelings, encouraging them to talk about the history of the patient's illness, the situation they were facing being a caregiver, family background etc. Then only, the questionnaires were administered by the second author. There was no time limit to complete the questionnaires. After the respondents completed the questionnaires,the researcher collected them and thanked them for their
cooperation. All the ethical guidelines were followed.

RESULTS AND DISCUSSION

The data after being collected were scored as per the scoring criteria and analyzed statistically using SPSS software. Independent sample t test and correlational analyses were conducted.

Group comparisons

In order to compare the groups of caregivers of patients of psychotic and affective disorders in terms of their experience of burden, cognitive appraisal and coping strategies, independent sample t- tests were done the results of which are presented in Tables 2, 3, and 4 respectively.The discussions of the results of group comparisons are organized according to these three variables.

Caregiver burden

The results of Table 2 reveal no significant differences between the two groups of caregivers in terms of their perception of burden due to care giving. This finding is consistent with the findings of previous studies (Nehra et al., 2016). Schizophrenia, due to its chronicity in nature, poses immense mental as well as physical burden on the caregiver. However, although affective disorders are episodic in nature, the degree of the symptoms are very severe like, the patient may become violent, aggressive, attempting to commit suicide etc. which require constant monitoring, contributing to caregivers' burden.

Cognitive appraisal

Table 3 reveals no significant differences between the two groups of caregivers in terms of their cognitive appraisal. As psychotic disorders are chronic and severe in nature, caregivers are likely both to appraise the present and anticipate the future situation in a more negative and threatful manner than any other disorder. Most of the time, they have to live in isolation inside the house, partly, due to the pressure of their work and responsibilities of taking care of a mentally disordered person and partly due to the fear of social stigma associated with the disease. Due to the chronicity as well as unpredictable nature of the disease, and fear of social stigma etc., the caregivers of schizophrenic patients appraise their situation as alarming. Under these conditions, they are likely to develop an external locus of control appraising the situation to be out of their control and attributing it to be caused by bad luck.

Affective disorders, particularly bipolar disorders are also not less troublesome in terms of the seriousness of the symptoms. Therefore the caregivers of affective disordered patients also appraise their situation in a similar manner.

Table 2: Group Means, Standard Deviations, and T Values with Respect to the Dimensions of Caregiver Burden of the Two Groups. (N=30 in Each Group)

Variables		Groups		T	Df	p
		Psychotic	Affective			
Time Dependency	Mean	15.66	15.73	0.046	58	0.964
	SD	5.52	5.80			
Developmental Burden	Mean	16.16	14.30	1.315	58	0.194
	SD	5.47	5.52			
Physical Health	Mean	12.10	11.86	0.178	58	0.859
	SD	5.14	5.00			
Emotional Health	Mean	14.43	12.23	1.292	58	0.201
	SD	6.38	6.79			
Social Relationship	Mean	10.60	9.43	0.882	58	0.381
	SD	4.90	5.32			
Total caregiver burden	Mean	68.96	63.23	1.062	58	0.292
	SD	20.73	21.06			

Table 3: Group Means, Standard Deviations, and T Values with Respect to the Dimensions of Cognitive Appraisal of Two Groups of Caregivers (N=30 in Each Group

Cognitive Appraisal Variables		Groups		t	df	P
		Psychotic	Affective			
Threat	Mean	19.06	17.70	0.905	58	0.369
	SD	5.33	6.32			
Challenge	Mean	19.10	20.16	1.086	58	0.282
	SD	4.30	3.22			
Self Efficacy	Mean	11.86	12.26	0.231	58	0.818
	SD	6.57	6.86			
Control Expectancy	Mean	13.26	15.60	1.261	58	0.213
	SD	7.17	7.16			

Coping strategy

Table 4 reveals no significant differences between the two groups of caregivers in terms of their use of coping strategies, which is in consonance with the findings of the study by Mishra (2016). All the caregivers have the courage to fight with the situation by employing strategies like seeking information, support, active planning, taking direct action etc. But as a result of taking care of a patient with chronic mental disorder like schizophrenia or depression in a situation characterized by lack of social support and fear of social stigma for a long time they might be at times feeling helpless and hopeless. Probably, they cope with this helplessness and hopelessness with the strategies like sharing feelings, praying to God as well as with denial or using substances, etc. to get temporary relief (Sharma et al, 2017). At times the caregivers especially the male ones also use maladaptive coping strategies like self distraction, denial, use of alcohol and drugs,giving up the attempt to cope as a result of the severity of symptoms of the disorder.

Table 4: Group Means, Standard Deviations, and T Values with Respect to the Dimensions of Coping Strategies of the Two Groups. (N=30 in Each Group)

Variables		Groups		t	df	p
		Psychotic	Affective			
Problem focused coping	Mean	18.00	17.36	0.770	58	0.445
	SD	3.19	3.17			
Emotion focused coping	Mean	24.33	23.73	0.507	58	0.614
	SD	4.34	4.81			
Dysfunctional coping	Mean	23.33	22.20	0.820	58	0.426
	SD	5.91	4.98			

Correlational Analysis

In order to examine the pattern of relationship among caregivers' perception of burden of care giving, their appraisal of the situation and the use of coping strategies, Pearson Product moment correlation coefficients were calculated separately for the two groups of respondents. Table 5 presents the results of the correlational analyses, the upper and lower triangular matrices reveal the correlation coefficients among the variables obtained for the caregivers of psychotic and affective patients respectively.

The upper triangular matrix of Table 5 shows significant negative correlation between total burden and self-efficacy as well as control expectancy. Among the caregivers of psychotic patients, those who have more self-efficacy, i.e., who are aware of the available options to tackle the situation and who think themselves as competent enough to control the symptomatic negative behavior of the person of whom they are taking care perceive their work as less burdensome.

Table 5: Pearson's Correlation Coefficient among the Different Dimensions of Cognitive Appraisal, Burden and Coping of Caregivers of Psychotic (Upper Triangular Matrix) and Affective (Lower Triangular Matrix) Disorder Patients (N=30 in Each Group).

Variables	Caregiver total burden	Threat appraisal	Challenge appraisal	Self- efficacy appraisal	Control expectancy appraisal	Problem focused coping	Emotion focused coping	Dysfunctional coping
Caregiver total burden	1	0.381*	0.108	-0.562**	-0.438*	-0.157	-0.093	0.443*
Threat appraisal	0.558**	1	0.693**	-0.371*	-0.569**	0.144	-0.239	0.223
Challenge appraisal	-0.014	0.252	1	-0.164	-0.290	0.263	0.044	-0.037
Self-efficacy appraisal	-0.145	-0.471**	-0.320	1	0.799**	0.415*	0.410*	-0.018
Control-expectancy appraisal	-0.312	-0.590**	-0.225	0.825**	1	0.338	0.565**	-0.091
Problem focused coping	-0.166	-0.120	-0.211	0.506**	0.526**	1	0.644**	0.141
Emotion focused coping	-0.193	-0.203	-0.274	0.458*	0.486**	0.732**	1	0.216
Dysfunctional coping	0.470**	0.128	0.043	0.073	0.103	0.091	0.005	1

*Note:** $p < 0.05$ and ** $p < 0.01$

There is a significant positive correlation between burden and dysfunctional coping strategy. Caregivers who feel more burden in their work are likely to resort to alcohol and/or substance abuse; or they may deny the reality. But self-efficacious caregivers resort to

problem focused coping. This finding is in line with the study conducted by Chada et al. (2007).
The findings of the present study are summarized as follows:

- There is no significant difference among caregivers of both the groups of patients in terms of their experiences of burden, cognitive appraisal of the situation and the use of various coping strategies.
- Cognitive appraisal of threat has significant negative correlation with self-efficacy as well as control-expectancy. It is quite obvious that individuals who are well aware of the available alternative solutions, support systems etc. will not fear to take care of their mentally-ill relatives.

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Original Research Article

Impact of Personality and Social Media on Well being of Young Adults during COVID-19 pandemic

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ABSTRACT

The novel coronavirus infection has impacted physical health and psychological health of not only patients but also the general population. College students have been particularly impacted due to the uncertainty around their examinations, academic schedule, and future plans. Different kinds of personality factors and exposure to social media can influence reactions during such uncertain times. Hence, the present study intended to assess the impact of social media usage and personality characteristics on well-being of college students in the COVID-19 pandemic. This study was carried out on 308 college-going students in the age range of 18-25 years through convenience sampling. World Health Organisation- 5 Well Being Scale, Brief Version of Big Five Personality Inventory, and Social Media Usage Scale were administered online. Stepwise multiple regression analysis was carried out. Significant correlations were found between social media and wellbeing ($r=-.346$; $p< .001$), between conscientiousness and well being ($r=.207$; $p<.01$), between extraversion and wellbeing ($r= .248$; $p<.01$) , between agreeableness and wellbeing ($r= -.208$; $p<.01$), between neuroticism and well being ($r= -.194$; $p< .01$). Further, social media and personality factors predicted 21.6% variability in well being. Excessive social media usage in the pandemic times can have a detrimental impact on well being. Conscientiousness and extraversion were associated with higher well-being.

Keywords: *COVID-19, social media, personality, OCEAN model, well being*

INTRODUCTION

The global effects of COVID-19 are far beyond the medical concerns. Yet, researches and public health initiatives seem to be focused on primarily understanding COVID-19 in terms of deaths being caused and not so much about its mental health consequences. COVID-19 with its associated quarantine, lockdown and social distancing, is influencing lives in varied ways. On one hand, while the pandemic is presenting existential anxieties for many (Banerjee, 2020), on the other hand different people with different personality make-up are reacting differently to the situation by withdrawing more or increasing connectivity, engaging in helping behavior or panic buying of essentials.

Personality characteristics especially the Big 5 model (Costa & McCrae, 1992; Goldberg, 1993) have been linked to well being in different domains (Magee & Biesanz, 2019; Strickhoulser, Zell, & Krizan, 2017). A meta analysis found neuroticism as being strongly correlated to life satisfaction as well as negative affect while extraversion was strongly correlated with positive affect (Steel, Schmidt, & Shultz, 2008). Environmental mastery and self-acceptance have also been found to overlap with well being (Keyes, Shmotkin, & Ryff, 2002). Thus, how personality characteristics affect well being in a pandemic situation becomes crucial to study. Recent researches have started to talk about the influence of personality on behavioural change in a pandemic situation. For instance, extraversion and conscientiousness have been found to be associated with social distancing and handwashing (de Francisco, Pianowski, & Goncalves, 2020). One's personality will send out behavioural cues about coping with coronavirus, such as enforced social distancing that could be a boon for those low on extraversion, just as those who are low on openness are likely to be high on disgust sensitivity (Wynn, 2020).

People's reactions and coping in crises like pandemics is not just influenced by internal factors like personality, but also external factors like information disseminated. From the traditional mass media of television, newspaper and cinemas, online and mobile media have made computer-mediated communication and make-media content available at any time and any place.

Social media platforms have proved to be successful in promoting effective behavioural change interventions in pandemic situations of the past. In the analysis of twitter during HINI crisis that occurred in

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the "Age of Twitter", twitter usage was found to be disseminating accurate news information, generating awareness and predicting subsequent vaccine uptake (Chew & Eysenbach, 2010; McNeill, Harris, & Briggs, 2016). Similarly, the informative quality of social media platforms like whatsapp, facebook, instagram and youtube can be useful in the COVID-19 times in preventing infections through educating individuals about healthy behaviours like hand washing and physical distancing.

People across the world are struggling to cope with the infodemic during this pandemic- an onslaught of statements, figures and speculations about the virus (Mendoza, Poblete, & Castillo, 2010; Starbird et al, 2014). The new information environment created by social media during COVID-19 resulted in hoarding essential items, an imbalanced demand-supply cycle or overdosing Chloroquine drug after the media started circulating the news of its effectiveness for corona virus. The negative impact of access to social media was seen when a father of three belonging to a village of Andhra Pradesh committed suicide as he was informed by his doctor of having contracted a viral disease. According to media reports, the disease was incorrectly correlated to COVID 19 since the man was watching videos of Chinese victims collapsing in public or being forcefully quarantined by health care systems (Apparasu, 2020). On the one hand, social media has been instrumental in promoting better public health, but on the other hand, it is implicated in prejudiced and discriminatory behavior against some religious communities. For instance, there has been a trending of hashtag #CoronaJihad or #TablighiJamatVirus appearing around 200,000 times and being potentially watched by 165 million users of Twitter (Perrigo, 2020). Though World Health Organisation has partnered with prominent social media platforms and advised people to follow official sites for updates about COVID-19 and spread of false information has been made punishable by law, the incorrect messages continue to spread.

METHOD

Aim

This research aimed at analysing the role of personality factors and social media in relation to well-being of college students, a sample most exposed to social media during COVID-19.

Objectives

- To determine whether the five factor personality traits and social media usage are related to well-being
- To investigate the impact of personality on well being during COVID-19 pandemic
- To investigate the impact of social media use on well being during COVID-19 pandemic

Participants

Of the 308 participants who took part in this study, 185 were females and 123 were males. Their age ranged from 18-25 years (M=20.57 years, SD= 2.63) with 274 enrolled in an undergraduate course and 34 enrolled in a post graduate course. The participants belonged to different states of India belonging to middle and upper middle class. They were selected for the study through convenience sampling. The mean time spent on social media by the participants of this study was found to be 6.75 (SD=3.35) hours per day.

Measures

World Health Organisation-5 Well Being Scale

The short and generic, 5 item, global rating scale is considered to be one of most extensively used tool to assess subjective psychological well being. First published in 1998, WHO-5 derives from WHO-10 which derives from the 28 item rating scale used in WHO multicentre study carried out in 8 countries of Europe (World Health Organisation, 1998) The participant is required to rate 5 statement coded from 5 (all the time) to 0 (none of the time). It is found to have a good construct validity as a unidimensional scale and cronbach alpha is .87 with a high test retest reliability

Brief Version of Big Five Personality Inventory

The Big 5 Personality Inventory (John, Donahue, & Kentle, 1991) comprising of 44 items, was abbreviated to a 10 item version (Rammstedt & John, 2007). It is composed of 5 subscales with 2 bidirectional items for the Big 5 personality factors. The domains remained the same that is Openness to experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism. The responses on items are rated on a 5 point Likert scale ranging from Strongly agree to Strongly disagree. Discriminant and convergent validity of the scales were established. It also has strong retest reliability ranging from .49 to .79 for each factor.

Social Media Usage Scale

To keep the measures administered on participants simple during stressful times like these, 3 questions were asked from the participants. These questions were framed specifically to address change in social media use during the COVID lockdown. The questions were: "How has your mobile phone use

changed in the past 2 weeks; How has your internet use changed in the past 2 weeks; How has your social media use changed in the past 2 weeks".. Social media included use of platforms such as twitter, Facebook, Instagram. This was scored on a 5-point Likert scale from 'decreased a lot' to 'increased a lot'. The Cronbach alpha for the same was computed to be .71, falling in the acceptable range of internal consistency.

Procedure:

Keeping the lockdown situation in mind, the participants were emailed the measures, sent as Google forms. Since the present study used convenience sampling, the researchers sent across the forms to Presidents of Students Union in some colleges of University of Delhi, some private colleges, who were then requested to send out the forms to their friends. Informed consent was taken electronically from each participant. The research involved voluntary participation. No monetary compensation was provided for the same. The time estimated for filling up the Google forms was approximately 20-25 minutes. Responses were collated and scored as per the norms of the scales. For WHO-5 Well Being scale, the rating on each item corresponded to raw score for that item. The total score was multiplied by 4 so that the total score ranged from 0-100. Lower the score, poorer the well being and vice- versa. With respect to the Brief Version of Big Five Personality Inventory, item numbers 2, 4, 6, 8, 10 were reverse scored. As per the Likert scoring, the total for each of the 5 factors was calculated for 2 items in each factor. Higher the score, greater that particular personality trait. The three items of the Social Media Usage Scale were added to obtain a total score. Higher the score, greater the social media usage. The procedures followed during the research were in line with the formal ethical standards of Lady Shri Ram College for Women, as recommended by the University of Delhi, India (University of Delhi, 2020) for human participants. The raw data was statistically analysed using the SPSS 22.0. Descriptive and inferential techniques were employed. Correlational analyses and stepwise multiple regression analysis was performed to determine the relationship between the variables under study.

RESULTS

Table 1: Descriptive statistical results of variables measured

Variable	Sample Mean	Sample SD	Normative Mean	Normative SD
Well being	55.39	23.01	50.0	-
Social Media Use	12.12	2.44	-	-
Internet/ Mobile use	6.75	3.50	-	-
Openness to experience	6.91	1.67	5.07	1.08
Conscientiousness	6.09	1.55	5.11	1.16
Extraversion	6.09	1.93	4.12	1.31
Agreeableness	6.82	1.65	5.14	1.06
Neuroticism	6.24	1.79	4.64	1.32

As seen from Table 1 the personality factor that received the highest score was openness to experience followed by agreeableness, neuroticism, and lastly conscientiousness and extraversion. The mean scores obtained by the sample are relatively higher than the normative means as well. The mean well being score lies above the cut off point as well for WHO-5.

Table 2: Correlation matrix representing Pearson Product Moment Correlation Coefficients between Social Media Usage, Big 5 Personality factors and Well being

Variables	Well being	Social media	Openness to experience	Conscientiousness	Extraversion	Agreeableness	Neuroticism
Well being	1.000						
Social Media	-.346	1.000					
Openness to experience	.003	.041	1.000				
Conscientiousness	.207	-.156	.169	1.000			
Extraversion	.248	-.108	-.015	.139	1.000		
Agreeableness	-.208	.104	.234	.000	-.114	1.000	
Neuroticism	-.194	.193	.008	-.231	-.126	-.074	1.000

The results of Pearson correlation coefficients in Table 2 indicate significant relationships between social media and wellbeing (r=-.346; p< .001), between conscientiousness and well being (r=.207; p<.01), between extraversion and wellbeing (r= .248; p<.01) , between agreeableness and wellbeing (r= -.208; p<.01), between neuroticism and well being (r= -.194; p< .01).

Table 3 reveals a significant effect of social media, extraversion, agreeableness, conscientiousness and neuroticism on well being (R^2 = 0.216, F = 16.62, p< 0.01) with the former accounting for 21.6% of the variability in wellbeing during pandemic. Among the variables, the most potent contributor to wellbeing was social media (β = -0.27; t=-5.15; p< .01), although negative, followed by extraversion (β=.17; t= 3.25; p<.01) and agreeableness again negative (β= -.17; t=-3.24; p<.01). The next potent predictors were conscientiousness (β= .11; t=2.19; p<.05) and neuroticism (β =.11; t= -1.98; p<.05).

Table 3: Stepwise multiple regression analysis of well being with social media use and personality factors as predictors

Predictor	B (standard error)	β	t (p value)	ΔR^2	R^2
Constant	88.12 (11.27)		7.82 (.001)	0.203	0.216
Social media usage	-2.57 (0.49)	-.27	-5.15 (.001)		
Extraversion	2.01 (0.62)	.17	3.25 (.001)		
Agreeableness	-2.32 (0.72)	-.17	-3.24 (.001)		
Conscientiousness	1.73 (0.79)	.11	2.19 (.03)		
Neuroticism	-1.36 (0.69)	-.11	-1.98 (.04)		

DISCUSSION

The objective of the research was to understand the role of personality and social media usage in influencing well being. The data of 308 students analysed using stepwise regression analysis revealed that 21.6% of the variability in well being was predicted by variables of social media and personality. Though the correlation values were found to be low, they do have a significant impact and play a role in effecting the level of well being.

Considering the first predictor variable, Table 2 reveals a negative correlation between social media usage and well being. Students as a part of their developmental period experience stressors like financial problems (Heckman, Lim, & Montalto, 2014); academic pressure (Misra & McKean, 2000); adjustment to novel social and geographical environment (Montgomery & Côté, 2003); relationships, life stage transitions and time management (Schmidt- Wilk, 2009). These academic stressors may get intensified during conditions of lockdown when there are stringent restrictions, lesser distractions and reduced face to face social support.

