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CONTENTS

National Mental Health Policy of India - New Pathways New Hope — A Journey on Enchanted Path

Om Prakash Singh

Indian government, in particular, Ministry of Health and Family Welfare, came out with a visionary document titled : National Mental Health Policy of India - New Pathways, New Hope in October, 2014 for promotion of mental health, prevention of mental illness, enabling recovery of mental illness, promoting destigmization and desegregation, and ensuring socio-economic inclusion of persons affected by mental illness by providing accessible, affordable and quality health and social care to all persons through their life span, within a right – based framework.

Values and principles as envisioned in the document are equity, justice, integrated care, evidence based care, quality, participatory and right based approach, governance and effective delivery, value based in all training and teaching programmes and holistic approach to mental health.

GOALS AND OBJECTIVES

Goals

1. To reduce distress, disability, exclusion morbidity and premature mortality associated with mental health problems across life-span of the person
2. To enhance understanding of mental health in the country.
3. To strengthen the leadership in the mental health sector at the national, state, and district levels.

Objectives

1. To provide universal access to mental health care.
2. To increase access to and utilisation of comprehensive mental health services (including prevention services, treatment and care and support services) by persons with mental health problems.
3. To increase access to mental health services for vulnerable groups including homeless person(s), person(s) in remote areas, difficult terrains, educationally / socially / economically deprived sections.
4. To reduce prevalence and impact of risk factors associated with mental health problems.
5. To reduce risk and incidence of suicide and attempted sucide.
6. To ensure respect for rights and protection from harm of person(s) with mental health problems.
7. To reduce stigma associated with mental health problems.
8. To enhance availability and equitable distribution of skilled human resources for mental health.
9. To progressively enhance financial allocation and improve utilisation for mental health promotion and care.
10. To identify and address the social, biological and psychological determinants of mental health problems and to provide appropriate interventions.

Cross Cutting Issues were identified as stigma, right based approach, vulnerable populations, poverty, homelessness, persons inside custodial institutions, orphaned persons with mental illness, children of persons with mental health problem,elderly caregivers, internally displaced persons, persons affected by disaster and emergencies, other marginalized populations.

Policy has provision for adequate funding, promotion of mental health and special emphasis on research, and building research capacity.[1]

MENTAL HEALTH ACTION PLAN 365 was made with specific responsibility for all the sectors to be covered. It clearly defines the role of each sector[2]

Two years have elapsed since this ambitious policy has been passed but mental health care is languishing and it has the same fate as District Mental Health Program (DMHP) initially had. It promises the earth and the moon and even points towards the pathways, and shows how it can be achieved and provides action map but still it is more of a document of intention rather than a document of action.

Mental Health Policy takes upon itself the goal of poverty eradication and social inclusion and rightly so, but implementing it requires a higher level of general development of country which is sadly lacking at the moment. Political will behind the policy is abating.

IPS task force on mental health policy in its report has pointed out following facts :

1. The National Mental Health Policy has already been notified whereas the National Mental Health Care Bill is yet to be passed. There are several discrepancies between the Policy and the Bill (including that of definition of mental illness, definition of mental health professional, etc) that need to be addressed. There should be synchrony between the Policy and the Mental Health Care Bill.
2. There are certain areas of conflict and contradiction between the Policy and the fundamental rights in the Constitution, particularly with regard to right to freedom and right to treatment.
3. Since the Persons with Disability Bill has been passed now, there is need to make the Policy concordant with that.
4. Already two years have elapsed since the Policy was notified in 2014. It is time to revisit the Policy in the light of the above.[3]

It is time that key provisions of this policy are implemented and at the start it should address the lack of technical capacity in most states and districts to implement this approach.[4] It will aggressively need to reform 40 odd mental hospitals in country to transform them into institutions which are seamlessly linked to community.[4]

India has done path breaking work in the field of community psychiatry but still all the programmes are hampered by the mindset of health bureaucracy. There is a huge gap between any national programme and its implementation. Planners sitting in their insulated chambers devise plans for the benefit of masses, it comes from colonial legacy and some time they show complete lack of ground realities. Author can recall afforestation programme in its initial stage in which there was monetary input for tree plantation but no provision for money for manpower to look after the plants or protect them from cattle resulting in complete failure of the scheme.

However, this policy has inputs from psychiatric professionals and we require an understanding of this policy in devising future plans of development both in private and government sector because National Mental Health Policy is a tool to demand better services and allocation for promotion of mental health.It is a new path ,may be an enchanted path but mastering the journey will lead to quantum leap in the field of mental health in India.

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Informed Consent in Psychiatric Practice

Dr. C. L. Narayan
President, Indian Psychiatric Society, East Zone

ABSTRACT

All medical interventions need informed consent of the patient, which is obtained after providing all the relevant information to him in a comprehensible form resulting in meaningful decision making. Psychiatric patients, on some occasions, lack the capacity to take decisions on their mental health care and treatment. Utmost care should be taken in dealing with such patients, to proceed for their treatment after obtaining consent from their relatives/friends as per the legal provisions. The recently introduced Mental Health Care Bill – 2013 contains elaborate provisions regarding informed consent, which is to be obtained from persons with mental illness, and/or his nominated representative. Full informed consent is mandatory from all participants before proceeding to carry out any research project. Persons with mental illness who lack capacity to give consent should be included in a research study, only if there is likelihood of benefit for them or if it is intended to promote the health of the population represented by the potential subject.

As I stand here to deliver my Presidential Address before this august gathering, I express my gratitude to all the esteemed members of Indian Psychiatric Society - Eastern Zonal Branch for giving me the honour and opportunity to serve the Society as President. I would like to mention here that I have also had the privilege of serving the Society for four years in the capacity of Honorary Secretary. I would also like to express my thanks and gratitude to my family, teachers and colleagues for their encouragement and support for everything what I have achieved in my life in reaching where I am.

I have selected the topic "Informed Consent in Psychiatric Practice" as the topic of my Presidential Address, as I consider it to be a very important matter for all practising psychiatrists from the medico-legal point of view. As Psychiatry is a branch of Medicine, things applicable in Medicine are also applicable in Psychiatry. A person, who comes for consultation in medical practice, has the following three rights:

- Right to treatment
- Right to information
- Right to confidentiality

The patient coming for consultation has the right to information on all the aspects of his treatment and he accords his consent after considering the information provided to him. Consent is one of the fundamental aspects of medical practice and it has acquired greater importance in recent years as part of legal and ethical issues. Consent as defined in the section 13 of the Indian Contract Act, 1872 is, *"Two or more persons are said to consent, when they agree upon the same thing in the same sense"*. All medical interventions require the consent of the person concerned, barring a few exceptional situations. Any act of medical intervention without consent may be regarded as a criminal act of assault or an act of infringement upon personal autonomy.