With the young adult student sample of this research, social media is unavoidable as it is frequently sought for validation and information. Fear of missing out (FOMO) (Przybylski, Murayam, DeHaan, & Gladwell, 2013) shown by this age group has been strongly linked to unregulated use of social media (Casale, Rugai, & Fioravanti, 2018) and sleep problems (Scott & Woods, 2018) which can definitely impact well being levels. Since social experiences reduce in a lockdown situation and FOMO is linked to anxiety related to others' socially rewarding experiences, feeling of being uninvolved might increase (Casale & Flett, 2020). While significant information about healthy and risky behaviours is being conveyed by the government through Internet like Aarogya Setu application in India and WHO in general, surfing the internet can result in an exposure to inaccurate information as well. Being a part of too many virtual groups can pose difficulty in dealing with exigencies of real world (Halder & Mohato, 2016; Chakraborty, Basu, & Vijaya Kumar, 2010). Reporting of infections, deaths and contagion of the disease on various social media platforms can be extremely disturbing. The role of social media, even fake videos, in spreading xenophobia towards Muslims, that has resulted in lowering one's own well-being (Ahuja, Banerjee, Chaudhary, & Gidwani, 2020) cannot be ruled out. Though getting information through social media is resulting in social distancing, mental distancing is still not achieved since the mind is constantly preoccupied by pandemic related content. The finding of the present study hence is in contrast to the positive impact social media had

during the HINI pandemic times (Chew & Eysenbach, 2010; McNeill et al., 2009).

Considering the second predictor variable of personality, Table 2 rules out the impact of the factor of openness to experience from its role in influencing well being. Extraversion and Conscientiousness have been found to be positively correlated while Agreeableness and Neuroticism have been found to be negatively correlated to well being.

Extraversion as a factor of personality talks about level of sociability, a continuum ranging from outgoing energetic behaviour to quiet and socially withdrawn behaviour. The fact that extraverts have stronger and larger social support networks, can act as buffers during crisis and enable engagement in alternate ways of connection. For instance, "*Thaali Bajao*" in India which was cheering as a community together for the "corona warriors" or the frontline workers on 22 March, 2020 or "*diya jalao*" or lighting diyas can encourage solidarity and some activity (After thaali bajao, diya jalao: PM Modi's 9-min appeal to nation, says 'Light diyas, fight coronavairus', 2020). Using a pre-post study design, a study found extraverts to have fared better than introverts during Covid lockdown, with extraverts experiencing a smaller drop on social connectedness than introverts (Folk, Okabe-Miyamoto, Dunn, & Lyubomirsky, 2020) This showed that the assumption of extraverts losing out on social experiences during physical restrictions can be inaccurate. Extraverts may establish connection to some extent, such as through video "happy hours" and "zoom parties" (for e.g., Tiffany, 2020) and other virtual platforms available. The pandemic decreased loneliness and increased a sense of community especially initially, including talking to family members and friends more than usual through gadgets (Fried, 2020). Compared to introverts, extraverts may have greater social connections and higher quality relationships (for e.g., Harris, English, Harms, Gross, & Jackson, 2017), leading to higher social support and hence enhanced well being. This is also in line with the findings of a robust meta analytic study which found that extraversion was the strongest well-being correlate (Anglim, Horwood, Smillie, Marrero, & Wood, 2020).

Conscientiousness is characterised by self-discipline, responsibility and planning. Higher levels of conscientiousness could be linked to sensitivity towards nature. Though not scientifically proved, one theory postulates that the spread of corona virus is nature's way of healing (Kovind, 2020). Since the ecological balance has been disrupted by anthropocentric humans, this theory appears to resonate with the thinking of conscientious people who are more internally regulated and assume responsibilities of actions. People high on conscientiousness probably have started to accept the crisis as a new reality and are devising ways to function with the disruptions caused in lifestyle (Samuelsson, Barthel, Colding, Macassa, & Giusti, 2020). Conscientious people maybe are hopeful that a jolt like this is what humans needed to rethink their exploitative nature and encourage prosocial behaviour. Further, since the lockdown lasted more than a month, conscientious people might have adjusted and planned their work, purchasing and social behaviour around the norm of social distancing. Recent research (e.g., Carvalho, Pianowski, & Goncalves, 2020) has acknowledged the importance of conscientiousness as relevant to one's engagement with social distancing and handwashing- two measures recommended for COVID-19 containment. This could have also contributed to higher well-being in the present study.

Agreeableness is a trait characterised by compassion, cooperative and trust. While at first glance, a negative relationship between agreeableness and well-being may appear surprising, it may not be so on a deeper analysis. People in the present study belonged to a middle and upper middle socio economic status. Plight of the disadvantaged was reported to be a bigger stressor than immediate concerns like availability of essential commodities, job loss and COVID-19 infection (Essentials not the biggest headache, 2020). It is possible that highly agreeable and compassionate participants may experience distress, resulting in decreased well being. Thus, those high on agreeableness and compassion have been distressed with reports about migrants having to walk back to their villages with nothing to eat. This could have resulted in decreased well being. Honesty-humility from the HEXACO (Honesty- Humility, Emotionality, Extraversion, Agreeableness, Conscientiousness, Openness to experience) model of personality representing a "tendency to forego opportunities for personal gain when they come at a cost to other" appears similar to the characteristic of

agreeableness (Ashton & Lee, 2007). Though individuals and government are putting in efforts to feed the needy, helplessness could be experienced by the student sample high on agreeableness, resulting in lower well being.

The factor of neuroticism is manifested in experience of unpleasant emotions like anger, anxiety or depression. COVID-19 as a pandemic worldwide has resulted in bringing a halt to the economy, academic schedule and daily living in general. There is extreme fear and uncertainty about getting infected along with pay cuts, loss of job and what the new "normal" will look like. Considering the student sample in the present study, the teaching, admissions, semester and entrance examinations lack clarity. The final year undergraduate and post graduate students maybe are extremely impacted as the job offers they had in hand have been withdrawn by the companies. The environment of fear, anxiety, stress and suicides reported globally due to corona virus (Thakur & Jain, 2020) could be responsible for heightened neuroticism and consequently poorer well being.

At the same time, this research study is not without its limitations. The use of student sample makes it impossible to generalize the findings to other age groups. The content of social media usage was not studied in the present research; perhaps future researches could focus on it. Also, the possibility of social media usage which was already existing in the youth, could have increased as soon as the lockdown began, before the research data was collected. Therefore, the correlation values obtained are significant but low. Since the present research used objective self report measures with a very limited set of questions, some of which were constructed by the researchers, more standardised or qualitative measures like in depth interviews or focused group discussion could provide an enriched understanding of behaviour and experience unique to a pandemic. Lastly, since correlation does not imply causation, the findings must be interpreted with caution.

CONCLUSION

The present study highlights how personality and social media usage influence well being during this global pandemic COVID-19. The research findings highlight the need for accurate reporting by the media since it helps shape perceptions and understandings in ambiguous times. It is also important to reconsider the role of social media and control the exposure to the same to maintain one's well being. Effective coping strategies and interventions as per the personality types need to be planned to promote better adaptation to such stressful times. Corona virus is demanding novel ways of management from the world at large, whether it is physical treatment or psychological means to maintain sanity. Thus, more researches in the area could provide means to deal with its after effects which humankind will have to sustain for a long time even after the virus disappears.

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Original Research Article

Relationship between Parenting and Indexing on MISIC-R Short Version

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ABSTRACT

MISIC-R: Short Version with Indexes is an updated revised intelligence scale that consists of four verbal and two performance subtests. Its compatibility with full-scale IQ on MISIC had been demonstrated earlier. From these six subtests [Information, Comprehension, Arithmetic, Digit Span, Picture Completion and Block Design]; three meaningful, transparent and clinically useful Indexes were derived to keep pace with recent advancement in the field of intelligence testing. These indexes were [1] 'Abstract Index', akin to fluid intelligence, [2] 'Concrete Index', akin to crystallized intelligence, and [3] 'Numerical Index', akin to working memory. Objective of the study was to demonstrate the relationship of parenting with indexing of subtests on MISIC-R short version. With this objective MISIC- R short version was administered on 70 subjects who visited MMIMSR, Mullana for various minor complaints for which attending physician could not establish any pathology on clinical and laboratory exams. Statistics applied to test the hypotheses that the abstract > concrete pattern of score would be obtained by those children whose both parents were employed or where the subject was a precious child of his parent. Amongst clinical population, children obtaining a high score on Abstract Index compared to Concrete Index were those who's both parents were either working or the child had a precious position. These findings lead to the conjecture that if parents were unable to give sufficient quality time to their offspring, or out of over protection unable to provide sufficient opportunity or stimulants to their offspring to scratch their mind then their children's inborn biological potentials are not optimized, thus children may show either behavioral problem or leg behind in schooling. These findings might help counselor to improve parenting by training the parents to spare some time from their busy schedule for improving fuller cognitive potential and minimizing aberrant behavior of their children.

Keywords: *MISIC-R. Short scale of intelligence, fluid and crystallized intelligence, counseling for parenting, difference between fluid and crystallized intelligence, clinical utility of IQ beyond a number*

INTRODUCTION

Standardized intelligence testing has been called one of psychology's greatest successes since Alfred Binet first used a standardized test to identify learning impaired Parisian children in the early 1900s. Now, it has become one of the primary tools for identifying children with intellectually and learning disabilities in addition to understanding their aberrant behaviour. Currently there are many types of intelligence tests differing in contents, administrative styles and purposes. NCERT [2019], in its Catalogue of tests had listed 97 intelligence tests in the country, many of them were group tests and there was no mention of Wechsler's group of tests. Among intelligence tests, internationally acclaimed, Wechsler's scales, however, dominate the field throughout the world at least for clinical and psychodiagnostic purposes for over eight decades. First test developed by Wechsler in the year 1939 was 'Wechsler's Bellevue Intelligence Scale' that was revised in 1942. From this revision, WISC was developed in 1949 for the children in the age range of '5 year 0 month' to '15 year 11 month'. This test was adapted in India by Malin in the year 1969 for the children in the age range of 6 to 15 years and was available under the name of Malin's Intelligence Scale for Indian Children [MISIC]. This Indian adaptation had been well accepted over a period of time by the applied/ clinical psychologists for its sensitivity to give reliable and valid index of intelligence. This test consisted of six verbal [Information, Comprehension, Arithmetic, Similarity, Vocabulary and Digit span] and five performance [Picture Completion, Block Design, Object Assembly, Coding, and Mazes] subtests. Its administration and scoring take more than sixty minutes. During the last half century from its

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inception, many a items have become redundant/ obsolete, few required some changes in unites of measurement, etc.

MISIC-R: Short Version was developed to cut down its administration and scoring time and proceedings of its adaptation was published in the year 2019 by Jain and Pershad. This short version consists of 4 verbal [Information, Comprehension, Arithmetic and Digit Span] and two performance [Picture Completion and Block design] subtests. The Correlation between 4 vs. 6 subtests [Verbal IQs] was .98; between 2 and 5 subtests [Performance IQs] was .94 and between 6 and 11 subtests [Full Scale IQs] was .98. This short scale required nearly 30 minutes and gives IQ compatible to full scale VIQ, PIQ and FSIQ.

To keep pace with advancement in the development of IQ testing program and taking lead from Wechsler's series of tests, three indexes were developed from these six subtests. Names of the indexes were kept more transparent basing on amalgamation of various theories of intelligence [Cattell, 1976; Thorndike, 1927; Thurston, 1941; and Gardner, 1999] and as adapted by Bannatyne [1974], Horn [1985], and Mohanty and Kumar [2017], separating various subtests on Cattell's theory of fluid and crystallized intelligence. The proposed grouping was considered to be more useful in diversified clinical population visiting hospitals, for counseling purposes.

[1] Abstract Index, comprised 'Block Design' and 'Comprehension' subtests, one each from performance and verbal section.
[2] Concrete Index, comprised 'Picture Completion' and 'Information' subtest, one each from performance and verbal section.
[3] Numerical Index, comprised 'Arithmetic' and 'Digit Span' subtests, both from verbal section.

'Abstract Index' was akin to the concept of natural ability or a fluid intelligence. Fluid intelligence is generally believed to be dependent on biological factor [Randleman, Mendoza and Alves. 2010] that was relatively less influenced by education, training or exposure to stimulating environment. This index included both verbal and non-verbal material. Block design was considered to be the measure of perceptual accuracy [analytic and synthetic ability] and mental manipulation to match the exposed design visually [matching colour and pattern both together]. And the Comprehension subtest was manipulation of verbal thought and imagery and formation of sentences to fit the answer. These two tests were considered to be the measure of fluid/ basic or abstract intelligence. It was presumed that the children with poor home training, inadequate parenting [Sanders and Morawaska, 2014], or living in joint family [double bind communication, Bateson et al 1956]; will score higher on this index compared to Concrete Index, The reason being their innate abilities were not made fully operational or optimally encouraged for maximal functioning.

'**Concrete Index'** was related to social exposure and training in day to day existential activities and to cope with routine activity of daily living including schooling, without putting pressure on scratching the mind and using the logic. It is related with absolute learning rather than logical consequential learning. The limit of this, however, is set by the limit of fluid ability. Some parents because of lack of availability of time [if both were working] or out of love and affection [only child or only male, or born after a long conjugal life] did not bother child's mind in a constructive manner. Thus they were unable to expose child to encouraging / reinforcing stimulating environment and providing them challenging situations and monitoring their behavior regularly. Thus their children's part of inborn potential remained unfolded, resultantly obtaining lower sore on concrete index [crystallized intelligence] that may cause various mental, developmental and adjustment problems. Similar views were expressed by some other researchers on the subject [Collins, Maccoby, Steinberg, Hetherington and Bornstein, 2000].

'**Numerical Index'** was thought to be related to sustenance of attention and numerical ability and it comprised of Arithmetic and Digit Span subtests. It was a part of overall development of intelligence included in the Thurston's [1941] theory of primary mental ability and in the multiple theory of Gardner [1999]. Wechsler in his scales named it as 'Working Memory Index'. Working memory, in the Cambridge dictionary of Psychology [Matsumoto, 2009] referred "to the temporary storage of information that is currently being used in a cognitive task. The concept emerged from studies of a relied but simple concept, short term memory". It is influenced by memorizing capacity, attention concentration adversely effected by induced fear of numbers by the parents, and by dyscalculia condition of the child.

OBJECTIVES & HYPOTHSES

Herein, this study was planned to find inter-correlations of three indexes & their contribution in

full scale IQ and to find relationship of indexing with parenting. To answer above questions following four hypotheses were framed:

[1] Abstract, concrete and numerical indexes would significantly correlate within them and with full scale IQ.
[2] Children of working parents would score higher on abstract index than children with single working parents.
[3] Precious children would score higher on abstract index compared to non-precious children.
[4] There would be significant difference in score on abstract and concrete indexes with reference to gender of the children

METHOD AND MATERIAL

Sample: [1] Seventy subjects in the age range of 6 to 15 years referred from different specialties of medicine to the psychology division of the MMIMS, Mullana; Ambala. These subjects had complaints such as headache, behavioral problem, aggression, poor scholastic performance, poor memory and concentration for which attending physician could not find any significant pathology on laboratory and clinical examinations.
[2] Another independent sample of 40 subjects with statistical analysis for usability of indexes was contributed from a private psychodiagnostic centre, located in Chandigarh for cross validation of indexes.

Tool: MISIC-R short version [Jain and Pershad, 2019] consisting of four verbal and two performance subtests was administered individually.

Procedure: Parents of each subject were interviewed and brief socio-demographic information was collected. Each subject was administered MISIC-R short version by a qualified registered clinical psychologist. For each subject Verbal, Performance and Full Scale IQs was calculated in addition to the following three indexes:

1. Abstract Index: mean of TQs on Block Design and Comprehension subtests
2. Concrete Index: mean of TQs on Picture Completion and Information subtests
3. Numerical Index: mean of TQs on Arithmetic and Digit Span subtests.

RESULTS

Table 1, Correlation matrix showed that the Abstract Index had significant but low correlation with Concrete and Numerical indexes and the highest correlation with Full Scale IQ. Abstract index was also found to have more commonality with Performance IQ than with Verbal IQ. Contrary to this, concrete Index had more commonality with Verbal IQ and Full Scale IQ. Numerical Index had the highest commonness with Verbal IQ and its contribution to full scale IQ was the lowest. Thus the three indexes formed in the study were measuring different facets of intelligence as hypothesized, but the numerical index had only moderate correlation with abstract and concrete indexes. Therefore in the next table numerical index was not included to examine the role of parenting.

Table 1: Correlation Matrix

Variables	Abstract	Concrete	Numerical	V IQ	P IQ	FS IQ
Abstract		.48	.35	.61	.84	.83
Concrete	.48		.43	.78	.67	.81
Numerical	.35	.43		.77	.42	.68
V IQ	.61	..78	.77		.55	.86
P IQ	.84	.67	.42	.55		.89
FS IQ	.83	.81	.67	.86	.89	

NB: All correlation values were significant beyond .01 levels

Table 2, indicated that in the clinical population mean score on abstract index was significantly high compared to concrete index.

Table 2: Difference between Abstract and Concrete Indexes in Clinic's Sample

Indexes	n	Mean	SD	SEM	t-test
Abstract	70	85.75	9.07	1.09	4.49 P= .01
Concrete		80.57	8.12	0.98	

Table 3, given below indicated that all the three hypotheses tested were true that when both parents were working then their children obtained high on abstract index compared to concrete index. This difference could be attributed to the availability of time to involve with child in interactive manner. Parents of precious child might be over protective therefore, they were not able to give adequate encouragement to scratch their head to unfold fuller potential [fluid intelligence]. Similarly male and female children were provided with differential pattern of training at home causing none utilization of available potential.

Cross validity: Relationship of abstract and concrete indexes with parents working status, special position of the child in the family and gender of the subject were determined in a fresh sample of 40 subjects from a private psychodiagnostic centre in Chandigarh. In this sample, subjects were classified into two groups.

Group one, consisted of subjects who had 10 or more points higher on abstract index compared to score on concrete index. Group two, consisted of all other remaining subjects. These two groups of subject were further dichotomized based on working status of the parents, position of the subject in the family and gender of subject and chi square test of significance was applied to determine relationship of these variables. Results are given below in table 4.

Table-3: Comparison of Means of Abstract and Concrete Indexes Across Different Variables

Variables	Abstract Index Mean and SD	Concrete Index Mean and SD	Paired t-value
Working Status of Parents			
Both parents working [n= 48]	87.27 [8.58]	77.69 [5.28]	9.19**
Single parent working [n= 22]	82.29 [9.40]	87.14 [9.66]	3.57**
Independent t-test	2.16*	5.25**	
Precious Child			
Precious child [n=21]	86.00 [9.59]	79.05 [6.11]	3.93**
Not so precious [n=49]	85.65 [8.94]	81.18 [8.79]	3.07**
Independent t-test	1.43 , ns	0.99, ns	
Gender of Subject			
Male child [n=46]	84.87 [9.39]	79.76 [7.08]	3.66**
Female child [n=24]	87.52 [8.28]	82.17 [9.92]	2.54*
Independent t-test	1.49 , ns	1.67, ns	

*Significant at p .05, ** significant at p .01 level, ns not significant

Table 4 as given below confirmed that the percentage of the working parents [both working] and of those who had precious position in the family were significantly higher in the group where abstract index was 10 or more points higher than concrete index. Gender of the child, however, was not found to have any significant relationship with higher score on abstract index.

Table-4: Significance of indexes per demographic characters; percentage of subject obtaining 10 points or higher on abstract compared to concrete index

Characteristics	Abstract Index Higher [N= 22]	Abstract Index Not Higher [N= 18]	Chi square
Parents Working Status			
Both Working [n=12]	83.33%	16.67%	5.61, P=.01
Single working [n=28]	42.86%	57.14%	
Position OF the Child			
Precious Child [n=14]	78.6%	21.4%	4.83, P=.05
Not so Precious [n= 26]	42.3%	57.7%	
Gender			
Male [n=25]	60.00%	40.00%	0.72, ns
Female [n=15]	46.66%	53.33%	

DISCUSSION

The present study was conducted on unselected subjects having complaints for which attending physician could not find demonstrable pathology on laboratory and clinical examinations. Thus these participants could be considered part of the normal population as far as intellectual functioning was concerned. If so then why their mean IQ was 83.16 [mean of abstract and concrete indexes, table 2]. There could be two reasons; one, in almost all studies on IQ conducted in hospital setting on patients or on their attendants, mean scores were always less than 100 [Pershad and Verma, 2002, P 104]. Second reason could be the location and setting of the hospital and to which population it serves more. MMIMSR, where from sample came, located around 40 kilometer away from Ambala Cant on Ambala-Saharanpur Road. A large number of clientele of this hospital belonged to Saharanpur catchment area with low socio economic status. Thus the sample from this hospital cannot be considered representative of the national character. It was skewed to left side of the normal curve and so were their IQ points. If sample was taken from hospital run by corporate/ multinational organizations then it would be skewed to right of the normal curve and if collected from AIIMS / PGI could be

considered representative of national character because these hospitals cater to need of all sections of the society. It was also reflected in their SD points too that was narrow. In this study, however, authors were not much concerned whether participants of the study formed part of the national character or not, but contention was to demonstrate that groping of subtest in abstract [fluid] and concrete [crystallized] was more useful for clinical purposes than grouping of subtests in performance and verbal sections. This was necessitated in view of a recent Indian study by Panicker, Hiriasave and Subbakrishna [2008] demonstrating that there was no significant deference between verbal and performance IQs in the children of age grouping of 6-10 years on WISC-III, Indian version. Thus the present grouping of subtests into abstract, and concrete was better than grouping in verbal and performance because that is based on stronger theoretical premises for practicability.

Fluid intelligence is believed to have biological limits set by the nature and raising it functional level is nurture [Rindermann, Flores-Mendoza and Mansur-Alves, 2010]. Children brought to hospital thought to have some problem within family or schooling, resulting in one or other form of behavioral problem in hospital based sample. Therefore it was imperative to discuss about relationship between fluid and crystallized factors of intelligence. Some researchers [Papalia, Fitzgerald, Hooper, 1071 and Schonfeld, 1986] had linked the theory of fluid and crystallized abilities to Piglet's theory of cognitive development. Cattell's fluid and Piaget's operative intelligence both concern logical thinking. Cattell's crystallized and Piaget's treatment of everyday learning reflects the impress of experience [quoted from Wikipedia, 2020]. Kline [1998] noted that there should be a correlation of .6 between fluid and crystallized intelligences but remarked, will depend upon the type of deductive – in-deductive logic included there in. Erikson [1963], quoted from Korchin [204] opined, role of sensory-motor, cognitive capacity and interpersonal relationship in the wholesome development of an individual and operationalization of basic ability. One of the authors [DP] based on his long clinical experience observed that some subjects differed significantly on performance and verbal sections of Wechsler's intelligence scales, or on fluid and crystallized grouping of subtests. Greater the difference between fluid and crystallized [fluid > crystallized] greater would be the problem of children in relation to schooling, interaction with authority, peer groups and handling own impulsive behavior. Amongst those who scored high on fluid and low on crystallized, many of them had inadequate parenting; parents were unable to spend quality time with children, high expectancy from the child, purchasing every comfort for the child but no emotional affinity and emotional involvement with their offspring.

Authors viewed that a subject should obtain almost equal scores, both on abstract and concrete intelligences if the subject had wholesome development of his innate cognitive potentials. This wholesome development will depend upon stimulating environment provided by the parents who were considered as preschool teachers. The younger child was more 'field dependent' than 'field independent' [Witkin and others 1954 and 1962] thus stimulating environment in early years of life would help to optimization of logic and finding newer ways of combining rational thinking to excel in the world. However if Child was encouraged only for schooling and memorizing to excel in schooling grade then his concrete [crystallized] score would be lower than abstract [fluid] score [basic potential]. In modern era, schooling / competition is usually much preferred than over all wholesome development of the child [Maurya, 2015]. Parental involvement in day to day physical, cognitive, fluency, critical observations were denied that otherwise could be a part of effective parenting. This lack of interactive routine of parents might cause only partial unlocking of potential, reflected through abstract >concrete pattern.

To test the above conjecture it would have been better to evaluate the degree of parenting by using some questionnaires like, Bhardwaj's parenting scale [Bhardwaj; Sharma and Garg, 1998], but the questionnaire methods always had the inherent limitations of transparency of the items and of fake responses. Therefore here authors had used indirect methods like, if both parents were working then they would have less time for the child; parents of a precious child would hardly give training in discipline and in solving trying puzzles and quizzes, and his [child's] dictums/ demands would be complied instantly by the parents; and in India, male child is more preferred over female, thus there would be differential parenting. Thus these three factors, [1] both parent working, [2] parents of precious child and [3] parents of male child were considered as barrier in effective parenting. In the present study authors hunches proved significant that if both parent were working then their children's portion of natural /

biological intelligence remained unfolded, thus they secured significantly higher on abstract than concrete index. Similar results were observed for two other hypotheses. Maximum mean difference was 10 points for working parents, 7 points for precious child and 5 points for male child [table 3]. This Table presented mean differences that were significant statistically. To make these differences of clinical importance, the very hypotheses were tested incorporating another independent sample where subjects in each group were dichotomized on the bases of their score [abstract > concrete]. Group one, was of those children who obtained 10 or more points higher [1, SD higher] on abstract index compared to concrete index; and group two of remaining subjects. Here, two out of three hypotheses were confirmed, leaving the hypothesis of male and female subject. Nearly 80% of the subjects were those who obtained 10 or more points higher on abstract than on concrete index [fluid compared to crystallize] in both working group [83.7%] and with a precious child [78.6). Rindermann, Flores-Mendoza and Mansur-Alves [2010] also observed that parental socioeconomic status and parental education do play differential role in development fluid crystallize intelligence. Kagan [1999] in his commentaries also pointed out role of parents in children's psychological development.

Some of the parents of these children were trained/ counseled following the procedure of rescheduling of activities [Jain, 2019; Pershad, 2019; Pershad, Neha & Gupta, 2019] and follow-up report was suggestive of improvement in the well-being of the children and amelioration in their reported complaints. The reason being, this corrective counseling was delivered through parents with instruction to carry out the advised brief activities regularly with smiling face. The speed of data collection, in follow-up was slow because of drop out of the subjects. It is also planned to re-administer MISIC-R Short version on these subjects after an interval of at least one year to evaluate the effect of objective parenting on minimizing the differences between abstract-concrete indexes.

Authors are trying to arrange financial support for further work.

CONCLUSIONS

Present study regrouped MISC-R short version scale's six subtests into three groups – Abstract, Concrete and Numerical indexes. Abstract ability was fluid or basic inborn capacity and its operational part is concrete ability depending on parenting and other stimulants to child. Discrepancy between abstract > concrete was found to be significantly related with working status of parents [both working] and position of the child in family [a precious child]. This discrepancy was attributed to parental inability to spend quality time for effective parenting. These findings seem to be of clinical importance in management of children having poor scholastic achievement, throwing temper and having behavior problems. If a child had abstract >concrete pattern on MISIC-R short version, a counselor can use therapeutic model to improve parent child relationship. This may improve child's desirable behavior and may bridge the gap between abstract concrete indexes and may lead to wholesome development of the child.

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Original Research Article

Effectiveness of Cognitive Behavioural and Relational Approaches in the Management of Sexual Dysfunction in the Indian Context

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ABSTRACT

The present study examined the effectiveness of cognitive behavioural and relational approaches, using a particular treatment model, in the management of sexual dysfunction in the Indian context. A newly designed treatment model, "Educative, Relational, Cognitive and Behavioural model" (ERCoB Model), which combines cognitive behaviour therapy and couple therapy techniques was administered to four different sexual dysfunction groups namely, erectile dysfunction, premature ejaculation, vaginismus and female orgasmic disorder. A sample of 140 sexually dysfunctional persons and their couples from Kerala took part in the 12-day therapeutic program on an out-patient basis, which was spread over a period of four to twelve weeks. The study was carried out on a pre-test and post-test basis. Four different outcome measures were used to assess their sexual functioning, marital relationship, emotional efficacy and knowledge of sex. Findings supported the hypothesis that ERCoB model of treatment is effective in the management of male and female sexual dysfunction in the Indian context. The therapeutic intervention used in this study has significantly improved their sexual interest, erectile function, ejaculatory control, vaginal lubrication, and orgasmic experience. Above all, ERCoB model of treatment has increased their communication, the time they spend on foreplay, the frequency of their sexual activity and their sexual satisfaction. The study established the efficacy of the ERCoB treatment model in treating patients with sexual dysfunction in Indian population.

Keywords: *Sexual Therapy, Cognitive behaviour therapy, Couple therapy, ERCoB model*

INTRODUCTION

Sexual dysfunction is a disturbance or impairment in sexual functioning. It is characterized by the repeated inability to participate in a sexual relationship of satisfying nature (Joseph, 2012). Sexual dysfunction is recognized as one of the major problems today and in the history of mankind (McCabe & Goldhammer, 2012). The impact of sexual dysfunction is devastating and not adequately explored. It adversely affects one's mood, well-being and interpersonal functioning. It is one of the most awful disorders that affect the sexual functioning of the individual and of the partner, and in turn disturb the relationship between each other (Krishna, Avasthi & Grover, 2011).

The introduction of behaviourally oriented sex therapy by Masters and Johnson and the invention of 'Viagra' led to a drastic change in the treatment of sexual disorders (Bancroft, 2009; Joseph, 2012). In contrast to psychoanalytic approaches, Masters and Johnson's sex therapy is relatively brief, problem-focused, directive and behavioural with regard to its technique (Sarason & Sarason, 2005; Wiederman, 1998). Rather than intrapsychic factors, Masters and Johnson (1966) emphasized social and cognitive causes of sexual dysfunction. Masters and Johnson (1970) noted that people with sexual dysfunction are anxious, lacks accurate information about normal human sexual functioning, has poor communication with their sex partners, and usually preoccupied with their performance during sexual interactions. Masters and Johnson's approach is a learning model of sexual functioning, and the objectives of treatment consisted of effectively achieving alleviation of performance anxiety and re-educating clients regarding human sexuality (Joseph, 2012).

It was Barlow (1986) who initially proposed a cognitive model of sexual dysfunctions. Sbrocco and Barlow (1996) and Wiegel, Scepkowski and Barlow (2007) further developed the original model, indicating that schematic vulnerability is one of the main components implicated in sexual dysfunction. Sbrocco and Barlow (1996) noted that individuals with sexual dysfunction have a set of sexual beliefs that are usually unrealistic and inaccurate. Whenever these demanding and unrealistic referential standards are not met, catastrophic personal implications may arise, facilitating the development of negative self-views (negative self-schemas) and predisposing

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individuals to develop sexual difficulties. Nobre and Pinto-Gouveia (2009) pointed out that men and women with sexual dysfunction activate significantly more incompetent self-schemas (e.g., "I'm incompetent," "I'm a failure") whenever they experience an unsuccessful sexual situation. The goal of cognitive work in sex therapy is to modify patient's problematic cognitions regarding sexual functioning (Joseph, 2012; Gomes & Nobre, 2011; Carvalho & Nobre, 2011; Nobre & Pinto-Gouveia, 2009; Wiegel, Scepkowski & Barlow, 2007; Wiederman, 1998). Cognitive work focuses on identifying negative automatic thoughts such as failure anticipation thoughts and erection concern thoughts in men, and disengagement thoughts and sexual abuse thoughts in women, that prevent them from focusing on erotic stimuli (lack of erotic thoughts) and promote lack of positive emotions (sadness, disillusion, guilt, and lack of pleasure and satisfaction) (Nobre, 2003; Nobre & Pinto-Gouveia, 2008; Nobre & Pinto-Gouveia, 2009).

More recently particular importance is given to understand emotions experienced during sexual activity (Nobre & Pinto-Gouveia, 2006). Joseph (2012) has pointed out that emotions and associated thoughts during sexual activity determine the sexual functioning of the individuals. Studies have shown that both men and women with sexual dysfunction have significantly less positive emotional reactions to automatic thoughts during sexual activity (Nobre & Pinto-Gouveia, 2006). Sexually dysfunctional men had significantly more emotions of sadness, disillusion, and fear, and less pleasure and satisfaction, compared to men without sexual problems (Nobre & Pinto-Gouveia, 2006). Women with sexual dysfunction had significantly less pleasure and satisfaction, and more sadness, disillusion, guilt, and anger (Nobre & Pinto-Gouveia, 2006). Cognitive behavioural approaches can help the client to understand and manage their emotional responses to their automatic thoughts presented during the sexual activity. Therefore, cognitive behavioural work in sex therapy consists of dispelling myths about male and female sexuality, modifying their negative automatic thoughts and schemas, enabling them to better manage their mood during sexual activity, and helping them to focus their attention on sexual sensations and pleasure rather than on their performance (Joseph, 2012).

Cognitive behavioural therapy coupled with a relational component is believed to be highly effective in the treatment of sexual dysfunctions (McCarthy & Thestrup, 2008). It was Masters and Johnson (1970) who initially proposed this approach, and termed it as conjoint sex therapy. Contrary to the psychodynamic approach Masters and Johnson advocated couple model of the treatment. They believed that the treatment of couples is essential for sexual problems rather than the person who seems to have a problem (Sarason & Sarason, 2005).

Effectiveness of cognitive behavioural approaches in the management of sexual dysfunctions is extensively researched with positive outcomes with Erectile disorder (Khan, Amjad & Rowland, 2019; Andersson et al., 2011; McCabe, Price, Piterman & Lording, 2008), Premature ejaculation (Rodriguez, Marzo & Piqueras, 2019; McMahon, 2015; Mohammadi et al., 2013; Abdo, 2013; Melnik et al., 2011), Female orgasmic disorders (Babakhani et al., 2018; Hucker & McCabe, 2015; Maryam et al., 2013; Pereira et al., 2013) and Vaginismus (pain disorders) (Babakhani et al., 2018; Pereira et al., 2013; LoFrisco, 2011; Bergeron, Morin & Lord, 2010; van Lankveld et al., 2006; van Lankveld, Everaerd & Grotjohann, 2001). However, the majority of these studies are from the western population and practically almost nil from India. Hence, there is a need to understand the effectiveness of cognitive behavioural approaches in the management of sexual dysfunction in our population. For this purpose, this study has developed a treatment model which includes cognitive behavioural and relational approaches for the management of sexual dysfunction in our culture. The treatment model is designed considering various aspects of sexuality and sexual practices that are prevailing in Indian culture. Therapeutic techniques from behavioural, cognitive and relational approaches are integrated into this eclectic model of treatment and termed as "Educative Relational Cognitive Behavioural model" (ERCoB) of treatment for sexual dysfunctions. The objective of the study is to test the efficacy of this model in the management of sexual dysfunction in the Indian context. The study expects that the ERCoB model of treatment could improve the sexual functioning of the people with sexual dysfunction and can assists clinicians in their formulation and treatment.

METHOD

Participants and Procedures

A total of 280 subjects (140 couples) participated in the study. Among them, 140 are sexually dysfunctional patients and 140 are their spouses (140 men and 140 women). Among the 140 sexually

dysfunctional patients, 70 are males and 70 are females. Four types of sexual dysfunction are examined in this study, they are, Male erectile disorder, Premature ejaculation, Female orgasmic disorder and Vaginismus. Each group consisted of 35 patients each. Similarly, the spouse group consisted of 70 males and 70 females. The study is carried out on a pre-test and post-test basis. The total number of persons studied including patients and spouses are 280 for pre-test and 280 for post-test.

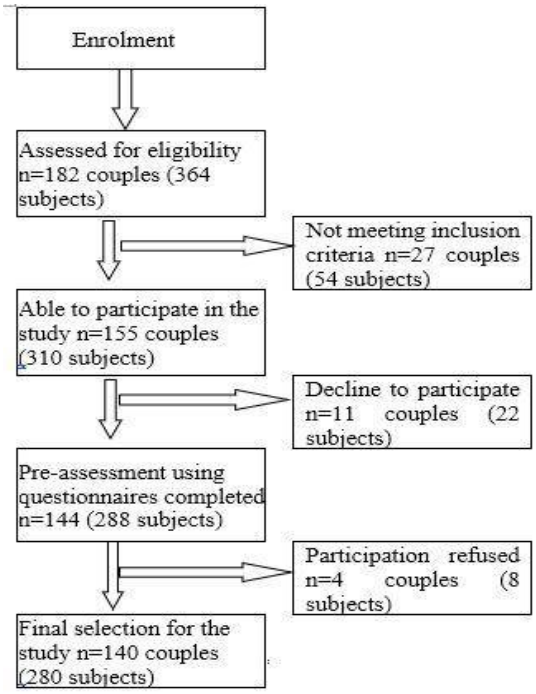
Participants are recruited from three health centres in Kerala namely, Sacred Heart Hospital, Thodupuzha, Mithr – Centre for Psychological Medicine and Research, Kundukad, Thrissur, and Govt. Mental Health Centre, West Fort, Thrissur, who were referred there for their sexual problems. Following inclusion criteria is followed while selecting the sample of this study. Patients diagnosed as having sexual dysfunction-based on DSM – IV (TR) criteria and only those who belong to the following four types of sexual dysfunctions, such as, Male erectile disorder, Premature ejaculation, Female orgasmic disorder, and Vaginismus are selected for the study. Married couples and only those who consented to couples treatment are taken for this study. The age range of the sample comprised of 20 to 49, and couples with the education of pre-degree and above and those can read and write English and Malayalam are included in the study. Similarly, exclusion criteria included the presence of any organic or systemic disorder, psychotic illness, organic sexual dysfunctions, Alcoholism, Diabetes Mellitus and Heart disease.

Those who consented for the study are referred to a physician to rule out organic vs. functional sexual dysfunction and only those who have functional sexual dysfunction are selected for the study. Subsequently, Golombok Rust Inventory of Sexual Satisfaction is administered and only those who get a score of '5' or above in any one of the four sexual dysfunctions are finally chosen for the study. Then the pre-test psychological assessment is carried out individually for each couple. Subsequently, ERCoB model of treatment is administered for their sexual dysfunction. After the therapeutic program, the post-test assessments are carried out. The study took more than eight years to complete because of the difficulties faced with data collection.

Measures

Golombok Rust Inventory of Sexual Satisfaction (Rust & Golombok, 1985) is used to measure sexual dysfunction. It measures sexual dysfunction in the following areas such as male erectile disorder, premature ejaculation, vaginismus, female orgasmic disorder, non-communication, infrequency, avoidance, non-sensuality and dissatisfaction. GRISS is reported to have good reliability and validity. The GRISS scale is mainly designed for the couples, with male and female versions. Each version of the scale consists of 28 items and there are five responses to choose from: 'never', 'hardly ever', 'occasionally', 'usually', and 'always'. The scoring of GRISS consists of two parts, the calculation of the raw score of the scale and the then raw score is being converted to transformed scores. Transformations are to a pseudostanine scale (from 1 to 9), with a score of 5 or above indicating a problem.

Figure 1: Flow diagram of participants



Sexual Preference and Behaviour Scale (Mathew & Joseph, 2009) is used to measure sex knowledge of the couples. Sexual Preference Behavioural Scale (SPBS) is intended to measure the sex knowledge in 19 different areas. The scale is reported to have high reliability and validity and suitable to Indian culture. SPBS contains 119 items. SPBS is recorded in a four-point response format, ranging from 'absolutely correct' (4) to 'absolutely wrong' (1) and 'correct' (3), 'wrong' (2) choices in between. SPBS has 80

negatively worded items and 39 positively worded items. The scale is scored in the positive direction. Higher the score in SPBS more is sex knowledge. The maximum score one can obtain is 476 and the minimum is 119.

Marital Quality Scale (Shah, 1995) is used to measure marital adjustment among couples. The scale reported having high reliability and validity. Marital Quality Scale (MQS) has separate male and female forms. The scale consists of 50 items with a four-point response format. The responses can be recorded in a four-point format, ranging from 'usually' (4), 'sometimes' (3), 'rarely' (2) and 'never' (1). MQS gives two types of scores, a total scale score and scores on the 12 factors of the scale. The minimum score is 50 and a maximum score is 200. A higher score indicates poor quality of marital life.

Emotional Intelligence Inventory (Sushama, 2003) is used to measure the emotional management of the couples. This inventory is used to assess emotional efficacy in 3 areas. Emotional Intelligence Inventory (EII) is reported to have high reliability and validity. The scale consisted of 50 items with a five-point response format. The responses can be recorded in a five-point format, ranging from 'completely agree' (5), 'agree' (4), 'undecided' (3), 'disagree' (2) and 'completely disagree' (1). EII gives two types of scores, a total scale score and scores on the 3 factors of the scale. Minimum possible score one can obtain is 50 and the maximum score is 250. A higher score indicates better emotional efficacy.

The design of the therapeutic model

The present study has designed a treatment model for persons with sexual dysfunctions. The therapeutic program is designed as an eclectic model of treatment for sexual dysfunctions in the Indian population. Therapeutic techniques from behavioural, cognitive and relational approaches are integrated into this eclectic model of treatment, termed as "ERCoB model of treatment". ERCoB is an abbreviated term for the four levels of treatment for sexual dysfunction, in which 'E' – stands for educative, 'R' - for relational, 'Co' - for cognitive, and 'B' - for the behavioural phase of the treatment., thus educative, relational, cognitive and behavioural (ERCoB) model of treatment. The ERCoB model of treatment is basically designed as a 12-day therapeutic program on an out-patient basis. Each session of the therapy last for forty-five minutes to one hour and the combined sessions last for one and a half hours. More than one session is permitted in a week for client's convenience. ERCoB model of treatment is specially designed for Indian context by the author of this study which can be carried out by a trained professional.