The concept of consent is closely linked to the concepts of right and autonomy. The right to consent or to refuse consent to medical treatment is an important right and it has been incorporated into the legal frameworks of almost all democratic countries.[1] The principle of respect of autonomy is associated with allowing or enabling all to make their own decisions about the health care interventions they will receive.[2] To make a fully informed decision, he/she must understand all risks and benefits of the procedure and likelihood of success. [3] The Universal Declaration of Bioethics and Human Rights states "*the autonomy of persons to make decisions, while taking responsibility for those decisions and respecting the autonomy of others, is to be respected. For persons who are not capable of exercising autonomy, special measures are to be taken to protect their rights and interests."*[4] In respect of persons without the capacity to consent, the Universal Declaration on Bioethics and Human Rights states that *"authorization for research and medical practice should be obtained in accordance with the best interest of the person concerned and in accordance with domestic law. However, the person concerned should be involved to the greatest extent possible in the decision making process of consent, as well as that of withdrawing consent"* [4] The World Medical Association International Code of Medical Ethics states that *"A physician shall respect a competent patient's right to accept or refuse treatment."* [5] The Supreme Court of India has also stressed the need for informed consent and has observed that *"A doctor has to seek and secure the consent of the patient before commencing a 'treatment' (the term 'treatment' includes surgery also). The consent so obtained should be real and valid, which means that: the patient should have the capacity and competence to consent; his consent should be voluntary; and his consent should be on the basis of adequate information concerning the nature of the treatment procedure, so that he knows what is consenting to."*[6]

Consent is a process of communication between the patient and the physician that results in the patient's authorization or agreement to undergo a specific medical intervention. It is not a routine process of getting a signature of the patient on the consent papers.

Different types of concepts relevant in medical practice are as follows.

- **Implied Consent –** It is the most common type of consent in vogue in medical consultation. The act of patient coming to the doctor for consultation, advice or treatment and the doctor starting the process of the same is taken to mean that there is implied consent from both sides. But the doctor has a duty to give all related information to the patient.
- **Tacit consent –** It is the consent expressed silently or passively by act of omission.
- **Expressed Consent –** It covers all types of consent that are actively expressed by the patient. The expressed consent may be either oral or written. This type of consent is obtained for some specific examination procedures, major diagnostic procedures, general anaesthesia, surgical operation etc.
- **Informed Consent** - Informed consent is, in most cases, the ideal form of consent because it includes all aspects of meaningful decision-making.[1] It is the consent given voluntarily by a competent individual who has received the necessary information, has adequately understood the information and after considering the information, has arrived at a decision without having been subjected to coercion, undue influence or inducement, or intimidation. It is a process of communication between a patient and physician that results in the patient's authorization or agreement to undergo a specific medical intervention.
- **Proxy Consent –** It is the consent obtained from persons other than the patient himself. If the patient is a minor, consent is obtained from his parents, guardian or attendants. In case of unconscious patients who are not in position to accord their consent, consent is obtained from the immediately available relative or attendant. Similarly, in case of persons with mental illness (PMI) who lack capacity to make mental health care and treatment decisions, consent is obtained from relatives or friends.

➢ **Presumed Consent –** It is applicable in cases of emergencies, when none is present to consent on behalf of the patient. It is based on general theory of human goodwill and rationality.

Times have substantially changed since those when doctors were held in high esteem. Nowadays, medical professionals are frequently slapped with litigation in course of their practice. Keeping this in view, it has become increasingly necessary to get written expressed and informed consent even for minor medical procedures or for psychotherapeutic procedures other than routine procedures of consultation. Recording consent is also necessary in any research project.

INFORMED CONSENT

Consent has three components. It must be

- Informed
- Voluntary and
- Competent [7]

Apart from the communication of information, it also involves the act of consenting.

Informed Consent, as defined in the Mental Health Care Bill, 2013 means *"consent given to a proposed specific intervention, without any force, undue influence, fraud, threat, mistake or misrepresentation, and obtained after disclosing to the person adequate information including risks and benefits of, and alternatives to, the proposed intervention in a language and manner understood by the person"*.[8]

ICMR defines informed consent as *"consent given voluntarily by a competent individual who has received necessary information, has adequately understood the information and after considering the information, has arrived at a decision without having been subjected to coercion, undue influence or inducement or intimidation"*.[9]

Five steps involved in informed consent are as follows : [3]

- Voluntarism
- Capacity
- Disclosure
- Understanding

DECISION

Voluntarism denotes patient taking the decision on his own without any fraud or pressure. Capacity to take decision and understanding about the information provided by the physician is relevant in case of PMI. It is the physician's duty to provide the relevant information on the basis of which the patient takes the decision.

Things to be disclosed in order to obtain informed consent are :

➢ The patient's diagnosis, if known;

➢ The nature and purpose of a proposed treatment or procedure;

➢ The risks and benefits of a proposed treatment or procedure;

➢ Alternatives (regardless of their cost or the extent to which the treatment options are covered by health insurance);

➢ The risks and benefits of the alternative treatment or procedure; and

➢ The risks and benefits of not receiving or undergoing a treatment or procedure.

All these things are to be disclosed to the patient in a language and manner understood by the person. It is ideal that the doctor himself provides all the information to the person. If the person does not know the language in which information is given, an interpreter has to be engaged and his signature should be taken as a witness. The person should get an opportunity to ask questions to have a better understanding of the treatment or procedure, so that he or she can make an informed decision to proceed or to refuse a particular course of medical intervention. Patients respond better and feel more confident if various issues and options are discussed

in detail. Taking informed consent is a continuing process and fresh informed consent is required if any new development or change in treatment plan has occurred. The concept of informed consent in psychiatry is applicable to a variety of issues, ranging from consultation, psychological tests, treatment, ECT, TMS or other similar types of treatment and psychotherapeutic procedures. In research projects taking written informed consent of the patients is mandatory.

However, there are some exceptions to the rule of informed consent, which are as follows.

- **Emergency situation –** If the patient is unconscious and there is no one to accord consent on behalf of the patient, doctors can proceed on the basis of presumed consent and in the best interest of the person. But there are some situations in which controversies may arise. For example people belonging to the faith of Jehovah witnesses do not accept blood transfusion in any situation.
- **Judicial orders –** If someone is being examined on the basis of a judicial order, the consent of the person is not necessary. The judicial order is a substitute for the consent and the person being examined is supposed to comply with the order.

In case of certain mental illnesses, a PMI may not have the mental capacity to make an informed choice. In such situations, we can proceed with the examination and treatment after taking consent from his/her relatives or friends (proxy consent).

INFORMED CONSENT IN PMI

Informed consent acquires special importance in psychiatry because in some cases the PMI may not have the capacity to make mental health care and treatment decision. It must be remembered that the lack of capacity to take decision involves a small minority of PMI. Approximately, less than 2-3% of the PMI may have impairment in decision making capacity for a particular situation. [10] Moreover, any PMI should be assumed to have the capacity unless it is established that he lacks the capacity. Therefore, in all such cases where the PMI is an adult and possesses the capacity to make the concerned decision, the psychiatrist must obtain the informed consent from the patient himself by providing him/her all the relevant information and helping him/her to take decision. The information is to be given to the person in a simple language which he understands or in a sign language or by using visual aids or any other means to enable him to understand the information.

A PMI is considered incapable of giving informed consent owing to mental disorder, if the mental disorder prevents him from

- Understanding what he is consenting to
- Choosing decisively
- Communicating his/her consent
- Accepting the need for a medical intervention [11]

The abilities that most consistently appear to be relevant to patients' capacity to make logical decisions regarding treatment fall into the following categories:

- Ability to understand relevant information
- Ability to retain, make and communicate choices
- Ability to appreciate the situation and its likely consequences.
- Ability to manipulate information rationally [10]

Mental disorders often prevent patients from understanding the nature and purpose of a medical intervention, and may also prevent patients from choosing decisively. They may also interfere in patients' communicating their consent. It should be kept in mind that it is not a static but a dynamic phenomenon. It is not an all-or-none phenomenon, but specific to the situation and task. [10] Severity of mental illness is also an important aspect that affects the capacity. In case of PMI who are not having the

capacity, autonomy can be overridden on grounds of incapacity to make treatment decisions. In such cases, family members or their legal guardian become substitute decision makers and patients may be treated without their consent. [10]

ASSESSMENT OF CAPACITY TO TAKE MENTAL HEALTH CARE AND TREATMENT DECISIONS

Assessment of competence includes evaluation of the person's ability to :

- Communicate choices
- Understand relevant information in relation to the project
- Appreciate one's situation and the consequences
- Manipulate information rationally [12]

The MHA-1987[13] does not have definition of the capacity in case of PMI. But the MHC Bill -2013 defines it as "the capacity to make mental health care and treatment decisions" and says that every person, including a person with mental illness shall be deemed to have capacity to make decisions regarding his mental health care or treatment decision, if such person has ability to :

a. understand the information relevant to the mental health care or treatment decision;
b. retain that information;
c. use or weigh that information as a part of the process of making the mental health care or treatment decisions; and
d. communicate his decision by any means (including talking, using sign language or any other means).[8]

Persons lacking the above mentioned capabilities would be deemed to be lacking the capacity to make mental health care and treatment decisions. When a person has made a decision regarding his mental care and treatment, and the decision is perceived as wrong or inappropriate, this by itself would not mean that the person does not have the capacity to take mental health care and treatment decisions. In situations where the PMI ceases to have the capacity to take mental health care and treatment decision, the informed consent has to be obtained from his relatives/friends/nominated representative. Full written documentation in all such cases is strongly advised before starting treatment, after recording the name, identification details and the relationship with the patient. The specific reason for obtaining the proxy consent should also be recorded.

Applebaum and Grisso, 2001[14] has devised an assessment tool for clinical research, known as MacArthur Competence Assessment Tool for clinical research (MacCAT-CR), which has become one of the most widely used tools for the purpose. It assesses competence on four subscales:

- Understanding information
- Appreciation of the significance of the information
- Reasoning with the information
- Expressing a choice

Decisional capacity depends on the particular context and there is no particular level of ability to determine adequate capacity in all circumstances and there is no established cut-score or algorithm for categorical determination of capacity or incapacity. Therefore, its scores should generally be supplemented with other important information such as mental status examination and decision making context. Moreover, this scale has not been adequately validated in the Indian context. [15]

INFORMED CONSENT UNDER MHA-1987 AND MHC BILL, 2013

The Mental Health Act, 1987 (MHA-87) defined mentally ill person simply as *"a person who is in need of treatment by reason of any mental disorder other than mental retardation*". There is no specific mention of informed consent except in relation to the purpose

of research under section 81(2), which is discussed below. Section 19 of the MHA implies proxy consent under the provision of Admission under special circumstances. Here, the relative or friend has to apply on behalf of the mentally ill person, who does not, or is unable, to express his consent. According to the procedure as described, if it is certified that the condition of such mentally ill person is such that he should be kept under observation and treatment as an inpatient in a psychiatric hospital or psychiatric nursing home.

In the MHC Bill, 2013, informed consent finds mention at several places. The Bill has defined both informed consent and the capacity to make mental health care and treatment decisions which are described as above. If the patient lacks the capacity to make mental health care and treatment decision, informed consent is to be obtained from his nominated representative, as defined in the section 14 of the Bill. Every person, who is not a minor, has the right to appoint a nominated representative, who shall be competent to discharge the duties or perform function as assigned in the Bill. When no nominated representative has been appointed, persons to be deemed as nominated representative in order of preference are given. PMI may require varying level of support from their nominated representative to make decisions. In case of minors, the legal guardians are to be their legal guardian, unless the concerned Board orders otherwise. Nominated representative appointed as provided, shall provide support to the PMI in making treatment decisions under sec 98 & 99 (supported admission).

Section 95 of the MHCB provides for independent admission and it also provides that all treatment of such patients shall not be given treatment without taking informed consent. Similarly for minor patients, informed consent has to be obtained from the legal guardian (sec 96). Every person, admitted under sections 98 & 99, are to be provided treatment after taking into account the advanced directive or informed consent of the patient with the support of his nominated representative. Current and past wishes, values, interests, cultural background, views of the PMI to the extent he understands are to be kept in consideration. Patients or his nominated representative have the right to seek information on diagnosis and treatment.

Under the sec 22 of the MHCB – 2013, all PMI and/or his nominated representative have the right to know the provision of the Act or any other law for the time being in force under which he has been admitted and the fact that he has right to make an application to the concerned Board for a review of his admission. The PMI and his nominated representative have also the right to information about the nature of the person's mental illness and the proposed treatment plan and the known side effects of the proposed treatment. In case complete information cannot be given to the PMI, it has to be given to his nominated representative. If the information has not been given to the PMI at the time of admission or at the start of the treatment, the medical officer or the psychiatrist has the duty to provide the full information promptly when the individual is in a position to receive it.

The MHCB – 2013 has also introduced a concept of '*advance directive*' and it provides that every person, who is not a minor, has the right to make an advance directive in writing, specifying the way the person wishes to be cared for and treated for or not to be cared for and treated for a mental illness. He also have a right to specify the individual or individuals, in order of preference, he wants to appoint as his nominated representative. The advance directive is to be registered with the Mental Health Review Board and is to be invoked when the person ceases to have the capacity to make mental health care and treatment decision. The psychiatrist in charge of treatment of the PMI is duty-bound to follow the advance directive executed by the PMI. The person writing the advance directive and his nominated representative have a duty to ensure that the mental health professional or the medical practitioner has the access to the advance directive when required. Advance directive is not applicable under the emergency treatment provisions under the MHCB.

Application to modify, alter or cancel the advance directive can be made to the Mental Health Review Board.

INFORMED CONSENT IN PSYCHIATRIC RESEARCH

Section 81(2) of MHA-1987 states that *"no mentally ill person under treatment shall be used for purposes of research, unless - such person, being a voluntary patient, has given his consent in writing or where such person (whether or not a voluntary patient) is incompetent, by reasons of minority or otherwise, to give valid consent, the guardian or other person competent to give consent on his behalf, has given his consent in writing, for such research"*. Under the section 108 of the MHCB-2013, free and informed consent has to be obtained from all the PMIs involved in any research projects. In case of persons unable to give free and informed consent, permission has to be obtained from the State Mental Health Authority. The Authority may allow the research to proceed based on informed consent being obtained from the nominated representative of the PMI.

Thus, full informed and written consent is necessary from all the participants in any type of research studies. In case of minors, proxy consent has to be obtained from parents/responsible guardian and in addition minor's assent should also be obtained and recorded. A witness is necessary in case of illiterate participants. Written documentation on prescribed consent forms (approved by Institutional Review Board or Independent Ethics Committee) with dated signatures is necessary and has to be obtained prior to start of the research activity. Taking informed consent is a communication process between the researcher and the participant and does not merely consist of a signature on the consent form. [15] All the pertinent aspects of the study including the details and purpose of the study are to be discussed. All the queries/doubts of the participants are to be cleared. A written information sheet containing all information in simple, non-technical language understandable by the patient should be given to the participant to keep. The Indian Council of Medical Research (ICMR) in schedule Y of its Ethical Guidelines for Biomedical Research, 2006 carries elaborate guidelines and describes detail elements of informed consent in Biomedical Research.[4]

If the participant does not have capacity/ competence to accord valid informed consent, the proxy consent has to be obtained from a responsible family member/guardian. Formal assessment of competence to consent to research may be necessary in those subjects where the research involves more than minimal risk.