Stages of the therapy

The ERCoB model of treatment proposes four phases of interventions for sexual dysfunctions; they are educative, cognitive, relational and behavioural. The detailed description of the various stages is mentioned below.

Educative Phase

As a first step therapist provides a general introduction about sex therapy and then educates the couples regarding sexuality and sexual functioning. This stage aims to impart appropriate knowledge about sex, correct misconceptions and to facilitate sex therapeutics. The educative phase of the therapy is focused on the following areas, they are

1. Importance of sex and factors influencing sexual functioning.
2. The anatomy and physiology of sex.
3. The stages of sexuality.
4. Common myths and misconceptions regarding sexuality.

The educative stage provides couples with a detailed understanding of sex and sexual functioning. This enables the therapist to understand the underlying myths and misconceptions prevalent in the patient and their spouse and helps them to rectify these misconceptions. Above all, this helps the therapist to prepare the patient for the cognitive phase of the treatment. A hand out material is prepared and distributed to the couples for further reading.

Relational phase

The focus of the relational phase of the treatment is to improve the marital relationship among couples. The relational aspect of the treatment is included in the ERCoB model with the objective that the establishment of an emotionally secure relationship will allow normal sexual response to occur and to be enjoyed (Joseph, 2012). The relational phase of the ERCoB treatment model uses the intervention strategies of Integrative behavioural couple therapy (IBCT), which integrates strategies promoting changes with methods for fostering acceptance and tolerance strategies (Jacobson & Christensen, 1998). It is based on the idea that not all aspects of a couple's relationship are amenable to negotiated change, therapeutic work aims to promote acceptance in this context. The acceptance strategies are used as tools to manage incompatibilities, the differences that seem irreconcilable or problems that are not getting solved

(Barraca, 2015). The acceptance strategies are a hopeful alternative for couples those face problems that are unmanageable with known strategies for change. Acceptance is understood as a method by which problems can serve as vehicles for improving intimacy and mutual proximity (Dimidjian et al., 2008).

Cognitive phase

This phase is based on the cognitive aspect of sexual functioning. Thoughts, emotions and behaviours during sexual activity play a vital role in the sexual functioning of the couples. In this stage, the focus is made to understand the underlying misconceptions, illogical beliefs and assumptions and to modify them with more adaptive thoughts. Special attention was given to help the clients to manage their thoughts and emotions during sexual activity. Beck model of Cognitive therapy was used for this purpose.

Behavioural Phase

In this phase, the behavioural methods for the management of sexual dysfunction are applied. It is employed as behavioural experiments to reduce the fear and anxiety associated with sexual functioning and as the behavioural reattribution techniques to modify the cognitions. Techniques from Masters and Johnson's sex therapy and Beck's cognitive therapy are employed, which include mini-experiments, exposure-related exercises, homework assignments, and procedures. They are the sensate focus, pause procedure, squeeze procedure, masturbation, use of dilators, systematic desensitization, scheduling activities and Kegel exercises.

The procedure of the ERCoB model of treatment

ERCoB model proposes a 12-day therapeutic work. The therapeutic program begins with a combined educative session with couples on day one. Then the relational phase of the treatment is planned for the next four days, which involves both individual and combined sessions with couples. Subsequently, the therapeutic work progress through the cognitive and the behavioural phases of the treatment for the next seven days. The cognitive and behavioural phases of the treatment are administered simultaneously. Clients are given the option of attending more than one session per week. The ERCoB model of treatment is basically a 12-day treatment program spread over a period of four to twelve weeks for the convenience of the clients.

RESULTS

The study has designed a treatment model (ERCoB model) for the management of persons with sexual dysfunction in the Indian context. Mean difference analysis was performed to assess the significant difference between the test scores before and after the therapeutic program. ERCoB model of treatment was administered to four different sexual dysfunction patient groups such as, male erectile disorder, premature ejaculation, vaginismus and female orgasmic disorder. The test of significance was carried out on each group separately to understand the significant difference between their pre-test and post-test scores on sexual functioning. The same analysis was carried out on their spouse data also.

Male Erectile Disorder Patients and Their Sexual Functioning

Table 1 shows erectile disorder patients (n=35) sexual functioning test scores before and after the therapy. Results indicated a significant difference between pre-test and post-test GRISS (Golombok Rust Inventory of Sexual Satisfaction) scores of erectile disorder patients at $P<0.01$ level. Pre-test analysis indicated moderate to severe erectile dysfunction in the group before the therapy. The post test analysis revealed a significant reduction in their sexual dysfunction at $P<0.01$ level, which indicates a considerable improvement in their erectile function. Similarly, in the sub-areas (GRISS) also significant difference can be observed between their pre-test and post-test scores. Non-sensuality area of GRISS measures the client's inability to gain pleasure from touching and caressing during sexual activity. Pre-test analysis revealed erectile disorder patients spend less time on foreplay during their sexual activity before the therapy. But after the therapy erectile disorder patient's score on the non-sensuality has reduced significantly which is indicative of increased time they spend on foreplay with their partner. It points out that therapeutic intervention has significantly enhanced their ability to gain pleasure from touching and caressing. Avoidance measure of the GRISS scale indicates the extent to which a partner is actively avoiding sex in their relationship. Extremely high mean scores in the avoidance area on the GRISS scale in the pre-test analysis indicates erectile disorder patients were actively avoiding sex in their relationship. But the post-test analysis reveals a significant change in this pattern after the therapy. A similar pattern is observed in the non-communication measure of GRISS scale, which suggests a lack of adequate communication with their partner regarding sex. The post-test analysis indicates that ERCoB

therapy has significantly improved their communication regarding sex with their partner. Likewise, infrequency measure of GRISS scale revealed a low frequency of sexual activity with their partner. The post-test analysis after the ERCoB therapy revealed a significant increase in the frequency of their sexual activity. Similarly, dissatisfaction dimension of GRISS scale indicates the extent to which the individual is dissatisfied with their sexual partner and in their sexual relationship. The pre-test analysis indicates that erectile dysfunction patients were highly dissatisfied in their sexual relationship with their partners. But after the therapy, significant improvement was noted in the amount of satisfaction in their sex life. Table 1 reveals that ERCoB model of treatment has significantly improved the sexual functioning of erectile dysfunctional patients.

Table 1: Erectile disorder patient's sexual functioning scores before and after the therapy.

GRISS Measures (N=35)	Pre-test		Post test		CR value
	Mean	SD	Mean	SD	
Male erectile disorder	7.94	1.06	1.26	.50	43.95**
Premature ejaculation	1.51	.66	1.09	.28	5.05**
Non-sensuality	8.60	.70	1.31	.47	64.59**
Avoidance	8.26	.78	1.11	.32	57.62**
Non-communication	7.86	1.12	1.91	.61	48.48**
Infrequency	7.80	1.41	1.20	.41	30.32**
Dissatisfaction	8.63	.69	1.37	.60	57.91**
Overall SD Score	7.49	.89	1.69	.72	84.55**

** P<0.01 level

Premature Ejaculation Patients and Their Sexual Functioning

Table 2 shows premature ejaculation patients (n=35) sexual functioning scores before and after the therapy. A similar pattern like erectile dysfunction patients was observed with this group. Results indicated a significant difference between pre-test and post-test GRISS scores of premature ejaculation patients at P<0.01 level. Pre-test analysis indicated moderate to severe premature ejaculation before the therapy. The post test analysis revealed significant improvement in their ejaculatory control after the therapy. Table 2 indicated premature ejaculation patient's poor ability to achieve sensual pleasure through touch or senses. This reveals they were unable to gain pleasure from touching, cuddling or caressing their partner. They are inclined to focus on failure anticipation thoughts (losing their ejaculatory control) rather than focusing on the erotic stimuli. Similarly, premature ejaculation clients were actively avoiding sex with their partner and the frequency of their sexual activity appeared very low. They tend not to express their likes and dislikes regarding sex to their partners and were highly dissatisfied in their sex life. Post-test results indicate that ERCoB model of treatment has significantly improved their foreplay, communication with their partner, frequency of their sexual activity and their sexual satisfaction.

Table 2: Premature ejaculation patient's sexual functioning scores before and after the therapy.

GRISS Measures (N=35)	Pre-test		Post-test		CR Value
	Mean	SD	Mean	SD	
Male erectile disorder	2.20	.58	1.23	.42	15.03**
Premature ejaculation	8.69	.58	1.23	.42	72.23**
Non-sensuality	8.26	.85	2.06	.83	90.38**
Avoidance	7.06	.87	1.23	.42	51.96**
Non-communication	7.51	1.14	1.14	.35	37.60**
Infrequency	5.89	1.79	1.11	.32	17.14**
Dissatisfaction	7.89	1.20	1.20	.47	35.78**
Overall SD score	7.46	1.09	1.31	.47	47.05**

** P<0.01 level

Vaginismus Patients and Their Sexual Functioning

Table 3 shows vaginismus patients (n=35) sexual functioning scores before and after the therapy. Results indicated a significant difference between their pre-test and post-test scores at P<0.01 level. Moderate to severe vaginismus was noticed in the group before the therapy. The post test analysis revealed significant improvement in vaginal lubrication after the therapy. Pre-test analysis indicated that vaginismus patients also experienced mild to moderate level of orgasmic difficulties, which is believed to be a result of their vaginismus. It was noted that vaginismus patients were rarely using

'touching', the most important source of sexual stimulation in their sexual life or during sex. This is indicative of poor foreplay and the absence of sexual fantasies during sex. A high score on avoidance dimension is an indication of their aversion towards sex. Similarly, the frequency of sexual activity with their partner was very low, which also indicates poor sexual intimacy with their partner. Pre-test analysis indicated a lack of adequate communication with their partner regarding sex. They did not express their likes and dislikes to their partner and were highly unsatisfied with their sex life and with their partner. Post-test results indicate significant improvement in their sexual functioning after the therapeutic intervention. Vaginismus patients were able to achieve a good amount of vaginal lubrication and orgasmic experience after the therapy. An increase in the time they spend on foreplay, improved frequency of their sexual activity, enhanced communication regarding sex and better satisfaction with their partner were also noticed after the therapy.

Table 3: Vaginismus patient's sexual functioning scores before and after the therapy.

GRISS Measures (N=35)	Pre-test		Post test		CR value
	Mean	SD	Mean	SD	
Vaginismus	8.43	.74	1.29	.46	65.19**
Female orgasmic disorder	6.26	1.62	1.86	.43	18.62**
Non-sensuality	8.57	.70	1.26	.44	64.00**
Avoidance	8.11	.80	1.66	.48	75.58**
Non-communication	8.63	.49	2.03	.70	78.55**
Infrequency	8.34	.72	1.20	.40	65.19**
Dissatisfaction	8.49	.78	1.94	.80	76.58**
Overall SD score	7.77	.87	2.14	.81	67.92**

**P<0.01 level

Female Orgasmic Disorder Patients and Their Sexual Functioning

Table 4 shows female orgasmic disorder patients (n=35) sexual functioning scores before and after the therapy. A similar pattern like the three other sexual dysfunctional patient groups was observed here. Results indicated a significant difference between their GRISS scores before and after the therapy at P<0.01 level. Pre-test analysis indicated moderate to severe female orgasmic disorder before the therapy. The post test analysis revealed significant improvement in their orgasmic experience after the therapy, which proves that ERCoB model is effective in treating persons with the female orgasmic disorder. Female orgasmic disorder patients scored high on Non-sensuality measure on GRISS scale, which reveals poor foreplay with their partners. It is worth to note that foreplay prepares one to have a successful orgasmic experience. Like other sexual dysfunctional patient groups, female orgasmic disorder patients did not express their likes and dislikes to their partner and took a passive role during sex. Similarly, the frequency of their sexual activity was low and they tend to avoid sex more often. As a result, they were highly dissatisfied in their sex life and with their sex partner. Table 4 shows a remarkable difference in their sexual functioning after the therapeutic intervention. They were able to spend more time on foreplay; the frequency of their sexual activity has increased; they were able to talk more about sex in their relationship and felt more satisfied with their sex life.

Table 4: Female orgasmic disorder patient's sexual functioning scores before and after the therapy.

GRISS Measures (N=35)	Pre-test		Post test		CR value
	Mean	SD	Mean	SD	
Vaginismus	1.94	.23	1.09	.28	14.28**
Female orgasmic disorder	8.66	.68	1.17	.38	63.11**
Non-sensuality	8.69	.47	1.29	.45	88.09**
Avoidance	6.60	1.19	1.09	.28	30.56**
Non-Communication	7.11	1.10	1.63	.49	41.55**
Infrequency	5.60	.69	1.11	.32	52.33**
Dissatisfaction	8.49	.50	1.66	.48	80.65**
Overall SD score	7.66	1.13	1.51	.56	47.05**

** P<0.01 level

Male Spouse Group and Their Sexual Functioning

Male spouse group (n=70) includes the spouses of vaginismus and female orgasmic disorder patients. Table 5 shows male spouses sexual functioning test scores before and after the therapy. Results do not suggest any presence of an erectile disorder or premature ejaculation in this group, apart from occasional erectile difficulty and poor ejaculatory control they experienced which seems to have

improved after the therapy. The main problems noticed with male spouses were their inability to gain pleasure from touching and caressing during sexual activity, indicating less time they spend on foreplay. Similarly, they avoid communicating with their partner regarding sex and also avoid sexual activity. They appeared to be extremely dissatisfied in their sexual relationship with their partners. After the therapy, a significant improvement was noticed in all the above areas at the P<0.01 level, which supports the effective of ERCoB model in treating couples having a sexual dysfunction.

Table 5: Male spouse's sexual functioning scores before and after the therapy.

GRISS Measures (N=70)	Pre-test		Post test		CR value
	Mean	SD	Mean	SD	
Male erectile disorder	4.26	2.32	1.23	.42	12.45**
Premature ejaculation	4.36	2.57	1.36	.59	10.90**
Non-sensuality	8.37	.49	1.50	.65	74.98**
Avoidance	7.14	1.61	1.24	.43	32.19**
Non-communication	8.04	1.06	1.56	.58	73.62**
Infrequency	6.61	1.47	1.29	.46	37.14**
Dissatisfaction	7.10	1.45	1.69	.60	33.39**
Overall SD score	6.97	1.10	1.77	.80	66.89 **

** P<0.01 level

Female Spouse Group and Their Sexual Functioning

Female spouse group (n=70) includes the spouses of erectile disorder and premature ejaculation patients. Table 6 shows female spouses sexual functioning test scores before and after the therapy. The female orgasmic disorder was noticed among the spouses of erectile disorder and premature ejaculation patients in the pre-test, which has significantly improved after the therapy. Like male spouses, female spouses also inclined to spend less time on foreplay, avoided talking to their partners about sex, and were highly dissatisfied in their sexual relationship. Post-test results reveal significant improvement in all areas after the therapy at the P<0.01 level.

Table 6: Female spouse's sexual functioning scores before and after the therapy.

GRISS Measures (N=35)	Pre-test		Post test		CR value
	Mean	SD	Mean	SD	
Vaginismus	1.87	1.20	1.07	.25	6.59**
Female orgasmic disorder	6.73	1.35	1.67	.71	46.24**
Non-sensuality	8.40	.78	1.70	.74	66.34**
Avoidance	7.37	.95	1.51	.55	55.10**
Non-communication	7.47	1.28	1.54	.58	39.17**
Infrequency	6.10	1.84	1.17	.38	24.30**
Dissatisfaction	8.24	.96	1.50	.58	65.38**
Overall SD score	6.13	1.02	1.84	.67	63.09**

** P<0.01 level

DISCUSSION

The purpose of the present study was to examine the effectiveness of cognitive behavioural and relational approaches, using a particular treatment model, in the management of sexual dysfunction in the Indian context. The author of the study has designed a treatment model called ERCoB model which combines cognitive behavioural and couple therapy techniques for the treatment of sexual dysfunction. The newly designed treatment programme (ERCoB model) was administered to four different sexual dysfunction groups namely, erectile dysfunction, premature ejaculation, vaginismus and female orgasmic disorder and tested its efficacy. Findings supported the hypothesis that ERCoB model of treatment highly effective in the management of male and female sexual dysfunction in the Indian context. Cognitive behavioural and couple therapy approaches employed in the ERCoB model has significantly improved the erectile function, ejaculatory control, vaginal lubrication and orgasmic experience of the clients under study.

These findings appear to be consistent with recent research on the effectiveness of cognitive behaviour therapy and couple therapy approaches in the management of male and female of sexual dysfunction. Namely, improving their erectile function (Khan, Amjad & Rowland, 2019; Andersson et al., 2011; McCabe, Price, Piterman & Lording, 2008), gaining ejaculatory control (Rodriguez, Marzo & Piqueras, 2019; McMahon, 2015; Mohammadi et al., 2013; Abdo, 2013; Melnik et al., 2011), attaining orgasmic experience (Babakhani et al., 2018; Hucker & McCabe, 2015; Maryam et al., 2013; Pereira et al., 2013) and achieving their vaginal lubrication (Babakhani et al., 2018; Pereira et al., 2013; LoFrisco, 2011; Bergeron, Morin & Lord, 2010; van Lankveld et al., 2006; van Lankveld, Everaerd & Grotjohann, 2001). Most of the studies in this direction reported are from the West, none from India. This study may be the first of this kind.

ERCoB model is similar to the PLISSIT model of treatment developed by American Psychologist Jack Annon in 1976, which is still extensively used in the west (Annon, 1976). PLISSIT model is helpful in giving direction and guidance to clinicians in their treatment of sexual dysfunction. This model is based on the belief that not all sexual problems need intensive therapy. In contrary to PLISIT model, ERCoB model is designed for persons experiencing marital and sexual problems and proposes four levels of intervention that is suitable to our culture. Marriage has a special place in the heart of Indians. Indian culture gives great importance to marital relationships. Disregarding relationship component, one cannot address sexual problems in India. Similarly, ERCoB model starts with an educative phase of the treatment, which has high relevance to the prevailing situations in India. Sex is still considered as a most tabooed, under-researched and mal-practised condition in India. Even normal couples and highly educated lacks proper knowledge and skills in sex. Myths and misconceptions play a major role in causing and maintaining sexual dysfunction in India (Joseph, 2012). Likewise, there is a wide gap between Indians and Westerners in their attitude, beliefs, preferences and practices in sex. ERCoB model of treatment is useful in addressing all these issues in a culturally appropriate way.

Results from the present study should, however, be interpreted with caution due to several limitations. The sample of the study is limited to Kerala state only, so care should be taken when generalising these findings to other people. No follow-up assessment was carried out after the post-test assessment. It should have been better if follow-up assessments were carried out at the three and six months after the therapy. Similarly, there was no control group for this study.

Regardless of these limitations, this study confirms the effectiveness of cognitive behavioural and couple therapy approaches and of the new treatment model in the management of sexual dysfunction. ERCoB treatment model is suitable to address both male and female sexual dysfunction in India and is culturally appropriate. This model of treatment can enhance the confidence of clinicians in planning and treating people with Sexual dysfunction.

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NOTICE

We regret the marked delay in bringing out IJCP issues of 2020 (vol. 47). Both the issues (March & September) of IJCP, 2020 are under print and likely to be dispatched anytime in December 2020. Further best efforts have been made to streamline the Journal and to make this forum more interactional. Suggestion of honourable members to improve the quality of the journal will be highly appreciated. Kindly send your suggestions to editorijcp@gmail.com

Editors

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Original Research Article

Efficacy of Stress Inoculation Training on Coping with Pain and Impact of Tension Type Headache

Preeti Gupta

ABSTRACT

Background: Headaches may take pathological forms with considerable disability if managed with maladaptive coping. Stress inoculation training (SIT) tends to inculcate adaptive coping by exposing patients to stress, however it has been very less documented with headache population. Thus, we aim to examine the efficacy of SIT on coping and headache impact in patients with tension type headache (TTH). **Method:** Twenty females with TTH aged between 18-50 years were purposively selected and randomly grouped into intervention group (SIT, n=10) and controls with treatment as usual (TAU, n=10). Eight sessions of SIT were implemented in three phases for 45-60 minutes each. A Semi-structured Proforma, Headache Impact Test and Pain Coping Inventory were administered at baseline, post intervention and at three months follow up to see the changes in coping styles and impact on functional abilities in patients. **Results:** Headache frequency, duration and headache impact scores improved significantly at post-intervention assessment and these improvements maintained at the follow-up assessment. Treatment was effective for active coping styles (distraction, transformation and reducing demand) and passive coping styles (resting and worrying) at post-hoc analysis ($P<0.017$). However, mean rank group differences were absent for reducing demand and worrying at post-intervention and follow up assessments. **Conclusion:** Efficacy of SIT was established as it was helpful in bringing changes in coping and functionality, however, with larger sample size and longer follow ups it may provide more lucid results.