ICMR stipulates the requirement of fresh or re-consent in situations where participation was under proxy consent and now the participant has regained the capacity to consent. Fresh or re-consent is also necessary on availability of new information, substantial change in protocols, treatment modality or site visits or where long term follow-up is planned later.

World Medical Association (WMA) Declaration of Helsinki[16] stipulates that persons with psychiatric disorders who lack capacity to consent should be included in a research study only if there is likelihood of benefit for them or it is intended to promote the health of the population represented by the potential subject and the research cannot be instead performed with competent persons and the research entails minimal risk and minimal burden. In addition to the consent from the legally authorized representative, the physician must seek assent of the incapacitated participant and potential subject's dissent should be respected.

COVERT MEDICATION

Covert medication is practice of hiding medications in food and beverages so that it goes undetected. It is used in patients who are not in position to accord consent or refuse consent due to lack of insight. The practice of covert medications is applied in two different types of settings.

1. Long term care patients of dementia or similar illnesses, where medicines are given to control behavioral symptoms who refuse to take medications on their own; or in patients of mental sub-normality who have behavioral symptoms.
2. In context of patients of schizophrenia, delusional disorder or bipolar disorder who refuse to take medications, because they think they do not need it.[17]

Although covert medication is not commonly described in psychiatric literature, it is, nevertheless, more common than one might imagine.[18] The medications are given without the informed consent of the patient, though it is with the consent from their relatives/friends. The practice of covert medication, though widely prevalent, is questionable both ethically and legally. The practice is clearly illegal in most of the countries and deemed to be unethical by most of the professional societies. Though Royal College of Psychiatrists has guidelines "College Statement on Covert Administration of Medicines", the statement itself stipulates that it allows covert medications only in severely incapacitated like those suffering from advanced dementia, delirium and severe mental retardation with behavioral symptoms. [19] In western societies, emphasis is more on rights and autonomy of the patients. Therefore, covert medications are not generally acceptable and stern actions are taken whenever it is detected. But in eastern societies, in contrast, the family is a strong unit and the rights of the individual tend to be subsumed by the family. [20] Therefore, the use of covert medications is fairly common in our country; though it is mostly done secretively and not entered in the case note of the patients. Regarding legal provision in our country, there is no mention about it in the MHA-87 or in the MHCB. But the section 89 of the Indian Penal Code states that —*"Nothing which is done in good faith for the benefit of a person under twelve years of age, or of unsound mind, by or by consent, either expressed or implied, of the guardian or other person having lawful charge of that person, is an offence by reason of any harm which it may cause, or be intended by the doer to cause or be known by the doer to be likely to cause to that person"*. This section provides immunity from criminal liability as the action of covert medications may be considered to be "acting in good faith", but the defence is yet to be tested in courts. [21] In some western countries, there is provision of community treatment order which authorizes the community mental health team to carry out involuntary treatment in the community. But In India, there is no such legal provision either for community involuntary or covert treatment and both the MHA-87 (which is in force for the time being) and the recently introduced MHCB-2013 are silent about it. Kala advocates mainstreaming the community treatment orders and covert medication by families under specific circumstances into the mental health legislations. [17] It is necessary that Indian Psychiatric Society takes cognizance of the matter and take necessary action by developing a guideline in this respect and suggesting to the government the necessary legal provisions which may be incorporated or introduced in this respect.

CONCLUSION

In the modern era of democratic principles, liberty and personal autonomy, informed consent is necessary in all medical interventions. In psychiatric practice, difficult situations may arise if the patient lacks the capacity to grant full informed consent and the medical intervention is carried out after obtaining proxy consent from his relatives/friends. We should be extra vigilant in such situations and must be conversant with the legal provisions and ethical issues. MHCB-2013 contains elaborate provisions about informed consent. ICMR prescribes strict guidelines in respect of informed consents in research projects and written consent is mandatory in all research projects.

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ORIGINAL ARTICLE

A Study on Rorschach Depression Index in Patients Suffering from Depression

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ABSTRACT

Depression Index (DEPI) is one of the specific Rorschach Index developed as a part of the Comprehensive System. There has been a lot of research on Depression Index which identifies individuals who may be emotionally distraught, cognitively pessimistic, lethargic or self defeating. However, there are evidences which show inconsistent results about the depression index when they are used for the purpose of diagnosis of depressive disorder. The main aim of this paper is to study the Depression Index in patients suffering from moderate and severe level of depression. The sample consisted of 30 patients with depression and 30 normal subjects selected by using purposive sampling technique. Beck Depression Inventory (BDI) was administered on the patient group to assess the severity of depressive symptoms and Rorschach Inkblot Test was administered on patients and normal subjects to assess the structure of the personality. General Health Questionnaire-12 (GHQ) was administered as a screening tool in the group of normal control subjects. Results show difference on Depression Index variables among the two groups. No significant correlation was found between BDI scores and DEPI. The diagnostic efficacy was found to be low for DEPI. In conclusion, it can be said that the DEPI has not been found to be very effective in diagnosing depression.

Key Words : Rorschach Test, Depression Index, depression

INTRODUCTION

Depression is a state of low mood where the person feels sad, anxious, empty, hopeless, helpless, worthless, guilty, irritable. They often lose interest in activities that were once pleasurable, experience loss of appetite, loss of sleep, have problems concentrating, remember-ring details or making decisions, feel reduced energy and may contemplate, attempt or commit suicide. The challenge of identifying variables that might be useful in accurately identifying those cases in which depression is a major issue led to the search for a cluster of variables that would help in discriminating a person suffering from depression than from those who are simply dissatisfied, unhappy and distressed. In this regard Rorschach Inkblot Test has been found to help in clinical assessment. Exner's Comprehensive System includes variables which help in identification of depressive features in general in the form of an index known as Depression Index (DEPI). The DEPI has been held forth as a sensitive and specific indicator of depression diagnoses (Exner, 1993) The

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original DEPI consisted of five variables which was later revised in 1986 on the basis of studies done where it was found that at least 15 variables must be considered if the presence of depressive features is to be identified. These 15 variables form the basis for seven criteria that constitute the revised DEPI. The DEPI contains seven criteria like FV+VF+V/FD responses, color-shading blends/Space responses, egocentricity index, affective ratio/blends responses, sum shading/Sum C' responses, MOR responses/ Intellectualization Index, COP responses/Isolation Index which captures parameters like emotional control, emotional expression, self esteem, inferiority feelings, negative thoughts found in the individuals suffering from depression. A score of 5 or more was taken to identify the individuals suffering from depression.

Exner (1991) has reported that an elevated score on the DEPI "correlates very highly with a diagnosis that emphasizes serious affective problems." Likewise, Ganellen (1996a, 1996b) has argued that the Rorschach is useful for diagnosing depression. The DEPI did discriminate quite effectively between depressive groups and the three control groups where 70% of the persons from dysthymic and unipolar groups were correctly identified but the false positive rate among the control groups was considerable ranging from 30% of non depressed persons and the false negative rate was also unacceptably high (Lipovsky, Finch & Belter, 1989). Despite such claims, nearly all independent studies have found that the original and revised versions of the DEPI lack sensitivity and are unrelated to diagnoses of depression in either adolescents or adults (Archer & Krishnamurthy, 1997; Carlson, Kula, & St. Laurent, 1997; Carter & Dacey, 1996). However, their findings have been so consistently negative that the overall interpretation is clear. Ball et.al. (1991) evaluated both the original and the revised DEPIs for child and adolescent outpatient (n=67) and inpatient (n=99) samples in order to assess the diagnostic utility of these indices. There were no significant relationships between the original form and the revised form of the DEPI and clinical elevations on the depression scale of the Personality Inventory for Children in the outpatient sample or treatment team diagnostic judgements in the inpatient sample. These findings sound a strong cautionary note for using only Rorschach Depression indices to diagnose depression in children and adolescents. Carlson (1997) examined the clinical field validity of the Rorschach comprehensive system revised depression index (DEPI) and coping deficit index (CDI). 40 admission protocols from 2 inpatient adult DSM-III-R diagnosed samples (one with Major Depressive Disorder, uncomplicated, and one with Major Depressive Disorder and concurrent Borderline Personality Disorder) were compared. Hypotheses were (a) both groups would be identified by the revised DEPI, and (b) if the Depressed Borderline group was not identified by the DEPI, it would be identified by the CDI. Both hypotheses were negated.

Viglione (1999) has suggested that the DEPI might be related to diagnoses of depression if certain moderator variables including Lambda, number of responses (R) and Erlebnistypus (EB) are taken into account. However, findings from recent studies do not support Viglione's position. In a study of depressed patients and the DEPI, Jansak (1996/1997) failed to find a moderating effect for either Lambda or R. Similarly, Krishnamurthy and Archer (2000) failed to find a moderating effect for EB.

AIM OF THE STUDY

Keeping all these views in mind, the current paper has been decided to be conducted. The main aim of the present study is to examine the difference of the Rorschach variables between depressive groups and normal controls, to examine the diagnostic efficacy of DEPI and to assess any correlation between the BDI scores and DEPI.

HYPOTHESES

There will be differences among the Rorschach variables between depressive groups and normal controls. DEPI will be able to diagnosis depressive patients according to ICD-10.

METHOD

PARTICIPANTS

The sample consisted of 30 patients with depression diagnosed as per ICD-10 DCR criteria and of 30 normal control subjects selected from the outpatient psychiatry department of a reputed medical college of Kolkata. Participants were selected through purposive sampling technique.

INCLUSION CRITERIA

- Patients diagnosed with depression according to ICD-10 (DCR)
- Patients between the age range of 18-60 years
- Both males and females were included
- Protocols having a minimum of 14 responses
- For normal control subjects, score of less than 2 on GHQ will be included
- Participants who are able to comprehend test instructions
- Participants who are cooperative and giving consent for the study

EXCLUSION CRITERIA

- Patients with any co-morbid psychiatric illness or any other neurological or sensory impairment.

INSTRUMENTS

Socio Demographic and Clinical data sheet: A self prepared semi-structured data sheet was used for the patient and the control group. It was divided into socio-demographic details for both the groups and clinical data for the patient group. The socio-demographic variables were name age, sex, marital status, education, occupation, income. The variables in clinical data were duration of illness, diagnosis, duration of treatment, age of onset, mode of onset.

Beck Depression Inventory (BDI) : The Beck Depression Inventory (BDI), created by Aaron T. Beck, is a 21-question multiple-choice self-report inventory, one of the most widely used psychometric tests for measuring the severity of depression first published in 1961. The respondents were instructed to endorse how they had been feeling during the preceding two weeks. The internal consistency for the BDI-IA was good, with a Cronbach's alpha coefficient of around 0.85, meaning that the items on the inventory are highly correlated with each other. Each question has a set of at least four possible responses, ranging in intensity. When the test is scored, a value of 0 to 3 is assigned for each answer and then the total score is compared to a key to determine the depression's severity. Higher total scores indicate more severe depressive symptoms.

Rorschach Psychodiagnostics: Rorschach Inkblot test was developed by Hermann Rorschach in 1921. This test was reportedly designed to reflect unconscious parts of the personality that "project" onto the stimuli. It measures functioning across a wide range of indices like perceptual, cognitive, affective, interpersonal and others. It consists of 10 cards with bilaterally symmetrical inkblots on each of them, of which five cards are of achromatic nature, two are of black and red ink, three are chromatic on a white background. It is one of the most popular instruments among the clinicians. Lubin et al., 1984) and also among researches, with over 6000 studies published by early 1980 (Aiken, 1993). The utility of this instrument in quantitative research has been improved by the work of Exner, whose Comprehensive System (Exner, 1991, 1993) has merged the several, older, competing methods of scoring into one uniform systematic and empirically validated system. Inter scorer reliabilities of 0.85 or higher. Early meta-analyses indicated that validity ranged from 0.40 to 0.50.

General Health Questionnaire-12 (GHQ-12) : General Health Questionnaire (GHQ) was designed to be a self administered screening test aimed at detecting psychiatric disorders among respondents in community settings and non-psychiatric clinical settings such as primary care or among general medical out-patients. GHQ-12 is a short version of the general health questionnaire (GHQ). The cronbach's

alpha for GHQ-12 is 0.82 and principal component analysis yielded three significant components accounting for 62 percent of variance. This test has been used as a screening tool for the assessment of psychiatric morbidity in normal samples. Each item is scored on four probable answers such as not at all, no more than usual, rather more than usual and much more than usual. Subject has to choose the most suitable one; each positive answer is scored 1. Score ranges from 0 to 12 and 2 is cut-off.

PROCEDURE

After having informed consent, patients of depression group and normal controls were selected. Depression patients were included as per the ICD-10 DCR criteria. Normal control subjects were screened with the help of General Health Questionnaire (GHQ-12). Information about socio demographic data and clinical details was collected by using the socio demographic and clinical data sheet from the drawn sample. After that BDI and Rorschach Psycho-diagnostic Test was administered individually to all the participants to assess the personality structure. Rorschach protocols were scored using Exner Comprehensive System.

STATISTICAL ANALYSIS

Scores thus obtained were analyzed with Statistical Package for Social Sciences (SPSS-17). Descriptive statistics (percentages and mean) were used to describe demographics and clinical details of the participants and group differences were examined with Chi-Square test for categorical variables and t-test were used to compare the groups of depressive patients and normal control subjects. Diagnostic efficacy of DEPI was estimated by calculating sensitivity, specificity, positive and negative predictive value (Jogensen, et al.,2000). Sensitivity refers to the proportion of those with depression, according to ICD-10, who are correctly identified by DEPI. Specificity refers to the proportion of those without depression and were correctly identified so by DEPI. Positive predictive value refers to the probability that an individual has depression given the DEPI positive. Negative predictive value refers to the probability that an individual does not have depression given the DEPI negative.

RESULTS & DISCUSSION

Depression patients and normal control subjects were matched with respect to age, sex, education, marital status, domicile where no significant difference has been found among these variables between depression patients and normal control subjects. It has also been observed that majority of the depressive patients were unemployed (43.3%) due to illness because the patients could not manage their occupation for their severity of behavioural, affective and cognitive symptoms even at their workplace. In the group of normal control subject majority were employed (50%) and the remaining were mostly housewife and students (50%) who are able to manage their occupation and daily activities properly. The difference has been found to be significant at 0.01 level. The age of onset of depressive patient ranges from 20 years to 40 years with a mean of 32.70 and standard deviation of 4.79. In case of mode of onset, majority of the patients (50%) were having insidious mode of onset, whereas (46.7%) were of acute mode and (3.3%) having abrupt mode of onset.

Table 1 shows the comparison of DEPI variables among depressive groups and normal control group. Significant differences have been found on the five variables out of seven variables, of which four were found to be significant at 0.01 level and the remaining one at 0.05 level. The differences in the variables among the two groups which represents affect disturbances and low self esteem, inferiority feelings, negative views. This is in consistent with the findings of earlier studies by Dubey, 1989, Exner, 2003, Hartmann, 2003 where they found that the depressed patients differed significantly from the normal control subjects.