Keywords: *Stress inoculation therapy, Tension-type headache, Coping, Impact*

INTRODUCTION

Global burden of disease, 2016 estimated almost 1·89 billion individuals to have a tension-type headache (TTH) out of 3 billions individuals with headache and considered it as a leading cause of disability which is under-reported and ignored (Stovner et al., 2016). TTH has been reported to occur most often in relation to emotional conflict and psychosocial stress (Zivadinov et al., 2003; Waldie & Poulton, 2002). Theories and researches have linked the pain disorders with various cognitive factors like beliefs, expectations, attribution, avoidance, self-esteem and sense of control that is often compromised in patients with headache and hence needs to be addressed (Andrasik et al., 2005; France et al., 2002; Rollnik et al., 2001). Headaches are likely to respond better to stress management technique or medication but effectiveness is limited as stress management with no cognitive element and exposure to stressors as well as frequent use of medication leads to avoidance of headache triggers (Kubik & Martin, 2017). And this Avoidance behaviour gradually reduces the pain tolerance threshold. Therefore, recent researchers are focusing more often on the approach strategies of stress management in the treatment of headache and have emphasized the need of inclusion of exposure techniques in the cognitive behaviour module (Martin et al., 2014). Stress Inoculation Training (SIT) is a form of cognitive behaviour therapy that helps distressed individuals to engage in more adaptive active coping with chronic, intermittent or continuous stressors and emotional-regulation (Meichenbaum, 1996). It includes the phases of rehearsal and practice where clients are gradually exposed to stressors and they tend to consolidate their learned skills with practice. SIT has not been reported to add or develop any further deleterious effect on the ongoing psychological distress by the exposure to stressful events or situations whereas it has been found to mitigate the negative affect (Varker & Devilly, 2012). However, no published literature is available on the efficacy of SIT on headache in India in the view of argument that long exposure to moderately threatening headache triggers may lead to desensitization to the triggers and increased tolerance and enhance self-esteem.

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In the era of newly emerging CBT approaches, SIT is still establishing its efficacy by utilizing its concept of inoculation against later stressors and its flexibility in structuring the phases and with respect to mode of conduction especially in women population (Holcomb, 1986; Jackson et al., 2019; Jamshidifar et al., 2014; Rabiee et al., 2019; Villani et al., 2013). Moreover, it was reported superior to pharmacological interventions alone and the relative improvement was evident at a 3-year follow-up (Holcomb, 1986).

In the view of dearth of studies on headache done in India (Ravishankar & Chakravarthy, 2002), present study is an attempt to explore how SIT can help patients with TTH in building on their cognitive-emotive strengths and resilience in order to better manage the challenging situations which are involved in precipitating and maintaining the TTH and this way alleviate the negative impact of headaches.

MATERIAL AND METHODS

Ethical considerations

Ethical approval for the study was taken from the institutional ethics committee and written informed consent was taken from all the patients before participation.

Participants

It was a pre-test post-test group design where 20 female patients with TTH aged between 18 – 50 years were purposively selected from a tertiary care centre. The patients diagnosed by consultant psychiatrist or neuro-psychiatrist as per classification of HIS (Headache Classification Committee of the International Headache Society, 2013) were approached. Those respondents, having stable pattern of headache symptoms with stable medication use started four weeks before and willing to give a written informed consent, were included in the study. Those who did not have any headache episode and/or medication for headache during the previous month were excluded to ensure the effect of SIT. Any patient with co-morbid major psychiatric disorders, major medical or neurological disorder or with diagnosis of cluster headache that were likely to interfere with comprehension and participation was also excluded from the study.

Socio-demographic and clinical data sheet: This data sheet was developed by the authors to obtain socio-demographic (age, education level, marital status, locality, economic status etc) and clinical details (age of onset, duration and frequency of headache etc) of the participants.

Headache Impact Test (HIT-6): HIT was developed by an international team of headache experts from neurology and primary care medicine. High reliability was demonstrated with internal consistency (time1/time2) of 0.83/0.87 in the National Survey of Headache Impact and 0.82/0.92 in the HIT-6 validation study. Short form has been validated by Kosinski et al. (2003). It measures the adverse impacts of headache on social functioning, role functioning, vitality, cognitive functioning, psychological distress and severity of headache pain.

Pain Coping Inventory (PCI): It was developed by Kraaimaat & Evers (2003) and consists of the cognitive and behavioural scales for coping with pain: Pain Transformation, Distraction, Reducing Demands, Retreating, Worrying, and Resting with high test-retest reliability (0.67, 0.73, 0.43, 0.71, 0.82 and 0.71 respectively) and temporal stability upto 3 years. The internal consistency of the subscales varies between 0.53 to 0.77 making each scale sensitive and applicable to be used separately. **Intervention Module**

Stress inoculation training (SIT) module included three intervention phases i.e. conceptualization, skill acquisition and consolidation, and rehearsal and application with eight sessions of 45-60 minutes (Table 1). The components of each phase were tailored as per the needs of patients. In first phase the model about pain components originally given by Melzack (1973) was utilized as a reference for psycho-education so that patients could become aware about the biological, cognitive and affective components of pain separately and try to manage each of them as a part of headache management. All of them were psycho-educated about stress and its relation with mind, body and coping in the first phase. They were then taught about how to identify their arousal signs and the stages through which a stress reaction progresses. Headache diary was maintained. In second phase various relaxation and cognitive techniques were taught as per need while the adaptive self-statements to cope with stress reactions were practiced with each patient. Social skill training was given to selective patients. Third phase focused on graded exposure to pain threatening stressors and practice of skills learned during therapy.

Table 1: Details of Stress inoculation training (SIT) module

Phases of therapy	No. of session	Techniques used	Rational of treatment	Practice in session	Home-works

Phase 1 (Conceptu-alization)	1	Rapport establishment and psychoeducation	• Develop understanding about causes and effects of stress and its association with pain
			• Identify the client's coping strengths and resources
			• Make clients identify their maladaptive coping and negative self-statements
			• Disaggregate the bigger problem into small sub-goals
				• Causes
				  • Past events
				  • Inadequate coping
				  • Do reasons really matter
				  • Pragmatic approach to deal with stress in here and now
				• Effects of stress upon the cognition, body & behaviour
				• Components of pain using theoretical framework
				• Emphasis on accurate identification of arousal symptoms
				• Develop understanding regarding nature of response (coping) including arousal and accompanying self-statements which progresses through four stages
				• Encourage to see stress reaction as a series of stages rather than one massive reaction including-
				  • Preparing for a stressor
				  • Handling
				  • Feelings
				  • Reinforcement to cope
				• How cognition and behavioural techniques can impact pain signals
					Written hand-out to reinforce information
					Maintain diary and make a list of personal tension spots

Phase 2 Individually Tailored (Skill-Acquisition and consolidatio n)	5	Relaxation	Reduce physiological arousal and increase awareness of characteristic stress position	Direct Action: • Collecting information • Relaxation (muscle work, tension and relaxation, reciprocal inhibition) • Modelling of relaxed vs tense styles of activity	Make list of physical cues to use relaxation Practice relaxation in an stressful situation Maintain diary
		Distraction skills-mental relaxation/ imaginary manipulation Cognitive-restructuring Reattribution Self -instructional training	Provide a variety of coping techniques at each stage of cognitive coping modes	Cognitive coping: • Both adaptive and maladaptive responses (cognitive coping) are mediated by sets of self-statements • Analyze appraisal, expectancy, attribution and self-perception which are translated into specific self-statements for rehearsal in four stages • Make subject aware of and monitor negative self-defeating self-statements • Avoidance brings fear thus the most effective way is positive coping skills	Make a list of mental stress triggers-close your eyes and run a movie, note down feeling, thoughts that precede/accompany/f ollow the pain Practice techniques Maintain diary
		Social skills/ Assertiveness training	Develop specific skills for specific population	• Need for social skills • Nonverbal-verbal communication • Assertive vs aggressive or submissive behaviour • Role play of one situation of easy to moderate difficulty • Discuss reasons for inefficacy of past coping and how to improve	Make list of difficult social situations and coping used in past
Phase 3 (Rehearsal and application)	2	Desensitization Imaginary stress Stress inducing activity	Help subject crystalized all that learned and apply	• Practice physical and mental relaxation techniques combined • Graded exposure to 3 pain threatening stressors • Review accuracy of concepts	Develop an action plan to deal with stress Report progress and technique used

				• Plan for future situations if headache occurs • Feedback sessions	Report problem experienced in practicing these Maintain Diary

Procedure

Patients with TTH fulfilling the inclusion criteria were recruited and randomly assigned by the researcher (using fish bowl method) to intervention (SIT) and treatment as usual (TAU) groups. They were informed about the nature and purpose of the study, the number of assessments, duration of intervention, and randomization of the participation. Following this, written informed consent was obtained from them. Thereafter, sociodemographic and clinical data sheet developed by the researcher was filled. Baseline assessment (Level 1-baseline assessment) was done using HIT and PCI. The intervention group received a total of 8 sessions of SIT thrice and then twice a week in addition to medication. On the other hand patients those kept in TAU group to control the medication effect and other extraneous variableswere discussed and informed about various aspects of headaches like symptoms, causes, treatment options etc. They kept visiting the psychiatrists for medication review but no psychotherapy sessions were held.The researcher was blind to all the medications that the patients received during this period.

Thirteen patients did not meet the inclusion criteria, while seven declined to participate and two did not return following assessment and could not be re-contacted. All subjects were re-assessed one week after completion of intervention (Level 2-post intervention assessment) and after 3 months of post assessment (Level 3-follow up assessment) on the measures of HIT and PCI. Waitlist control group also assessed at same time point using the same tools.

Statistical Analysis:

The study sample size was small, hence non-parametric tests were utilized. Group differences were examined with Mann-Whitney U-test. To compare the effect of treatment over time across multiple tests for the intervention group, Friedman test, a nonparametric equivalent of repeated measures was employed. Post-hoc analysis was done using Wilcoxon signed rank test. In this study, a level of significance (p) of < 0.05 (two tailed) was taken to consider a result (either for a group difference or repeated measures) statistically significant except for Post-hoc analysis where it was set at 0.017 after Bonferroni adjustment.

RESULTS

Preliminary analyses revealed that both groups were homogenous for age (p = 0.47), marital status (p = 0.31), occupation (p = 0.29), religion (p = 0.33), socio-economic status (p = 0.59) and family history (p = 0.27). Mean age was 31.43 years ± 9.09 (range 19-51 years) for intervention SIT group while 29.93 years ± 6.84 (range 19-44 years) for TAU group. No significant mean ranking difference between the groups was present for the frequency and duration parameters of headache (Table 2). However, a trend for decrease in frequency in SIT group at level 2can be seen (p<0.052). Impact of headache in terms of both, score and the intensity, was lower for SIT group at level 2 as compared to TAU group (p<0.05). In follow up assessment at level 3, mean rank of headache impact in term of scores significantly decreased in SIT group (p<0.05).

Table 2: Mean rank difference between treatment and wait-list groups for clinical parameters and headache impact (HIT) over time

Variables		Mean rank		Z value
		Treatment group (N=10)	Wait-list control group (N=10)	
Frequency per month	Level 1	9.45	11.55	-0.80
	Level 2	7.95	13.05	-1.95
	Level 3	8.05	12.95	-1.87
Duration in hour	Level 1	12.05	8.95	-1.19
	Level 2	10.05	10.95	-0.349
	Level 3	10.80	10.20	-0.23
HIT scores	Level 1	9.85	11.15	-0.49
	Level 2	7.50	13.50	**-2.29***
	Level 3	7.55	13.45	**-2.25***
HIT Intensity	Level 1	9.70	11.30	-0.69
	Level 2	7.70	13.30	**-2.24***
	Level 3	8.45	12.55	-1.63

*P<0.05 (2 tailed)

Table 3: Effect of SIT on clinical parameters and headache impact (HIT) across repeated measures over time

Variables	Mean Rank			Friedman χ^2 (df = 2)	Post hoc (Wilcoxon signed rank)
	Baseline Level 1	Post SIT Level 2	FU Level 3		
Frequency per month	2.85	1.50	1.65	15.10**	**1>2,3**
Duration in hour	2.85	1.25	1.90	16.19***	**1>2,3**
HIT scores	2.90	1.55	1.55	15.67***	**1>2,3**
HIT Intensity	2.45	1.75	1.80	6.42*	-

Bonferroni adjusted p<0.017, *p<0.05, **p<0.01, ***p<0.001 (2 tailed)

The significance of treatment effect over time in SIT group is given in Table 3. Post-hoc analysis (Bonferroni correction, p<0.017) explained that headache frequency, duration of episode and headache impact in terms of scores improved significantly at level 2 and improvements maintained at level 3 showing no significant difference between level 2 and 3. Intensity of headache impact showed no improvement.

Table 4: Mean rank difference between treatment and wait-list groups for coping (PCI) over time

Variables			Mean rank		Z value
			Treatment group (N=10)	Wait-list control group (N=10)	
Active coping	**Reducing demand**	**Level 1**	9.80	11.20	-0.55
		Level 2	13.00	8.00	-1.95
		Level 3	10.40	7.00	-1.41
	Distraction	**Level 1**	10.20	10.80	-0.24
		Level 2	14.60	6.40	**-3.12****
		Level 3	14.15	6.85	**-2.78****
	Transformation	**Level 1**	12.30	8.70	-1.41
		Level 2	13.85	7.15	**-2.57***
		Level 3	11.05	6.07	**-2.02***
Passive coping	**Resting**	**Level 1**	9.35	11.65	-0.89
		Level 2	7.90	13.10	**-1.99***
		Level 3	6.50	12.57	**-2.48***
	Worrying	**Level 1**	11.80	9.20	-1.00
		Level 2	9.45	11.55	-0.80
		Level 3	8.05	10.36	-0.94
	Retreating	**Level 1**	11.10	9.90	-0.46
		Level 2	9.05	11.95	-1.12
		Level 3	8.40	9.86	-0.59

*P<0.05, **P<0.01 (2 tailed)

Table 5: Effect of SIT on coping across repeated measures over time

Variables		Mean Rank			Friedman χ^2 (df = 2)	Post hoc (Wilcoxon signed rank)
		Baseline Level 1	PostSIT Level 2	FU Level 3		
Active Coping	**Reducing demand**	1.20	2.55	2.25	12.56**	**1>2,3**
	Distraction	1.00	2.65	2.35	16.70***	**1>2,3**
	Transformation	1.25	2.20	2.55	11.68**	**1>2,3**
Passive Coping	**Resting**	2.85	1.85	1.30	15.94***	**1>2,3** 2>3*
	Worrying	2.90	1.45	1.65	14.97**	**1>2,3**
	Retreating	2.50	1.55	1.95	7.28*	1>2*

Bonferroni adjusted p<0.017, *p<0.05, **p<0.01, ***p<0.001 (2 tailed)

In active coping styles, mean ranks for distraction and transformation were significantly lesser at level 2 and 3 (Distraction- p<0.01 and Transformation- p<0.05) as compared to that in TAU group (Table 4). Reducing demand coping was used similarly by both groups except at level 2 where a trend for more use of this coping was present in SIT group. In passive coping styles, significant mean rank differences were obvious only for resting at level 2 and level 3 (p<0.05) with more use in TAU group.

The scores for all the three active coping styles significantly increased at level 2 and 3 from level 1 (p<0.017) in SIT group (Table 5). All passive coping styles except retreating revealed significant decrease

in scores over time. No difference was found between level 2 and 3 for all the coping styles after bonferroni adjustment.

DISCUSSION

TTH has been considered the most common and costly type of headache in India (Malik et al., 2012),and is bound to reoccur in the view of tension and stress. Management of TTH now calls for the need for exposure techniques rather merely aiming at self-management practices as these techniques can sensitize the person with inevitable stressors. The index study focused on sensory, cognitive and motivation aspects with exposure techniques in a very flexible way with SIT. To the best of our knowledge this is one of the first studies to specifically assess the effectiveness of SIT on TTH patients' coping and ability to function. Such systematic implementation of SIT to combat patients' pain and stress, and enhance coping is lacking in the Indian context.

The study included only females aged between 18-50 years because of the less frequent visits of male patients to the tertiary center and the time constraint. Global burden of diseases has also recently reported that headaches were most burdensome in females aged between 15 and 49 years along with 2·9 million years of life with disability (Stovner et al., 2018). Also, the average age of presentation of headaches at tertiary centers in Asia is found 25-40 years (Shafiabady et al., 2015).

Following SIT, frequency and duration of headache episodes improved but similar improvements were observed for control group also with time. Studies with CBT (Christiansen et al., 2015) and meta-analysis on randomized controlled trials (RCT) on self-management interventions (Probyn et al., 2017) have also found no improvement in headache frequency. However, other studies on headache with CBT and its variants with exposure techniques have shown around 33% to 68% reduction in frequency but they appreciated longer follow-upsupto12 months (Christiansen et al., 2015; Martin et al., 2007). This study sample included a large portion of chronic cases of TTH where patients were experiencing the pain for long periods and were on regular pharmacological treatment. There may be possibility of less expectation from SIT intervention in patients. One of the important finding by Kuile et al. (1995) concluded that pain reduction in short term or long term can be predicted only by the treatment expectations that the clients made prior to treatment and not by the demographic and medical status variables or scores of psychological distress, personality traits, coping styles or pain appraisals. They used autogenic training and cognitive self-hypnosis training that can further be assumed as a distant variant of self-instruction training of SIT. Acquisition of SIT skills possibly after each session may change the treatment outcome expectancies that are resulted from variable demand characteristics of sample, however, it was not evaluated in this study.

Headache impact corresponds to impairments in the personal, social and occupational areas. It was assessed in terms of scores and intensity. The scores of headache impact significantly reduced with SIT. Improvements were also observed for intensity of impact over time but differences from TAU group were absent. HIT assesses the intensity levels of headache with a wide range of cut-off scores. Most of the patients of this study reported 'some' to 'substantial' intensity of impact. It appears that overall reduction in negative impact of headache was probably not to the extent to change the intensity from one level to another within three months of follow-up despite change in scores. It can be argued that the latitude of SIT to bring improvement within this large window of intensity seemed insufficient in this study. However, four sessions of CBT including exposure technique with four patients and one month follow up were found effective in reducing the level to 'none' in one study (Motoya et al., 2014). Meta-analysis by Probyn et al. (2017) also found improvements in pain intensity and headache-related disability but with small effect size when RCTs on CBT were included in analysis.

SIT proved efficacious in improving distraction and transformation styles of active coping and resting style of passive coping with pain over time showing significant differences from TAU. Coping styles like reducing demand (with trend) and worrying showed no group differences despite improvement with SIT over time while retreating remained unaffected. It raises an argument that if SIT was not efficacious in correcting the usage of all the passive coping styles, it still proved efficient in encouraging the employment of all the active coping styles. SIT includes coping statements and self-instructions in second phase that seems to be effective in the employment and improvement of these coping styles. When stressors occurred, instead of feeling extremely anxious, the treatment group possibly had at its disposal a repertoire of stress inoculation techniques to implement that had possibly influenced the overall

coping. These improvements with SIT remained stable without showing any further significant improvement at follow-up assessment. Moses and Hollandsworth (1985) have argued that SIT education may motivate individuals to take initial steps in seeking health care but may be insufficient in terms of getting patients to follow through with this process. It signifies the need for more booster sessions of SIT and longer follow-ups with regular practice of techniques. Though other studies have found SIT effective even after a short follow-up of two weeks (Salami, 2007) to follow-up of one month (Kawaharada et al., 2009) and three months (Flaxman& Bond, 2010) but these included a very large sample of non-headache population. Besides, repeated prolonged exposure to triggers has been shown to lead to desensitization where trigger loses the capacity to precipitate headaches (Martin, 2000). This duration of exposure was also not measured or controlled in present study.

Another aspect argues about the efficacy of SIT under conditions of continuous trauma (Hensel-Dittmann et al., 2011). Transfer of these newly taught techniques to everyday stressful situations may not be immediate and swift in presence of serious ongoing threat which was not assessed during the intervention. In present study, with longer follow-up, it might have been possible to find out the barriers influencing the efficacy on longer term. More booster sessions are also important in the view that stress and poor coping can further precipitate the episodes and chronic pain may need periodic motivation to employ those techniques.