Table 2 shows the correlation between the BDI scores and DEPI among the depressive group. It is found that there is a negative correlation between the two variables which is not significant

Table 1 : Comparison of Depression patients and Normal control subjects on DEPI criteria

Subjects Rorschach Variables		Depression Patients (N=30) *N (%)*	Normal Control Subjects (N=30) *N (%)*	df	x^2 value
FV+VF+V>0 or FD>2	FV+VF+V>0 FV+VF+V<0 FD>2 FD<2	20 (33.3%) 5 (8.3%) 5 (8.3%) 0 (0%)	7 (11.7%) 23 (38.3%) 0 (0%) 0 (0%)	2	22.83**
Color-Shading Blends>0 or S>2	Color-Shading Blends>0 Color-Shading Blends<0 S>2 S<2	7 (11.7%) 23 (38.3%) 0 (0%) 0 (0%)	3 (5.0%) 27 (45%) 0 (0%) 0 (0%)	1	11.28**
{3(rF+Fr)+ Sum (2)}/R>0.44 and rF+Fr=0 or {3(rF+Fr)+ Sum (2)}/R<0.33	{3(rF+Fr)+ Sum (2)}/R>0.44 and rF+Fr=0 {3(rF+Fr)+ Sum (2)}/R<0.44 and rF+Fr>0 {3(rF+Fr)+ Sum (2)}/R<0.33 {3(rF+Fr)+ Sum (2)}/R>0.33	14 (23.3%) 12 (20%) 4 (6.7%) 0 (0%)	9 (15%) 21 (35%) 0 (0%) 0 (0%)	2	7.52*
Afr<0.46 or Blends<4	Afr<0.46 Afr>0.46 Blends<4 Blends>4	17 (28.3%) 5 (8.3%) 8 (13.3%) 0 (0%)	12 (20%) 18 (30%) 0 (0%) 0 (0%)	2	16.21**
SumShading>FM+m or SumC′>2	SumShading>FM+m SumShading<FM+m SumC′>2 SumC′<2	8 (13.3%) 21 (35%) 1 (1.7%) 0 (0%)	4 (6.7%) 26 (43.3%) 0 (0%) 0 (0%)	2	14.05**
MOR>2 or (2*AB+Art+Ay)>3	MOR>2 MOR<2 (2*AB+Art+Ay)>3 (2*AB+Art+Ay)<3	8 (13.3%) 17 (28.3%) 4 (6.7%) 1 (1.7%)	2 (3.3%) 28 (46.7%) 0 (0%) 0 (0%)	3	1.92ns
COP<C2 or (Bt+2*Cl+Ge+Ls+2*Na)/R>0.24	COP<C2 COP>C2 (Bt+2*Cl+Ge+Ls+2*Na)/R>0.24 (Bt+2*Cl+Ge+Ls+2*Na)/R<0.24	17 (28.3%) 5 (8.3%) 6 (10%) 2 (3.3%)	14 (23.3%) 16 (26.7%) 0 (0%) 0 (0%)	3	2.86ns

*p<0.05 level, **p<0.01 level

statistically. This is in agreement with the previous studies done by Fisha, 2001 where a low and statistically non significant correlation was found between BDI scores and DEPI. It is also found to correlate very poorly with other objective measures of depression like BDI (Campbell & Lorandos, 2010).

Table 3 shows the efficacy of depression index (DEPI) of Rorschach Inkblot Test. With cut off five, the positive predictive value (PPV) was found to be 0.76, negative predictive value (NPV) was found to be 0.58. Sensitivity was found to be 0.66 and specificity was found to be0.80. It can be said from the table that the negative predictive value and sensitivity is low. In terms of positive predictive value, the probability of an individual to have depression when the DEPI is positive is low. The proportion of those with depression correctly identified by DEPI is also found to be low. Thus it is apparent that the diagnostic efficacy of

Table 2 : Correlation between BDI scores and DEPI of Depressive group

Variables (Depressive Group)	**Depression Index (DEPI)**
Beck Depression Inventory (BDI)	0.43ns

Table 3 : Efficacy of Depression Index (DEPI) of Rorschach Inkblot Test

Perceptual Thinking Index (PTI)	**Positive Predictive Value (PPV)**	**Negative Predictive Value (NPV)**	**Sensitivity**	**Specificity**
5	0.76	0.58	0.66	0.80

DEPI is very low for diagnosing patients with depression. This finding is in consistent with other studies that have suggested that the DEPI has limited ability to diagnose depression (Greenwald, 1997; Ritsher, Slivko-Kolchik & Oleichik, 2001).

CONCLUSION

DEPI scores alone should not suggest the diagnosis of depression and ideally the scores should be interpreted in conjunction with the history and findings on the mental status examination. DEPI scores should be interpreted with considerable caution when applied for diagnostic purposes. Previous studies have concluded that the variables in Depression Index are typically not directly related to observable behaviour, so it should not be used on its own to diagnose a major depressive disorder. Instead, the DEPI serves to identify individuals who may be emotionally distraught, cognitively pessimistic, lethargic or self-defeating. Positive values

of DEPI are probably been interpreted as representing an affective problem. Future studies may focus on evaluating DEPI against individual Rorschach variables that are useful in detecting depressive features.

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ORIGINAL ARTICLE

Social Support, Coping Strategies and Quality of Life in Attempted Suicide : A Hospital Based Study

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ABSTRACT

Background : There is a major concern all over the world regarding the rise in attempting suicide in certain population especially among the young. Wide variations have been found in suicidal attempt among different cultures, societies and countries. The rate of attempted suicide is 8-10 times more than the completedsuicide. Coping is most often conceptualized as a response to the demands of specific stressful situations. Though deliberate self-harm encompasses a wide variety of medical and social disciplines some of the important psychosocial variable such as social support, coping strategies, and quality of life has not yet been explored in depth in India.

Aims : The aim was to analyze and compare the coping strategies, social support, and quality of life of suicide attempters versus matched normal controls, and to identify the risk factors leading to suicide.

Settings and Design : The study was conducted in the Department of Psychiatry, Agartala Govt. Medical College & GBP Hospital, Agartala, Tripura. The samples for the study were recruited from different outpatient & indoor facilities of the GBP Hospital after application of the inclusion and exclusion criteria (n = 100) cases of suicide attempters and healthy controls (n = 100) were included in the study.

Materials and Methods : A total of 100 consecutive suicide attempters were compared with same number of age, sex, and marital status matched healthy controls using Social Support Questionnaire, Bengali version of ways of coping Quissionare (Susan Folkman and Richard S. Lazarus) and WHO QOL-Bref. Statistical analysis was done by using SPSS - 20,

Results : Attempters experienced significantly less Social support. Most common Coping strategies used by the suicide attempters were confronting coping (72.5%) followed by distancing (60%) and predominant coping strategies used by the control groups were seeking social support (60%), accepting responsibility (52) and self-controlling (45%). Positive coping, and of QOL were significantly lower in attempters. Among all risk factors good education and good social support were protective against suicide.

Conclusion : Suicide attempters were differentiated from healthy controls basedon lower social support, less healthy coping, and poor QOL. However, it is difficult to pinpoint a single factor responsible for suicidal behavior. It is the complex interplay of various interrelated factors and the resultant buffering effect, which is protecting the individual against deliberate self-harm.