Present study showed variability in terms of improvement in variables like some variables showed improvement over time but showed no group differences and vice-versa. This variability has been reported in other chronic headache studies also (Thorn et al., 2007).They argued that possibly the main effects in study were unable to reflect statistical effects for the groups separately because of the small sample size which is the similar case with our study.

Overall, the results of the study provide support for the efficacy of SIT in managing TTH patient. However, research on long-term follow-ups is necessary to strengthen results derived from this study. Despite steps to maximize the results of the study, several limitations must be addressed in future studies. First, small sample size, there is a need for still larger samples to know effectiveness of SIT. Secondly, the study included female population. However, the apparent concern about the generalizability of findings for male population does not hold good because prevalence of female patients with headache is more. Thirdly, the course and stressors have not been identified and controlled that could have an effect on findings. Short-term and single follow-up period also impedes conclusion about long term effectiveness of SIT.

Conclusion

Despite its limitations, the results of this study add to the literature on the efficacy of SIT in TTH. Citing the increasing prevalence of headaches among females and the adverse effects they have on the patients' coping and functioning, it is imperative that steps must be taken for focused early intervention with SITwith longer follow ups and booster sessions. It can pay long-lasting benefits for improving the functionality and preventing acuteheadache episodes from transforming into chronic disorder by adapting better coping.

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Original Research Article

Role of Emotion Regulation Strategies in Depression and Anxiety among Adolescents

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ABSTRACT

The strategies for regulating emotions and the difficulties in the regulation of one's emotions have been found to be linked with depression and anxiety in the past researches. **Aims and Objectives:** The objective of the current research study was to add to the previous research literature on the association of depression and anxiety with emotion regulation in a sample of adolescents. The study also investigated if strategies of emotion regulation predict depression and anxiety. **Sample:** The research was carried out on 400 adolescents of 13 to 18 years of age. **Measures:** Four standardized scales i.e. Cognitive Emotion Regulation Questionnaire (CERQ), Difficulties in Emotion Regulation Scale (DERS), Beck Depression Inventory (BDI-II), and State-Trait Anxiety Inventory (STAI) were administered. **Data Analyses:** Data of the present study were subjected to Pearson's Product Moment correlation and Multiple Regression Analysis. **Results and Discussion:** Domains of depression (somatic & cognitive) correlated significantly with all the dimensions of cognitive emotion regulation (CERQ) except for one dimension i.e., putting into perspective. Results reveal a significant positive correlation between depression and all the dimensions of difficulties in emotion regulation scale, but awareness. Similarly, a positive correlation was discovered between various dimensions of CERQ and anxiety (state and trait anxiety) except for positive refocusing, positive reappraisal, and refocus on planning. All the dimensions of DERS correlated significantly in positive direction with anxiety. Limited access to emotion regulation strategies, Self-blame, Catastrophizing, Positive reappraisal, Lack of emotional clarity, and Impulse control difficulties emerged as potent predictors of depression among adolescents. They jointly contribute 46 % of the total variance. Total nine predictors emerged for anxiety i.e. 'limited access to emotion regulation strategies,' 'lack of emotional clarity,' 'positive refocusing,' 'catastrophizing,' 'nonacceptance of emotional response,' 'self-blame,' 'difficulties in engaging goal-directed behaviour,' 'lack of emotional awareness,' and 'rumination' which jointly account for 44% of total variance.

Keywords: *Emotion Regulation, Depression, Anxiety, Adolescent*

INTRODUCTION

"Deficits in emotion regulation appear to be relevant to the development, maintenance, and treatment of various forms of psychopathology" (Berking & Wupperman, 2012). A vast majority of research has shown that people tend to adopt different ways of regulating their emotions and also, some techniques of emotion regulation are more adaptive than the others. Difficulties in regulating one's emotion underlie many psychopathologies (Gross & Muñoz, 1995; Kring, 2001).

Maladaptive strategies for regulating emotions have reportedly been used by depressed children, and weak emotion regulation abilities have been found in many types of psychopathology of childhood (Zeman et al., 2006). Similarly, a variety of research supports the finding that, in comparison to control, people who are depressed exhibit more maladaptive emotion regulation skills (Ehring, Fischer, Schnülle, Bösterling, & Tuschen-Caffier, 2008) and lack of effective emotion regulation skills underlie generalized anxiety disorder (GAD; Salters-Pedneault, Roemer, Tull, Rucker, & Mennin, 2006).

Another finding states that emotion regulation techniques like, self-blame, catastrophizing, putting into perspective, and rumination has an important role in the association between symptoms of depression and events in life that are negative among a sample of teenagers (Garnefski, Kraaij, & Spinhoven, 2001; Garnefski, Legerstee, Kraaij, van den Kommer, & Teerds, 2002; Garnefski, Boon, Kraaij, 2003; Kraaij, Garnefski, Wilde, Dijkstra, Gebhardt, Maes, & ter Doest, 2003). This implies that use of certain emotion regulation strategy may predispose adolescents to develop psychological disorders, (Garnefski et al.,

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2003) or conversely, adolescents can successfully handle negative life events by adopting strategies that are more effective (Garnefski et al., 2002).

In a wide variety of studies, it has been found that ruminative style of thinking has a strong relation with depression and poor psychological health (Nolen-Hoeksema, 2000; Nolen-Hoeksema, Mcbride, & Larson, 1997; Nolen-Hoeksema, Parker, & Larson, 1994). Also, tendency to catastrophize the situation has been shown to be linked with maladaptation, distress, and depression (Sullivan Bishop, & Pivik, 1995). Further, putting things into perspective or social comparison has been shown to play key role in overall well-being (Allen & Gilbert, 1995; Janoff-Bulman, 1992). Additionally, research data on coping suggests that positive reappraisal, acceptance, refocus on planning, and positive refocusing have reasonably positive correlation with self-esteem and optimism and a negative correlation with anxiety and depression (Carver, Schein, &Weintraub, 1989; Janoff-Bulman, 1992). An increasing number of research suggests that a particular strategy of regulating emotion are not simply "good" or "bad" with regard to its emotional repercussions but is in fact related to disorders of anxiety (panic disorder and social anxiety) (Kashdan and Steger, 2006; Levitt et al., 2004).

The ability to regulate emotions or emotion regulation difficulties has been shown to play a primary role in anxiety (Calkins & Hill, 2007; Hannesdottir, Doxie, Bell, Ollendick, & Wolfe, 2010; Hannesdottir & Ollendrick, 2007; Mennin, Heimberg, Turk, Fresco, 2005; Suveg, Southam-Gerow, Goodman, & Kendall, 2007). All disorders of anxiety entail failure in effective emotion regulation. Many researches have confirmed that adults who are anxious report a great deal of difficulty in fixing mood states that are negative and also retrieving effective emotion regulation strategies (Mennin et al., 2005; Salters-Pedneault et al., 2006). The growing understanding of the part emotion regulation and emotions play in abnormal and healthy development of an individual (Zeman, Cassano, Perrt-Parrish, & Stegall, 2006) has led to pervasive opinion that emotion dysregulation is a main aspect of disorders of anxiety(e.g., Farach & Mennin, 2007; Suveg & Zeman, 2004; Thompson, 2001). Several studies in the past have stated that a significant predictor of severity of anxiety is the belief about capacity to regulate or manage one's anxiety (Landon, Ehrenreich, & Pincus, 2007; Weems, Silverman, Rapee, & Pina, 2003; Weems, Cost, Watts, Taylor, & Cannon, 2007). Interestingly, Olatunji, Forsyth, & Feldner (2007) reported that it is the inflexible adoption of strategies of emotion regulation that raises the threat of anxiety disorders. Anxious children have been reported to be incapable of flexible control and attention, which is a critical component of emotion regulation (Muris, Meesters, & Rompelberg, 2006). Greater use of emotion suppression was found in a research conducted with adults with mood and anxiety disorders (Campbell-Sills, Barlow, Brown, & Hofman, 2006).

Suveg, Zeman, and Stegall's (2001), research suggest that children with symptoms of anxiety, adopted dysregulated or inhibited ways to handle negative feelings, to the extent of complete disregard for more adaptive strategies of emotion regulation. Studies conducted on adult sample reflect that individuals with anxiety have under-developed emotion regulation abilities (Amstadter, 2008). Also, higher worry and anxious arousal were found to be linked with application of suppression of emotions as emotion regulation strategy (Campbell-Sills et al., 2006), a limited access to strategies of emotion regulation, and inability to acceptance emotions as well (Kashdan, Zvolensky, & McLeish, 2008). Other researchers (Salovey, Stroud, Woolery, & Epel, 2002) have also found a connection between social anxiety disorder (SAD) and deficits in the capability to regulate emotions. Research participants with generalized anxiety disorder, have been found to report less emotional clarity, high difficulty identifying and describing emotions, along with high dread of anxiety, positive emotions and anger(Turk, Heimberg, Luterek, Mennin, & Fresco, 2005). People with generalized anxiety disorder also report experiencing trouble in repairing bad moods in routine lives and repairing laboratory-induced negative moods (Mennin, Heimberg, Turk, & Fresco, 2005).

The aforementioned literature implicates that emotion regulation has critical role in both depression and anxiety. Also, very few studies have been conducted on non-clinical sample of adolescents, where role of emotion regulation was investigated. There is still a need for better insight into how emotion regulation abilities maintain and lead to disorders like depression and anxiety among non-clinical sample of adolescents.

The current research offers to expand the previous research findings and results, by studying the association between emotion regulation strategies and depression and anxiety among a sample of adolescents. On the basis of previous literature, we hypothesized that, in comparison to the adolescents

scoring low on depression and anxiety scale, adolescents with high depression and anxiety symptomatology would score high on maladaptive emotion regulation strategies and would also report more difficulty in emotion regulation.

It was also hypothesized that elevated score on depression and anxiety symptoms would result in high scores emotion regulation strategies like self-blame, rumination, and catastrophizing as reported in earlier research studies concerning psychopathological symptoms (Anderson et al., 1994; McGee et al., 2001; Sullivan et al., 1995). It was also anticipated that adolescents with low depression and anxiety symptoms would also report adopting effective strategies like putting into perspective, positive refocusing, positive reappraisal, acceptance, and refocus on planning as majority of earlier researches have revealed (Garnefski et al., 2001, Tedeschi, 1999).

METHOD

Participants

A total of 400 school students took part in the current study, with age ranging from 13 to 18 years (mean age is 15.5). Of these 212 were females and 188 were males. The sample was drawn from different districts of Haryana, India. The sample was drawn by using stratified random sampling. The sample covers participants from all walks of life. Only those participants were taken who gave written consent to participate in the study.

Measures

Cognitive Emotion Regulation Questionnaire (CERQ): Cognitive Emotion Regulation Questionnaire (CERQ) is a self-assessment instrument prepared by Garnefski, Kraaij, & Spinhoven (2002) to assess which cognitive emotion regulation strategies an individual uses when faced with stressful or threatening life events. The questionnaire contains 36 items which further consists of nine conceptually different subscales, each consisting of four items viz., Self-blame, Other Blame, Rumination, Catastrophizing, Putting into Perspective, Positive Refocusing, Positive Reappraisal, Acceptance, and Planning. Subjects would give response on a 5-point Likert scale ranging from 1 (*almost never*) to 5 (*almost always*). Scores on each subscale is obtained by totaling the scores that belong to the specific subscale (ranging from 4 to 20). Earlier researches predict a good internal consistencies ranging from .68 to .86 on all subscales.

The Difficulties in Emotion Regulation Scale (DERS): The Difficulties in Emotion Regulation Scale (DERS) is a 36-item test designed by Gratz & Roemer (2004) to measure various sides of emotion dysregulation. It is a self-report measure. The instrument generates a total score as well as scores on six subscales viz., Nonacceptance (6-items), Goals (5-items), Impulse (6-items), Awareness (6-items), Strategies (8-items), and Clarity (5-items). Every item in the test is given a rating on a 5-point scale depending on how frequently respondents think every statement relate to them (1= *almost never* to 5= *almost always*). Items 1, 2, 6, 7, 8, 10, 17, 20, 22, 24, & 34 are scored in reverse manner. Internal consistency was found to be good for both the subscales of DERS (α values ranging from .80 to .91) as well as DERS total scale (α=.94).

Beck Depression Inventory (BDI-II): By Beck, Steer, & Brown (1996) is a self-assessment inventory developed to assess the seriousness of depression. The inventory consists of 21 multiple choice items concerning how the individual has been feeling in the past two weeks. Each item in the test has a set of four possible response choices (0 to 3), ranging in intensity. The BDI-II has two subscales viz., Cognitive and Somatic scales.

The test has been shown to have a high one-week test-retest reliability of r = .93 signifying that the test is not excessively sensitive to daily mood variations. BDI-II also has a high internal consistency (α = .91).

The State-Trait Anxiety Inventory (STAI): by Spielberger, Gorsuch, Lushene, Vagg, & Jacobs (1983) contains 40 self-report items to assess state and trait anxiety. The State scale(Form Y-1) of STAI contains 20 statements asking the participant about how he/she feels at the moment and the STAI-Trait scale (Form Y-2) also has 20 statements asking how the participant generally feels. Each statement in Form Y-1 has 4-response choices that range from 1 (*not at all*) to 4 (*very so much*) and Form Y-2 has 4-response options ranging from 1 (*almost never*) to 4 (*almost always*). Form Y-1 has 10 reverse and 10 direct items, and Form Y-2 has 9 reverse and 11 direct items that are scored accordingly. Internal consistency of both the scales is high. Test-retest reliability of the trait scale has also been found to be high; though, as anticipated, the test-retest reliability for the state subscale has been found to be low.

RESULTS

To study the relationship between various domains of psychological difficulties (depression and anxiety) and emotion regulation abilities of the sample under study Pearson's Product Moment correlation was

applied. The obtained findings are presented in the Table 1 and 2. An overview of the correlation matrix reveals a significant positive relation between various dimensions of emotion regulation and measures of depression and anxiety. It is evident from Table 1 that scores on both the domains of depression (somatic & cognitive) correlated significantly with all the dimensions of cognitive emotion regulation (CERQ) except for one dimension i.e., Putting into Perspective. Further it reveals a significant positive correlation between depression and all the dimensions of difficulties in emotion regulation scale, except for awareness i.e., Lack of Emotional Awareness.

Similarly, a positive correlation was obtained between various dimensions of CERQ and anxiety (state and trait anxiety) except for Positive Refocusing, Positive Reappraisal, and Refocus on Planning whereas no correlation was found for Blaming Others and Putting into Perspective. For DERS somewhat similar findings were obtained. Further, except for Lack of Emotional Awareness, all the dimensions of DERS correlated significantly in positive direction with anxiety. A significant positive correlation was obtained between depression and anxiety indicating a strong relationship between these two psychological health conditions.

Table 1: Correlations between Depression and measures of Emotion Regulations

Variable	Somatic Depression	Cognitive Depression	Total Depression
SB	.38*	.44*	.44*
BO	.10**	.11**	.12*
RU	.28*	.25*	.30*
CA	.39*	.43*	.45*
PIP	.02	-.02	0
PRE	-.19*	-.26*	-.24*
REA	-.16*	-.19*	-.19*
AC	.16*	.18*	.18*
RP	-.10**	-.15*	-.13*
TE	.16*	.14*	.17*
NA	.44*	.46*	.49*
GO	.30*	.31*	.33*
IM	.39*	.40*	.43*
AW	-.11**	-.08	-.11**
ST	.48*	.55*	.56*
CL	.27*	.27*	.30*
TD	.50*	.54*	.56*

*- Correlation significant at .01 level
**-Correlation significant at .05 level

SB-Self-blame, BO-Blaming Others, RU-Rumination, CA-Catastrophizing, PIP-Putting into Perspective, PRE-Positive Refocusing, REA-Positive Reappraisal, AC-Acceptance, RP-Refocus on Planning, TE-Total Cognitive Emotion Regulation, NA-Nonacceptance of Emotional Response, GO-Difficulties in Engaging Goal-Directed Behavior, IM-Impulse Control Difficulties, AW-Lack of Emotional Awareness, ST-Limited Access to Emotion Regulation Strategies, CL-Lack of Emotional Clarity, TD-Total Difficulties in Emotion Regulation

Table 2: Correlations between Anxiety and Measures of Emotion Regulation

	State Anxiety	Trait Anxiety	Total Anxiety
SB	.28*	.37*	.36*
BO	.07	.04	.06
RU	.23*	.31*	.29*
CA	.34*	.42*	.41*
PIP	-.06	-.05	.06
PRE	-.26*	-.30*	-.30*
REA	-.13*	-.15*	-.15*
AC	.16*	.16*	.18*
RP	-.09**	-.11**	-.11**
TE	.09**	.12*	.12*
NA	.41*	.50*	.49*
GO	.28*	.41*	.37*
IM	.31*	.46*	.42*
AW	.03	-.03	.00
ST	.48*	.54*	.55*
CL	.38*	.39*	.42*
TD	.52*	.62*	.62*

*- Correlation significant at .01 level
**-Correlation significant at .05 level

Various dimensions of CERQ and DERS also correlated significantly with each other. Except for a few nonsignificant correlations, most of the dimensions of CERQ correlated significantly and positively with most of the dimensions DERS, indicating significant relation between the two scales whereas, lack of emotional awareness correlated significantly (inversely) with all the dimensions of cognitive emotion regulation.

The above results propose that different dimensions of emotion regulation play a significant role in depression and anxiety and therefore indicate that

emotion regulation abilities of an individual have significant implication for his/her susceptibility to both. It does not, however, reveal the relative significance of each dimension of emotion regulation ability in predicting depression and anxiety. Thus, in order to address this objective, a series of stepwise multiple regression analysis was carried out involving various dimensions of CERQ and DERS as predictors and depression and anxiety as the criterion variable. The findings obtained have been presented in Table 3 and 4.

Table 3: Predictors of Depression among Adolescents

Predictors	R	R^2	F	p
Strategies	.56	.31	229.50	.001
S-B	.61	.38	152.76	.001
Catastrophizing	.63	.40	113.34	.001
P-R	.65	.42	92.02	.001
Clarity	.66	.43	76.62	.001
Impulse	.66	.44	65.63	.001

Strategies-Limited access to emotion regulation strategies, S-B-Self-Blame, Catastrophizing, P-R-Positive Reappraisal, Clarity-Lack of emotional clarity, Impulse-Impulse Control Difficulties

The findings of stepwise regression analysis using emotion regulation strategies and depression (Table 3) revealed that Limited Access to Emotion Regulation Strategies came out as the strongest predictor of depression. It predicts 31 % (R^2 =.31) of the total variance of depression among adolescents. The beta coefficient is positive which shows as the person use less of emotion regulation strategies, depression will increase. Second predictor came out to be Self Blame. It shows that increase in self blame by the individual leads to increase in depression. Meaning thereby that individuals who blame themselves for negative experiences can become susceptible to depression. Catastrophizing came out to be the third predictor of depression. It reveals that people who use catastrophizing means exaggerate the situation has higher level of depression. These three predictors predict about 40 % (R^2 = .40) of depression among adolescents. Catastrophizing is followed by Positive Reappraisal which has positive beta coefficient which shows that individuals who have positive reappraisal of the situations have lower level of depression. Lack of Emotional Clarity is the next predictor, though it contributes little. Lack of emotional clarity also increases the level of depression among adolescents. Next predictor Impulse Control Difficulties shows that those who have difficulties in controlling their impulses have depression. Overall, all the predictors collectively accounted for 44% (R^2 =.44) in total variance of depression. These findings suggest that individuals who do not possess effective emotion regulation skills or who experience emotion regulation difficulties are more susceptible to experience depressive symptoms.

A similar set of stepwise multiple regression analysis was carried out for Anxiety as dependent variable and emotion regulation dimensions as predictor variables. The results are presented in Table 4 which shows that Limited Access to Emotion Regulation Strategies came out to bethe best predictor of anxiety. It predicts 31 % (R^2=.31) of the total variance of anxiety among adolescents. Beta coefficient being positive shows that as the person use less of emotion regulation strategies, their anxiety will increase. Lack of Emotional Clarity being second predictor shows that individual having low clarity in understanding their emotions having higher level of anxiety. Positive Refocusing is the next predictor of anxiety which has negative beta value which means individual who have less anxiety refocus on positivity more. So, these three major predictors predict anxiety. They jointly contribute 40 % (R^2 =.40) of the total variance of anxiety among adolescents.