Key words : Coping strategies, deliberate self-harm, quality of life, social support.

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INTRODUCTION

The World Health Organization defines suicide act as "the injury with varying degrees of lethal intent and that suicide may be defined as a suicidal act with fatal outcome." Suicide worldwide was estimated to represent 1.8% of the total global burden of disease in 1998; in 2020, this figure is projected to be 2.4% in countries with market and former socialist economies.Deliberate self-harm is a major issue in the health care all over the world.[1] Many factors including biological, socio-cultural, and personality traits can modify this complex behavior. Suicide is a significant problem in India also with a reported rate of 10.8 per 100,000 population.[2] However it may be considerable underestimate due to underreporting and false reporting of many of the cases of suicides in India.[3] Certain thought provoking studies on suicide have been reported from India.[4] However, some of the important psychosocial variables such as life events or stressors, social support, coping strategies, and quality of life have not yet been assessed in relation to deliberate self-harm in India. Life change could act as a stressor causing physiological arousal and enhanced susceptibility for illness. Suicide victims have experienced more changes in living conditions, work problems, and object losses than normal controls.[5]

A body of research in recent years has focused on the role of social support in maintaining emotional well-being and moderating the effects of life events. There is evidence that Social network among suicide attempters are weaker than in non-suicidal individuals.[6] Life events can alter the social support system in terms of size, frequency of interaction and stability, and such changes may be associated with suicidal behaviors.

Coping behavior, or the things people do to reduce the stress, has been a variable that has recently become the focus of research.[7] Coping behavior is operationally defined as the responses to external life stress that serve to prevent, avoid, reduce or control stress and emotional distress.

Tripura tops suicide rate among small states in Northeastern region. The 2011 statistics from the National Crime Records Bureau (NCRB) reveal that 1,35,585 people died of suicide in India, with Tripura topping the list with 703 reported cases, followed by Sikkim (184), Arunachal Pradesh (134), Mizoram (90), Nagaland (33), and Manipur (33).

Considering the paucity of such work from the Indian context the present study was conducted to analyze and compare the coping strategies and social support, and quality of life of suicide attempters and matched normal controls and to identify the risk factors leading to suicide attempt.

There is dearth of study on this subject of Social support, coping strategies, and quality of life in attempted suicidefrom North-Eastern part of the country as yet. Hence, the present study is a sincere effort in this direction

MATERIALS AND METHODS

Study Sample : The study was done in Agartala Govt. medical college & GBP hospital which is tertiary care center situated in Agartala, Tripura.

The Design of the Study : The sample comprised 100 suicide attempters qualifying the criteria for suicide attempt as defined by WHOadmitted to different departments of AGMC & GBP hospital. These patients were interviewed within the first week of their admission. Whereverpossible, relatives, friends, and other possible sources of information such as spouse and colleagues were also interviewed for eliciting further information.

Socio demographic information was gathered as per prepared standard questionnaire. Ethical approval & consent of the patients & controls were obtained in the initial portion of the study. Age, sex, and marital statusmatched healthy controls from the community formed the comparison group. These subjects were initially screened by GHQ-12 version10 to exclude the presence of common mental disorders. The period of the study was one year from January 2015 to December 2015.

The Aim of the Study : The aim was to analyze and compare the coping strategies, social support, and quality of life of suicide attempters versus matched normal controls, and to identify the risk factors leading to suicide.

Inclusion Criteria : a) Those patients & control groups giving consent to participate in the study. b) Suicide attempters qualifying the criteria for suicide attempt as defined by WHO c) patients& control groups who were above 18 years of aged) Patients of both sexes. e) Informants of both sexes. f) healthy control of both sexes

Exclusion Criteria : a) Mental Retardation. b) Patients below the age of 18 years c) chronic debilitating physical illness whose physical condition did not allow detailed evaluation.

Tools used were a) informed consent form, b) proforma for socio demographic data, c) ICD 10 Diagnostic guideline, d) **Social support questionnaire :** This scale was specially developed by poling items from Social Support Scale of Asha[8] and the Social Support Scale of Nehra, Kulhara, and Verma9 by item analysis. Out of 47 items 22 were positively worded and 25 were negatively worded. The positive statements were intermingled with negative statements to reduce the likelihood of response set occurring. This scale has approximately the same number of items from each area. The retest reliability obtained for this scale was 0.89.

e) **Ways of coping questionnaire (WOCQ) :** WOCQ (ways of coping questionnaire) was translated to local language (Assamese) WOCQ scales reliability Alpha values for 8 subscales of WOCQ came 0.87, 0.76, 0.91, 0.88, 0.95, 0.89, 0.77, and 0.97 respectively which suggests the statistical reliability of the scale. Ways of coping questionnaire is primarily a research instrument in studies for assessment of coping process. It was developed by Susan Folkman and Richard S. Lazarus in 1980. The questionnaire is designed to identify the thoughts and action of an individual has used to cope with a specific stressful encounter.

The questionnaire measures total of 8 type of coping strategies namely Confronting coping, distancing, self-controlling, seeking social support, Accepting responsibility, escape avoidance, planful problem solving and positive reappraisal. There are total 66 questions in the full questionnaire. There are two methods of scoring the ways of coping questionnaire, raw and relative. The decision as to which set of score to use depends on the information desired. Raw score describe coping effort for each of the eight types of coping, whereas relative score describe the proportion of effort represented by each type of coping. In both methods of coping, individuals respond to each item on a 4-point. Likert used "1-indicates "used somewhat", 2- indicates "used quite a bit and 3- indicates "used a great deal". In the raw scoring the raw scores are the sum of the subjects responses to the items that comprises a given type of coping was used in a particular encounter.[11-12]

f) **WHO QOL – Bref :** WHO QOL-Brefcontains 26 items with four domains 1. Physical health and well-being, 2. Psychological health and well-being, 3. Social relations, and 4. Environment. The scale has been shown to have good discriminant validity, sound content validity, and good test retest reliability at several international WHOQOL centers.[13]

Statistical Analysis : For comparison of quantitative variables we used a paired t-test or Wilcoxon signed rank test applied depending on whether the data were normally distributed or not. Quantitative variables were compared by a Mc-Nemar chi-square test. Statistical analysis was done by using SPSS-20.

RESULTS

Table 1 : Sample Characteristic

Variable	Number = 100 (%)		X2/t	p value
	Attempters	Controls		
Mean age (years)	29.52	30.12	1.8	0.06
SD	12.85	13.42		
Sex				
Male	56	56	0.08	0.92
Female	44	44		
Marital Status				
Married	30	30	3.12	0.74
Unmarried	70	70	5.42	0.003**
Mean education (years)	10.02	12.20	7.43	0.002**
SD	3.87	3.76		
Religion				
Hindu	75	73	8.32	0.001**
Muslim	15	15	6.42	0.56
Christian	10	12	7.34	0.85
Domicile				
Rural	75	75	4.19	0.80
Urban	25	25	3.78	0002
Occupation				
Employed	35	35	1.78	0.95
Unemployed	65	65	2.42	0.001
Psychiatric illness in first degree relatives	36	32	1.86	0.67
Past psychiatric illness	19	00	2.85	0.96
Medical illness	25	10	2.67	0.83
Past suicidal attempts	15	00	3.84	0.0 01