Table 4: Predictors of Anxiety among Adolescents

Predictors	R	R^2	F	p
Strategy	.55	.31	225.17	.001
Clarity	.61	.37	150.51	.001
P-Ref	.63	.40	114.31	.001
Catastrophizing	.65	.43	94.40	.001
N-A	.66	.44	78.91	.001
S-B	.67	.45	67.66	.001
Goals	.67	.45	58.90	.001
Awar	.67	.46	52.45	.001
Rum	.68	.46	47.54	.001

Strategy-Limited access to emotion regulation strategies, Clarity-Lack of emotional clarity, P-Ref-Positive Refocusing, Catastrophizing, N-A-Nonacceptance of emotional responses, S-B-Self-Blame, Goals-Difficulties in engaging goal-directed behaviour, Awar-Lack of emotional awareness, Rum-Rumination.

Catastrophizing, Nonacceptance of Emotional Response, Self-blame, Difficulties in Engaging Goal-Directed Behavior, Lack of Emotional Awareness, and Rumination are other subsequent predictors of which jointly contribute only 6 percent of the total variance of Anxiety among adolescents. Together all these variables accounted for 46% (R^2 = .46) in total variance of Anxiety.

The results of the present study suggest that although many dimensions of CERQ and DERS are related to depression and anxiety, a few of them are actually more vital in the understanding of depression and anxiety. Overall, the findings indicate that individuals who lack emotion regulation strategies; are not clear about their emotional state; can think about pleasant things instead of the actual event; explicitly emphasize the terror of what they have experienced; are unable to accept their emotional responses; blame themselves; find it difficult to participate in behaviours that are directed towards goal; are unaware of emotional experience; and overthink negative events are more susceptible to experience symptoms of anxiety. Together, the findings indicate that certain dimensions of CERQ and DERS affect the symptoms of depression and anxiety in comparison to other dimensions.

DISCUSSION

In the present study we examined the connection between the specific emotion regulation strategy use and severity of depression and anxiety; also analyzed the how these strategies of emotion regulation affect the symptoms of depression and anxiety. The results found in the current study are in consensus with the findings obtained in previous researches.

The results of this research are in agreement with findings in which a link between strategies of emotion regulation and internalizing disorders (depression and anxiety) was reported (e.g., Garnefski, Teerds, Kraaij, Legerstee, & Van Den Kommer, 2004; Garnefski & Kraaij, 2007; Slee, Garnefski, Spinhoven, & Arensman, 2008). All four of the emotion regulation strategies that are considered as maladaptive (self-blame, blaming others, rumination, catastrophizing, & acceptance) were found to be related to depression. This finding is similar to previously reported results (Martin & Dahlen, 2005). The findings concerning other blame coincide with theories in which both forms of blame may interfere with how an individual adapts to life events that are negative (Tedeschi, 1999). An explanation for acceptance is discovered in the concept that states acceptance can be interpreted as both an active process where the individual gets the opportunity for self-affirmation as well as a passive process, where the individual simply resigns to the negative life experiences (Wilson, 1996). Additionally, putting into perspective, positive reappraisal, and refocus on planning were found to be negatively related to depression as reported in previous studies (Garnefski & Kraaij, 2007; Martin & Dahlen, 2005). Thus, the results of the current study fit in with the findings of other studies (Garnefski, Koopman, Kraaij, & Cate, 2009; Garnefski & Kraaij, 2006; Omran, 2011).

Further depression was found to be positively correlated with nonacceptance, goals, impulse, strategies, & clarity whereas inversely correlated with awareness. These findings are supported by previous findings (Saxena, Dubey, & Pandey, 2011). In a recent study by Weinsberg and Klonsky (2009), DERS displayed strong correlations with psychological problems like depression, and anxiety reflecting problem of emotion dysregulation. In another study, the revised DERS total scale was found to have no impact on the co-existing association between the DERS and findings pertinent to the domains of emotion regulation (i.e., anxiety, depression, posttraumatic stress symptoms) (Bardeen, Fergus, & Orcutt, 2012). Difficulties in emotion regulation has been proved to have clinical utility in a clinical sample (Perez, Venta, Garnaat, &Sharp, 2012). Similar findings were made in other studies (Kökönyei, Urbán, Reinhardt, Józen, & Demetrovics, 2014; Ruganci & Gençöz, 2010).

Similarly, in the present study, anxiety was found to be positively correlated with self-blame, rumination, catastrophizing, and acceptance, whereas negatively correlated with positive refocusing, positive reappraisal, and refocus on planning. Blaming others and putting into perspective showed no correlation. These findings are supported by earlier researches. For example, strong relationship was discovered between the cognitive emotion regulation strategies of self-blame, rumination, catastrophizing, and positive reappraisal (negatively) and anxiety symptoms (Garnefski & Kraaij, 2007).

Carthy, Horesh, Apter, & Gross (2010) found that anxious children demonstrated deficits in using reappraisal. Similarly, strategies like rumination and self-blame exhibited strongest correlation with anxiety. When rumination was controlled, self-blame, catastrophizing, and positive reappraisal continued to be significant (Garnefski, Kraaij, & Spinhoven, 2001). Similar results were found in other research studies (Garnefski, Koopman, Kraaij, & Cate, 2009; Garnefski & Kraaij, 2006; Omran 2011).

Further, anxiety was positively associated with all the five dimensions of DERS except for awareness. This finding is supported by previous researches (Bardeen, Fergus, & Orcutt, 2012; Menin, McLaughlin, & Flanagan, 2009; Perez et al., 2012; Saxena et al., 2011; Weinberg & Klonsky, 2009). In a series of

studies, GAD participants in comparison to control group, reported greater intensity, poorer clarity, higher negative reactivity, and lower emotional management (Mennin, Heimberg, Turk, & Fresco, 2005). Research also indicate that specific difficulties of regulation (reduced reach to effective strategies of regulation and weak ability to engage in goal directed behaviour) are related with chronic worrying and GAD (Salters-Pedneault, Roemer, Tull, Rucker, & Mennin, 2006).

Thus it could be deduced that the more the participants in the present study reported maladaptive emotion regulation strategies or difficulty in regulating emotions the more depressive and anxious symptoms they reported, whereas the adoption of emotion regulation strategies that are adaptive implied fewer signs of depression and anxiety.

The result of multiple regression for depression and anxiety revealed that the most important predictors of depression were strategies, self-blame, catastrophizing, positive reappraisal, clarity, and impulse. For anxiety the most important predictors were nonacceptance, self-blame, goals, awareness, and rumination. These findings are in accordance with earlier researches. For instance, in study carried out on a sample of adolescents, the most significant predictors of depresssion were found to be rumination, self-blame, and to a lesser extent positive reappraisal and catastrophizing. These four strategies were also found to be significant predictors of depressive symptoms among adult sample. Whereas, two chief predictors of anxiety among adolescents stood: rumination and self-blame. Further, four emotion regulation strategies were seen as significantly associated with symptoms of anxiety among sample of adults; catastrophizing, positive reappraisal, rumination, and self-blame. Additionally, acceptance and positive refocusing showcased weak but substantial relationship (Garnefski et al., 2002). Similarly, strategies, clarity, nonacceptance came out to be best predictor of anxiety; whereas, strategies, goals, and nonacceptance were found to best predict depression in a study carried out by Saxena and colleagues (2011).

The findings suggest that having scared reach to emotion regulation strategies, blaming oneself for negative experiences, catastrophizing, reappraising the situation in a positive manner, being unclear about one's emotions, difficulty in controlling impulse play a significant role in depression. Similarly, limited access to emotion regulation strategies (strategies), lack of emotional clarity (clarity), positive refocusing, catastrophizing, nonacceptance of emotional response (nonacceptance), blaming oneself, difficulty in engaging goal directed behavior, being unaware about emotions, and ruminating about negative events can have significant impact on anxiety symptoms. The present findings are in consensus with previous researches (Garnefski et al., 2004; Garnefski & Kraaij, 2006; Garnefski et al., 2009; Omran, 2011; Wicker, 2012).

These findings support the hypotheses and enhance the previous literature by providing additional support to the role of various emotion regulation strategies in depression and anxiety. Despite the limitation of being conducted on general population, the main strength of the present study is inclusion of two measures of emotion regulation.

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NEWS

NATIONAL INSTITUTE OF MENTAL HEALTH REHABILITATION (NIMHR)

A new Central Autonomous Institute established (2019) under the ***Department of Empowerment of Persons with Disabilities (Divyangjan), Ministry of Social Justice & Empowerment, Government of India,*** is registered as Society under the MP Societies Registration Act, 1973. This National Institute is working in the area of mental health rehabilitation. NIMHR is located at Sehore (M.P.) near Bhopal.

Objectives of this new Institute are Service Delivery , Development of Service Models Replicable elsewhere in the country, Manpower Development, Research & Community Oriented Services.

- To promote mental health rehabilitation using integrated multidisciplinary approach.
- To promote and undertake capacity building and to involve in developing trained professionals in the area of mental health rehabilitation.
- To engage in research and development and policy framing towards promoting mental health rehabilitation services.
- Currently MIMHR is running the following services:
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- PSYCHO-THERAPEUTIC INTERVENTION FOR VARIOUS MENTAL HEALTH PROBLEMS
- OUTREACH AND AWARENESS SERVICES

Address: National Institute of Mental Health Rehabilitation, NH-46 Bhopal Indore Highway, Near Govt. Model School, Sehore Madhya Pradesh – 466001

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Brief Research Report

Online Training of Psychologists in Providing Telephone Based Psychological Support in the Context of COVID-19: An Experience from India

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ABSTRACT

Objectives: The exponential spread of COVID-19 globally has had far reaching psychosocial and economical impact on individuals. The health care providers have the challenge of meeting the physical and psychological well-being needs of a large population, in a short time and with limited resources. To cater to the current need, a large pool of masters level psychologists were trained online by a National Institute to offer basic telepsychological support as frontline health workers. This paper describes the methods, process, feasibility and implication of that programme for public mental health in the context of COVID-19. **Study design:** Retrospective review. **Methods:** The announcements of the training programme were sent out to the psychologists in the institute data base through social media. Out of those who responded to the announcement (n=1301), 1229 were eligible and 888 attended the program. They were divided into four batches and four training sessions of one and half hour duration were carried out in a span of two weeks. Feedback from participants was obtained online and content analysis of the questions asked by the participants was carried out to identify the main themes. **Results:** The participants represented 31States and Union Territories of India. Majority of the participants were in the age range of 21-38years (74.61%); female (82%), and working (89%). Eighty four percent of the participants rated the program as very good and excellent. **Conclusion:** The study supports online training of psychologists in providing brief telepsychological support as a viable option to meet psychological needs of the people in an emergency situation like COVID-19.

Keywords: *Psychological support, online training, telephone based, COVID-19, mental health*

INTRODUCTION

The coronavirus disease 2019 (COVID-19), a Public health emergency of international concern, has affected most countries of the world, with staggering rates of incidence, morbidity and mortality (WHO, 2020). One of the strategies adopted across nations to contain the spread of the disease was "lock-down" to ensure social distancing and self-quarantine in addition to appropriate health care.

The psychosocial impact of any public health emergency is well-documented; however, the impact of COVID-19 is been unprecedented. It has affected the lives of most people from all walks of life, ages and countries (Andrade, 2020). Multiple factors have contributed to the distress experienced by individuals, which includes a fear of infection, heightened sense of uncertainty about future in multiple life-domains, loss of familiar structure and routine, isolation from loved ones, reduced sense of control over one's life situation and financial difficulties to name a few. Long lasting psychosocial impact is foreseen cutting across the stages of containment, management and post-recovery. The negative psychosocial effects of COVID-19 pandemic are already evident and could affect mental health in the future as well (Chatterjee, Barikar & Mukherjee, 2020; Das, 2020; Holmes, et al., 2020; Xiang et al., 2020). A general population survey by Ipsos MORI, which had participants from 28 countries, indicated that COVID-19 is the top most worry, and it is twice as much worrisome as compared to unemployment, health care, and poverty for many (Ipsos, 2020). Specifically, the study findings from the UK showed that the social and psychological issues are much higher a concern than the prospect of becoming physically unwell with COVID-19 (Holmes et al., 2020).

Trends similar to global scenario of mental health services for COVID-19 have also been noted or forecasted in India (Andrade & Chaturvedi, 2020), and the situation has called for targeted psychological and behavioural interventions. Nevertheless, the

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magnitude of the country's size and a large population has made the task of the policy makers and health professionals to deliver the psychological services much more challenging in India (World Psychiatry Association, 2020). In the backdrop of a huge gap between the demand in the society and supply of mental health resources (Shidhaye 2020), mental health professionals have quickly learnt to expect problems that are twofold: 1) escalation in pre-existing mental health conditions and associated distress and increased risk of self-harm; and 2) distressing responses to 'lock down' and 'quarantine' leading to isolation, depression, suicidality, anxiety, problems related to addictions, domestic violence and child abuse; psychosocial risks such as social disconnection, lack of meaning or anomie, entrapment, cyberbullying, feeling a burden, financial stress, bereavement, loss, unemployment, homelessness, and relationship breakdown (Brooks et al., 2020; Holmes et al, 2020; Indian Psychiatric Society, 2020). To handle such a psychological crisis situation, various mental health associations have recognized telephonic and online mental health services as crucial (National Health Commission of China, 2020; Shojaei & Masoumi, 2020). Telemental health or using information and communication technologies to deliver mental health care has been increasingly recognized and utilized to address shortage of mental health professionals as well as to reach the unreachable and undeserved population (Acharibasam & Wynn, 2018; Mahmoud, Vogt , Sers, Fattal & Ballout, 2019). Telemental health services are considered crucial in the context of COVID-19, in providing care, meeting the information and communication needs of public as well as training of professionals to provide appropriare psychological help (Shojaei & Masoumi, 2020; Whaibeh, Mahmoud & Naal, 2020).

The psychological needs of the society during COVID-19 and the challenges of providing appropriate psychological support have been recognized by many medical institutions, professional bodies, and authorized agencies in India. They quickly adapted to the needs to make mental health care easily accessible, affordable, and acceptable in the community. Reaching out to the community through information technology is one of the methods majorly used as a viable option in the current context (Dong & Bouey, 2020; Indian Psychiatric Society, 2020; Xiang et al 2020). This situation warranted training mental health professionals by brief training programs to sensitize and strengthen their skills to offer basic psychological support to those in need, through telephone, in the Indian context. In this background training of psychologists was considered as an urgent need in order to increase the availability of manpower in a resource limited setting to provide psychological support and promote well-being of the society. This paper describes a large-scale, roll-out of volunteer-based psychological interventions, conducted by the Department of Clinical Psychology of a national institute from India that has the potential to optimize the health benefits to individuals and society in resource constrained settings. The main aim of the training was to cater to the immediate mental health needs of the public in the context of the first lockdown announced in March 2020. Thus the paper is a retrospective review of the training program and does not involve systematic assessment of the outcomes of training as well as trainee details.

METHODS

The study adopted a retrospective review of records. The training program involved two phases.

Phase 1: Content development for the training program

The content for the training was developed by the faculty of Clinical psychology and validated by a team of Clinical Psychologists. The steps involved in the validation of the program is as follows: 1) Collation of the issues addressed by the frontline volunteers of NIMHANS psychosocial helpline 2) Review of the psychosocial issues faced by the public (published literature, news papers and WHO and MoHFW websites) 2) Preparation of modules by the faculty of Department of Clinical Psychology involved in the delivery of the training 3) Validation of the content by 3 faculty involved in the supervision of helpline volunteers 4) Finalization of the content by peer review by the faculty involved in the training 5) Inputs by the advisory team of NIMHANS. The module is available for public use (Department of Clinical Psychology, 2020). The topics covered are provided in table 1.The online training program was of 90 minute duration conducted by faculty and research scholars of the Department of Clinical Psychology. The format of training included brief presentations with a focus on content relevant examples, sharing of hands-on experience of the helpline volunteers in telephonic counseling, and an interactive question and answer session. In addition to the questions related to the topics covered during the presentations, measures for social stigma, psychosocial issues of migrant population, increased

abuse/violence in the family context and ethical issues of telephone counseling were discussed during the interactive question and answer session (see table 2). The programme was specifically designed to facilitate front line volunteering and hence did not focus on training in specific interventions or multisession intervention.

Table 1: Topics covered in the training program

Building rapport in a short time	Assessing the needs and distress of the callers through the voice, content of speech, emotions expressed etc.
Basic skills of telecounseling	Microcounselling skills, supportive and behavioral techniques
Methods of reducing distress, identifying high psychological distress and referral escalation	Methods to reduce anxiety, boredom, sadness, worry, sleep difficulties, and disruption in daily routines. Assessing dysfunction due to symptoms, suicidal risk, exacerbation of mental health problems and making referrals
Understanding and addressing needs of special population	Strategies to deal with the psychological needs of children, elderly, mothers with mental health issues, people with disabilities and chronic health problems
Self care motivation and practices	Steps to discuss and enhance motivation for self-care; domains and strategies for self-care.
Referral sources and systems in the context of COVID-19	Referrals related to Mental Health Problems; Collated data of resources, to address the various needs of the callers in the context of COVID-19.

Phase 2: Delivery of Online Training

Participants and procedure

The announcements about the training programme were sent out to the psychologists in the Institute data base through social media (Twitter, Whatsapp, Facebook) in the first week of April 2020. The eligibility criterion for participating in the training program was postgraduate degree (Masters) in Psychology. Within 5 days of the announcement (3rd to 7th April, 2020), 1301 individuals responded to the call expressing their interest. Based on the eligibility criteria, 1229 applicants were eligible for participation in the program. They were divided into four batches with a maximum of 300 participants in each batch. The registration links were sent out to the participants for each batch and those who registered and logged in for the program on the respective dates were considered as attendees of the program. From the 1229 eligible participants, 1025 registered for the program and 888 logged in for the program. The program was conducted on 9th, 13th, 16th and 21st April 2020 within a span of two weeks to cater to the high demand as well as to cater to the acute need of the population in the current context. A special feature of this programme was that the facilitators (all authors) were also involved directly in interacting with people in need of psychological support as well as mentoring Clinical Psychology professionals who voluntarily offered telepsychological services. Feedback from participants was also obtained online at the end of each batch of training. A certificate for participation of the online training was sent to participants via email.

Statistical Analysis

Descriptive data of the participants and their responses were generated by default by the automated system of the institute digital support system. Content analysis of the concerns of the participants was carried out to identify the main themes. Descriptive statistics such as mean, SD was calculated for age and frequency and percentages were calculated for the themes generated during the question and answer session and feedback received from the participants. Chi-square statistic was calculated to analyze the feedback of participants about the programme.

RESULTS

Thirty one States and Union Territories were represented in the overall pool of registered participants. About 82% of the participants were females. Mean age of the participants was 32.38 years (range: 21- 73 years; SD: 8.92) with majority of them being in the age range of 22-38 years (74.61%). About 89% were working and 11% were not employed at the time of training (31.2% government jobs and 57.8% in Private jobs). The high representation of female participants was consistent across the batches.

Table 2 indicates that majority of themes were related to helping people experiencing high distress (27.3%), followed by the format, length and skills of the tele-session (15.9%); family issues (*interpersonal conflicts*- 8.6%; a*busive family environment/ domestic violence*-2.9%), managing children (7.6%), vulnerable population (7.3%), children with special needs (7.6%), logistics and informational support (6.7%), special circumstances (6.0%), self-care (*for*

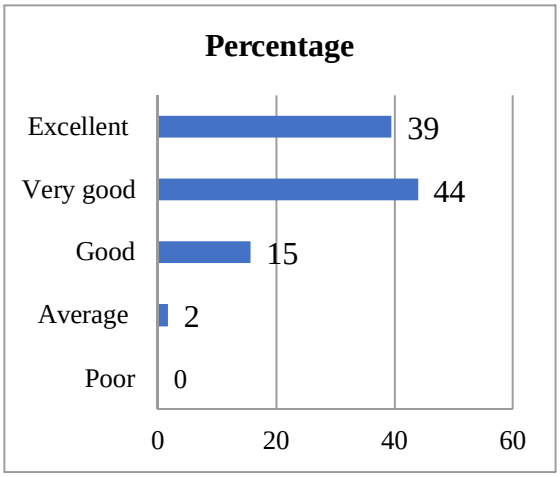
frontline professionals and workers- 4.8%*; and telepsychologists- 1.6%),* addressing financial problems (3.0%) and social stigma 5 (1.6%).

Table 2: Major themes of question answer session

Theme	Content of the questions	n (%)
Helping people in high distress	Identification and specific methods to be used for conditions such as anxiety, panic, obsessive-compulsive disorder, suicidality, depression, alcohol dependence, behavioural addiction, boredom, guilt; Identification of high distress and referral process (What to ask, how to motivate for helps seeking).	86 (27.3)
Format, length and skills of the tele-session	building rapport, conveying empathy, length of the session, basic supporting skills, agenda setting, beginning and terminating the session; feasibility of specific techniques in counseling mode; procedural safeguards, legal implications, logistics and payment options; procedural safeguards if minors make calls.	50 (15.9)
Family *Interpersonal conflicts*	Techniques to manage conflicts among the family members especially between couples, and abusive interactions between parents and children; ethics, referrals and help lines for the same.	27 (8.6)
Abusive family environment/ Domestic violence	Strategies and referral systems for managing domestic violence and child abuse	9 (2.9)
Keeping the children engaged and safe	Dealing with disruptions in the routine, studies and exam schedules; parenting and engaging them at times when the social activities are restricted.	24 (7.6)
Vulnerable population	Specific techniques to deal with the issues of elderly, hospital visits of pregnant women, mother-child care and implication for contracting the illness;	23 (7.3)
Children with neurodevelopmental problems	Ensuring care, protection and adequate occupation for children with ASD and ADHD.	21 (6.7)
Logistics and informational support	Helplines for essential supplies and emergency medical issues; and authentic sources of information	21 (6.7)
Special circumstances	Psychological issues in the context of repatriation issues, migrant workers, mother-infant care; food, shelter, health, local support systems for migrants	19 (6.0)
Self-care: *For different groups*	Specific issues faced by health professionals, frontline personnel	15 (4.8)
For Telepsychologists	Taking care of one's emotional needs, helplessness and burnout	5 (1.6)
Financial problems due to lockdown	Addressing the worries and concerns related to limitation of tele-counselling if the psychological issues are secondary to perceived financial losses, wages, and work.	10 (3.0)
Social stigma of quarantine and COVID-19	For health professionals and common people affected with COVID.	5 (1.6)

Figure 1 depicts the feedback of participants about the programme. The ratings are as follows: excellent (39%), very good (44%), good (15%), average (2%) and poor (0%). There was significant difference across the rating of the session ($p= .001$; $\chi^2 = 84.3$; $df = 4$).

Figure 1: Rating of the training program by the participants across the batches



DISCUSSION

The multidimensional impact of COVID-19 pandemic necessitated to deliver appropriate, brief psychological services remotely. Many countries adopted policies early in their approach to offer psychological support via telemental health services. For instance, the National Health Commission of China provided guiding principles of the emergency psychological crisis interventions to reduce the psychosocial effects of the COVID-19 outbreak (National Health Commission of China, 2020). There is also growing evidence for including psychological crisis intervention as part of the public health response to the COVID-19 outbreak (Dong & Bouey, 2020). Concurrently, The Government of India has adopted many measures to promote behavioural health and psychosocial support among the public. The strategies included educational material in video and digital print in major Indian languages, digital dashboards for updates on the situation, dedicated help-lines, commissioning various health institutions to design programmes on psychosocial care (Government of India, 2020). While there are many generic programmes for eclectic group of professionals, training of psychologists was exclusively undertaken by the Department of Clinical Psychology at the National Institute of Mental Health and Neuro Sciences, Bangalore, India. This programme is the first of its kind for any professional group. In addition, the program was planned almost immediately after the announcement of lockdown for the first time in India with the intention of increasing the manpower to cater to the public mental health needs and the participants were extensively screened to ensure their educational/professional background.

Majority of the participants of the program were already working, and hence the training would have helped them utilize the skills in their regular professional work. Analysis of the participants responses indicate that the issues discussed were pertinent to the prevailing conditions and the nature of the questions indicated that most of the participants reported having faced these issues in their course of work. The themes identified from the participants' questions were related to social stigma, dealing with distress and identifiable psychiatric conditions, safety and engagement of children especially those with special needs, domestic violence, couple issues, and mother-child interactions in case of nursing babies. This strengthens the fact that the components of training matched with the actual training needs of the psychology professionals as indicated in the literature (Chatterjee, Barikar, & Mukherjee, 2020; Holmes et al., 2020; Indian Psychiatric Society, 2020; Rajkumar, 2020; Xiang, 2020). Overall, the program was rated as 'very good' or 'excellent' by 84% and it further supports the potential usefulness of the program. Another significant observation was that there were no new questions after the third batch of the training, which indicates the comprehensiveness of the content delivered. This observation is very important because there was constant inflow of COVID-19 data both in the scientific literature and in mass media. Therefore, preparing the participants to address the psychological issues of ever changing scenario of COVID-19 was a big challenge. Nonetheless, saturation of new questions with the number of training programmes underscores both the adequacy of the training programme as well as the similarity of specific psychological concerns across populations. One of the hallmarks of this program was that the facilitators of the workshop were also involved in offering telepsychological services for COVID-19 which made them aware of the nature of the psychosocial problems and helpful strategies; and the trainees were postgraduate psychologists. Hence, the training was very hands-on than didactic. This programme fulfilled the need for human resource in offering psychological crisis intervention which is an imminent need in many countries (Chatterjee, Barikar, & Mukherjee, 2020; Dong & Bouey, 2020; Holmes et al., 2020; Shidhaye, 2020). It also supports existing literature on the role of digital technology in executing the mental health programmes and the need for 'task-shifting or –sharing' (i.e., shifting service

delivery of specific tasks from highly qualified professionals to persons with lower qualifications or creating a new cadre of providers with specific training), especially in low-resource areas (Acharibasam, & Wynn, 2018; Dong & Bouey, 2020; WHO, 2007). Therefore, this model can be used in resource limited settings by considering the limitations such as, lack of cost-benefit evaluation of the program; and participants were not followed-up to assess their field experiences. Other limitations of the study include lack of systematic recording and analysis of change as a result of training with respect to knowledge and practice of the participants. The feedback taken from the participants was a generic one and did not asses specific components/aspects of training. However, preparing a large number of professionals within a short span of time was achieved which is the primary aim and strength of the study.

In conclusion, this study affirms that psychological needs of the people in an emergency situation like COVID-19 can be met albeit by quickly developing manpower through digital technology to deliver brief, and targeted psychological interventions via telemental health services.

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News & Viewpoint

Some Objective Indices of Meditation - A Short Note

Ratan Singh

Meditation is of many kinds: Transcendental Meditation in which a secret "mantra" is repeated, Vipassana type of Buddhist meditation in which attention is focused on the breath. Zazen of Zen Buddhism and Raman Maharshi's "Silence" are by far superior. All these do stabilize blood pressure. But so does progressive muscle relaxation and biofeedback. Swami Sharnanand Ji of "Manav Seva Sangh" had the simplest form of meditation (in Hindi "Dhyan" which became Zyan in China and Zen in Japan): Sitting when tired is "Dhyan". Zazen is sitting quietly doing nothing. Raman Maharshi has gone a step further when people relentlessly asked him to define meditation. He said
"Don't meditate, be.

Don't think of being, be.

Don't be, you are!!!"

But late Dr. Ainslie Meares style of meditation called Stillness Meditation is the only meditation that has been applied to medical problems and case reports published in established medical journal. Book on him by Desmond Zwar is easy to download and is a good read. Meares himself wrote many books and articles. Important thing is that his form of meditation is the only one that demonstrated complete remission of confirmed terminal stage cancer of many kind.

The topic, however, is not meditation but its objective indices. When you meditate, the idea plagues you "Am I doing it right?" So objective indices are important. I must first assure you that just sitting or lying slightly uncomfortably (so that you don't go into sleep) will be a good form of meditation used by Dr. Ainslie Meares.

The objective indices being physiological are not different from deep relaxation. Meares himself has reported loss of colour vision when you open your eyes slowly is a sign of deep meditation. In this meditation, by practice, the effect spills over and lasts the entire day, cortisol is reduced, thereby freeing the immune system to kill developing cancer cells.

The other objective indices more easily achievable are: breathing cycle 6 per minute. Rarely it can be 3 cycles per minute. At 6 cycles p.m., the baroreceptors resonate with heart beats and reduce or eliminate angina pain, at 3 cycles per minute the baroreceptors resonate with blood pressure

Pulse rate is not a stable indicator even of relaxation because it changes quickly with any body movement. If fingertip thermometer is available as in biofeedback, then a fingertip temperature of at least 98 degree F is a good indicator of relaxation. Relaxation is precondition of meditation, necessary but not sufficient. After relaxation, stillness emerges from the central region that is the brain.

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Letter to The Editor

Shooting a Straw Man

Malavika Kapur

This letter is written as a response to the Review Article titled "Vineland Social Maturity Scale: An Update on Administration and Scoring" published in Indian Journal of Clinical Psychology, 2019, Vol.46, No.2, Pages 91-102.

1. Doll AE created the VSMS in 1936 and brought it out for use in 1963 almost three decades later. A. J. Malin modified it for Indian Child Population after 7years of use in the Nagpur Child guidance Clinic. Bharat Raj(1992) further modified after almost three decades. If VSMS and its variants have so many deficiencies as pointed out in detail in 11 pages, how come the younger generation of psychologists like the reviewer after a span of almost 30 years failed to standardize this much used test, on the present generation of children adopting superior methodology and appropriate norms? Similarly, he could have standardized on a large scale, Bhatia and Binet Kamath tests of intelligence, along the lines of the Wechsler scales. The Flynn effect is well-known and we need the younger generation to take up this challenge instead of casting aspersions on the fellow professionals and reputed institutions for no reason at all, except to point out that he is superior to all of them. This is unacceptable in academic and professional communities.

Table 2 of reviewer with errors highlighted

Item number	Doll (1953)	Malin (1965)	Bharat Raj (1992)
1	"Crows", laughs	"**Crows**"; Coos /Laughs	**Cries**/ laughs
21	Pulls of socks	**Pulls of clothes** Removes shoes or sandals, pulls off socks	Removes shoes or sandals, pulls off socks
26	Gives up baby carriage	**Walk without support** Walks or uses go cart for walking	Walks or uses go carting for walking
27		Plays with other children	Plays with own hands
28	Eats with spoon	Eats with own hands (**biscuits, bread, etc**.)	
35	Asks to go to toilet	**Signals to go to toilet** Asks to go to toilet	Asks to go to toilet
38	Eats with fork	Eats with spoon / **hands (food**).Eats with own hands	
43	Cuts with scissors	Can do paper folding	
57	Uses skates, sled, wagon	Uses hoops, flies kites or **uses knife/**rides tricycle	Uses hoops, flies kites, rides tricycles
59	Plays simple table games	Plays simple table games **which requires talking(taking?) turn**s	
62	Uses table knife for spreading	Mixes rice properly unassisted	
66	Tells time to quarter hour	**Can differentiate between AM & PM** Tells time to quarter hour	Tells time to quarter hour
67	Uses table knife for cutting	Helps himself during meals	
68	Disavows literal Santa Claus	**Understands and keeps family secrets** Refuses to believe in magic and fairy tales	Refuses to believe any black magic and fairy tale
78	Writes occasional short letters	Writes occasional short letters to friends	Writes occasional short letters to friends
79	Makes telephonic calls	Makes independent choices **at shops**(choice of)	
81	Answers ads; purchases by mail	**Follows local current events** Answers ads; writes letter for information	Answers ads; writes letters for information

2. The three versions have three separate manuals prepared by the respective authors. None of them are hard to follow and these are still in use. It is for the individual psychologist to choose the one he

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prefers and follow what is recommended in the manual. It must be noted that the basic tenet of psychological assessments in the clinical setting is to integrate the case history, observation of the child (informant) test profile and inter and intra test inconsistencies if any and offer interpretation. A large number of observations in the review regarding the above aspects reveals the ignorance of the reviewer regarding qualitative and quantitative analysis. What kind of cases would benefit optimally by the use of VSMS too alludes the reviewer. He has compared the scoring methods by illustrating an imaginary case(with speech problems, reading and writing difficulties) where in VSMS is not the test of choice. He could have taken a typical case with IDD for illustration.

3. It stands to reason that growth of intelligence peaks at adolescence. Authors of the early tests of Intelligence, settled on 15/16 years as the higher end. But it may not be true of social development or maturation though was presumed to be so, by these early authors. To answer this question whether to equate IQ and SQ further research is needed especially in the older age groups. After all, maturation and learning are two major aspects of development.
4. The above table shows anomalies in the table provided by the reviewer. Most galling is the confession that he has neither seen nor referred to the original Malin adaptation. Bold font face in the Table indicates 11 errors by the reviewer in the Malin Column.
5. The question is how one should plan research and enhance the knowledge base especially in a developing country and keep abreast advances in research methodologies.

   A model to follow is "30 million-word gap" study by Hart and Risley 1995. The study claimed that there is a 30-million-word gap in 0-3-year-olds between the professional and working-class families based on 46 families. It became a springboard for 150 research studies, to the latest being in 2017 (Gilkerson etal, 2017). Finally, it is agreed that by four years of age, language acquisition is phenomenally high, 4 million words and it is the result of "**play** with, **talk** to and **read** to the child" by the family.
6. The reviewer claims to spread knowledge through the said review, instead he would be better of reporting his own research. Revising important and useful old tests and providing new norms is the responsibility of the younger generation of psychologists in addition to creating new tests. But the utilityof the test is finally judged by the posterity by the number of professionals who use it to help their clients. The Rorschach Ink blot Test celebrates its centenary in Germany this year. Any comments?

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---------- Letter to Editor And Best Wishes ----------

Dear Editor, IJCP,

Thank you for your mail and the kind offer. I am happy to note that the Journal is getting a new look in tune with the time and demand. My very best wishes for the endeavor. It would have been a great honor to be in the Editorial Board of the prestigious journal of the prestigious organisation. Yet, I regret that I am not in a position to accept the offer owing to some age (78 years) related health issues that prevent any exertion. However, I wish all the very best success for the Journal.

Best regards and wishes,

Thimmappa M S.
Dr. M. S. Thimmappa
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In the Memory of a Legend

G. G. PRABHU: THE MAN, THE JOURNEY, THE PROFESSION

(1935 - 2019)

A TRIBUTE

Ahalya Raguram

It is befitting that the Indian Association of Clinical Psychologists has organized this special session at its 46th National Annual Conference, to honour the memory of Prof GGP, as he was fondly known to legions of his former students and colleagues. To borrow the words of Nelson Mandela, 'he was a giant who strode…. like a colossus' (in the realm of Clinical Psychology). Clinical Psychology emerged as an independent discipline about 65 years ago. He was among the foremost contributors towards the shaping of this field, enabling it to emerge from the shadows of the larger discipline of psychiatry and crystallize an identity of its own. He left an indelible mark on the field during his professional career spanning well over 55 years.

He firmly believed that it was important to understand and document the history behind the emergence of ideas, events and personalities. In deference to this belief, I would provide a brief narration of the origins of his interest psychology, how he gravitated towards clinical psychology and some major influences that determined his choices and how they unfolded.

Gurpur Gaurishankar Prabhu was born on 2 September 1935 and raised in Madras (now Chennai). Some attributes that characterised him all through his life were in evidence by the time he reached the adolescent years: strong views and very decided preferences. He was a voracious reader and even before entering Psychology, had read some of Freud's seminal works, the Kinsey Report and others. However, it was a book gifted by his uncle, 'Psychology for the Fighting Man' that opened up for him the vast possibilities for the application of the principles of psychology in diverse fields. Fate intervened however and an unsettling event in the form of the very sudden and untimely death of his father to whom he was deeply attached, was a major turning point. In the belief that a change of scene would be beneficial, he was sent to reside with his father's older brother who was a monk who later went on to become the President, at the Ramakrishna Mission in Calcutta. It was during his sojourn there that he had the opportunity to meet Girindrashekar Bose on several occasions while accompanying his uncle to meetings with the former. He, however, realized the significance and the import of these encounters only much later. After completing the Intermediate course, he wanted to pursue his undergraduate studies in Psychology at the University of Calcutta as the department there was a thriving and vibrant one. Due to family compulsions, he returned to Madras and joined the Engineering course under the sports quota. This stint lasted precisely 18 days. Being convinced that merit ought to be the sole criterion for selection in higher education and no other (including excellence in sports), he quit the course. This conviction, however, persisted all through his professional career. He then

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enrolled for the Psychology (Honors) course at the University of Madras, turning back to his first choice of subject for further studies. The 1950s seemed to be an opportune time to pursue a career in psychology – the expansion in universities, the government's interest and commitment to expand psychological services for the public as well as its possible role in the defence services. The future seemed to beckon him with limitless possibilities and he resolutely embarked on a career path in psychology. Thus, it was an informed choice for him despite the fact that it was not considered as a very paying profession.

On completion of his studies, he began his career in 1956 as a tutor at the Karnataka University (now University of Mangalore). However, the urge to use the knowledge of psychology for alleviating the problems of the common man led to his joining the All India Institute of Mental Health (presently NIMHANS) in 1959 to pursue the Diploma in Medical Psychology. On completion of this course, he joined the Central Institute of Psychiatry at Ranchi as an Assistant Professor. For a period of time, he handled the responsibilities of the department virtually single-handedly which included running the clinical psychology course and guiding trainees in their dissertation work. It was here that he commenced a series of studies and publications on the Rorschach. After about two years at CIP, he decided to move to the All India Institute for Medical Sciences (AIIMS). The shift posed several challenges: working in a general hospital setting as opposed to the mental hospital settings that he had worked in thus far, dealing with non-psychotic and ambulatory patients and the need to evolve assessment methods that would be suitable and relevant for this population. Rather than looking West-wards, he decided to identify and focus on indigenous needs/issues and find solutions for them. This lead to the adaptation and standardization of several questionnaires and inventories appropriate for these patients. This work and the publications that resulted from it laid the foundations for the emergence of health psychology in the country. During his tenure, he initiated several programs that remained close to his heart. The first of these was the conceptualization and formulation of a structured syllabus for behavioural sciences for under-graduate medical students which garnered much acclaim. Based on this work he was appointed as an advisor to the WHO for the initiation of similar training programs in other South Asian countries. Likewise, in recognition of his work in organizing services for persons with mental handicap, he was appointed as an advisor by the Govt. of India to guide the establishment of the National Institute of Mental Handicap in Hyderabad in 1981. His work provided the impetus for setting up the National Drug Dependence Treatment Centre, New Delhi in 1988.

The next turning point occurred around 1975 following the tragic demise of his beloved wife. This impelled yet another change, this time to NIMHANS where he assumed charge as the head of the department of clinical psychology in 1981. He was the longest-serving chairperson of the department, continuing in that position for 15 years till his superannuation in 1995. He was determined to raise the standard of training in clinical psychology and bring it on par with similar courses at an international level. He set about this task by clearly defining the training goals, specifying methods to achieve these goals and introducing objective methods of continuous assessment and evaluation

of trainees. This model soon became the template for all other training programs in clinical psychology in the country. Another noteworthy feature of his tenure as the chairperson was the support and encouragement that he offered for the development of various specialisations within clinical psychology. Thus, apart from Behaviour Therapy and Neuropsychology which were already established, others followed such as Child mental health, family and couple therapy, psychosocial and neuropsychological rehabilitation, substance abuse, stress, coping and adaptation and other areas. Given his professional stature, he was a consultant/advisor for many organisations such as the WHO, Asian Federation for the welfare of mentally retarded persons, ICMR, NIMH and NIVH. He also served as an advisor to several ministries of the Government of India such as Defence, Home Affairs, Civil Aviation Security, Social Justice and Empowerment, Health and Family Welfare and Sports and Youth Affairs. He served as a member of the Central as well as the Karnataka State Mental Health Authority. These positions enabled him to make significant contributions at the policy and planning levels with regard to mental health training and services in the country. These achievements have few parallels amongst other mental health professionals at large and clinical psychologists in particular.

His commitment to the discipline can be best discerned through his contributions to the association for clinical psychologists. He played a cardinal role in the formation of the Indian Association of Clinical Psychologists and served as its general secretary from 1965-70. He attended virtually all the conferences of the IACP till age and uncertain health created impediments for travel. He took a deep interest in the affairs of the association and was the ethical and moral compass in guiding its affairs. His deep regret in later years was that the professional had not been able to establish a position of influence and leadership at policy levels. He was also disturbed by some of the events and trends within the association and feared that it was losing its relevance for its members. However, he adopted a stance of philosophical detachment from these issues out of a conviction that 'generation next' had to find its own solutions and had to have the complete freedom to do so.

As a person what stood out was his passionate commitment to the various causes that he espoused. Colleagues and former students remember him as a strict disciplinarian, who set high standards of performance, as much for himself as he expected from others. Generous in his praise but equally forthright in his criticism when something was not upto the mark, his was a presence that could not be ignored. The best way that the association can remember him and honour his legacy is to internalize the values that he stood for and re-vitalize the functioning of the association so that it becomes a body that represents and protects its members in all professional matters. In the words of George Eliot, 'Our dead are never dead to us until we have forgotten them'. Let us strive to not forget.

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