** p value < 0.05 (Significant)

The sample comprised 100 suicide attempters and 100 controls matched on age, sex, and marital status. The mean age of attempters versus control was 29.52 ± 12.85 vs. 30.12 ± 13.42 and the male female ratio was male attempters 56 (56%) vs. male control 56 (56%) and female attempters 44 (56%) vs. female control 44 (56%). In both groups 30% were married. Education, unmarried shows statistically significant. it signifies that less education and loneliness involved more suicidal attempt. In this study shows Hindu people are more prone to developed suicidal attempt (Table 1)

Table 2 : Psychiatric Disorder found in Sample (Attempted Suicide)

Psychiatric Disorder	ICD 10	N=52		Percentage
		Attempters	Controls	
Mood disorders	F31 & F32	16	00	30.76
Adjustment disorder	F43.2	24	00	46.15
Substance dependence	F10.2 & F11.2	04	00	7.69
Schizophrenia	F20	03	00	5.76
Personality disorder	F60	02	00	3.84
Panic disorder	F41	01	00	1.92
Dissociative disorder	F44	02	00	3.84

In this study it was found that the commonest comorbid psychiatric diagnosis was adjustment disorder with emotional disturbance (46.15%). followed by 30.76% mood disorders, 7.69% substance dependence, 5.76% schizophrenia, 3.84% personality disorder, dissociative disorder & 1.92% panic disorder. (Table 2)

Table 3 : Comparison of Variables in Social Support Scale

Social Support	Mean SD		t value	p value
	Attempters	Controls		
Total score	115.42 ± 15.32	120.23 ± 13.23	7.870	0.001**
Reliable attachment	34.42±5.74	36.67 ± 6.74	5.240	0.84
Integration from friends	30.26±9.70	34.23 ± 12.23	5.023	0.002**
Teachers/parental figures/elders	17.78±3.67	19.84 ± 4.23	2.982	0.001**
Religion	08.43 ± 1.87	10.30 ± 2.45	1.854	0.78
Other sources	18.70 ± 3.89	15.67 ± 2.76	3.672	0.001**

**p<0.05 significant

Comparison of social support variables between attempters & controls showed significant lower scores in attempters except for religion & reliable attachment. (Table 3)

Table 4 : Comparison of Coping Behavior between Attempters & Controls

Coping Behavior	Mean SD		Percentage (attempters)	Percentage (controls)	t value	p value
	Atte mpters	Controls				
Confronting coping	30.20 7.63	29.56 6.45	72.5	32	2.897	0.89
Distancing	26.45 5.22	24.09 4.24	60	15	1.587	0.74
Self-controlling	19.60 3.75	22.76 2.87	15	25	3.434	0.002**
Seeking social support	17.35 1.89	24.25 2.02	25	60	3.231	0.000**
Accepting responsibility	18.20 2.87	19.80 3.02	22.5	52	2.765	0.001**

Coping Behavior	Mean SD		Percentage (Attempters)	Percentage (Controls)	t value	p value
	Atte mpters	Controls				
Escape avoidance	13.34 1.45	12.74 1.04	30	10	1.672	0.94
Planful problem solving	13.78 1.89	16.78 2.56	17.5	45	1.234	0.85
Positive reappraisal	34.45 5.45	32.24 5.89	35w	32	0.123	0.75

** p value <0.05 Significant

Comparison of different types of coping behavior between attempters & controls showed that scores for self-controlling, seeking social support & accepting responsibility were significantly higher in controls. Most common Coping strategies used by the suicide attempters were confronting coping (72.5%) followed by distancing (60%), Positive reappraisal (35%) and predominant coping strategies used by the control groups were seeking social support (60%), accepting responsibility (52) and self-controlling (45%). (Table 4)

Table 5 : Comparison of QOL between Attempters & Controls

QOL Variable	Mean SD		p value
	Attempters	Controls	
Physical health & well being	20.12 5.21	23.12 4.74	0.001**
Psychological health & well being	20.08 4.76	22.42 3.56	0.002**
Social relations	10.24 3.02	12.76 2.86	0.000**
Environment	30.53 8.26	32.46 6.20	0.000**

**p value < 0.05 (Significant)

The mean scores of all the four domains of QOL (physical health and well-being, psychological health and well-being, social relations and environment) were significantly lower in the attempters [Table 5].

DISCUSSION

The present study attempted to differentiate suicide attempters from healthy controls based on their profile of social support, coping strategies, psychiatric diagnosis, and quality of life. Attempters had accumulation of life events especially unpleasant and personal events, lower social support, poor coping styles, and poor quality of life. Life events and other psychosocial stressors are commonly associated with suicidal behavior when attempters were compared to the general population and non-suicidal psychiatric patients Osvath et al.[14] reported recent life events in 80% of suicides; job problems (28%), family discord (23%), somatic illness (22%), financial problems (18%), unemployment (16%), separation (14%), death (13%), and illness in a family member. In the present study psychosocial stressors like financial loss (34% vs. 14%), family

conflict (30% Vs 6%), marital conflict (18% Vs 05), broken engagement, and love failure (12% vs. 2%) and major personal illness (10% Vs 2%) were significantly higher in attempters than controls.

Coping skills are important protective factors against suicide. In the present study healthy coping behaviors such as self-controlling, seeking social support & accepting responsibility were significantly higher in controls.

Social support is another important protective factor against suicide. Social support is provided by network comprising family, relatives, friends, neighbors, and coworkers, especially when the interaction is positive. The personal networks may provide social support that helps to maintain emotional well-being and buffer the effect of adverse life events, or it can have a direct, independent effect on mental health irrespective of presence or absence of stressful life events.[15] In the present study, confiding relationship, support from reliable attachment, friends, teachers, parental figures, elders, and other sources were significantly lower in attempters. There is evidence from comparative studies that social support systems are undermined among suicide attempters compared with non-suicidal individuals.[16]

Quality of life is an important variable in assessing the suicide risk. Since this is relatively a new area, only few studies have looked into this aspect in suicide attempters.[17] The score on all the four domains namely physical health and well-being, psychological health and well-being, social relations and environment were significantly lower in attempters in this study. Dissatisfaction with life at baseline is reported as a risk factor for suicide.18Suicide was significantly associated with low quality of life in China.[19]

Western literature reports that about 90% of all those who attempt suicide suffer from a psychiatric disorder.[20] In a series of studies from the Indian context, the predominant psychiatric problem was adjustment disorder closely followed by major depression and alcohol abuse/ dependence.[21-22] Pondicherry (which has a high rate of alcohol consumption) also has the highest suicide rate in (58%) in India.[2] Good education, and good social support are protective factors against suicide.

LIMITATIONS

The main limitation of this study was a biased control group which was purposefully done to match the psycho-socio-demographic characteristics with the study group in order to reduce the confounding variables as much as possible. Other variables such as personality profile, proneness to violent behavior, and impulsivity should also be considered to differentiate suicidal individuals from controls.

CONCLUSIONS

This study concludes that Social support, positive coping behaviors, and QOL were significantly lower in attempters. However, it is difficult to pinpoint a single factor responsible for suicidal behavior.

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REVIEW ARTICLE

Addiction to Modern Gadgets and Technologies Across Generations

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ABSTRACT

The modern gadgets and technology have become predominant determinants of socioeconomic status and not only is restricted to teenagers but is spreading fast across generations. Addiction to technology is causing significant loss of productivity as well as problems in interpersonal relationships. It has been postulated that rather than a separate entity, internet addiction is a manifestation of a variety of depression, anxiety, impulse control disorders or pathological gambling. There have been rehabilitative measures to correct internet overuse. Technophobia is the fear or dislike of modern technology particularly computers. Let us welcome the technological revolutions with a widespread awareness of its potential danger. The generation of today needs to move ahead with bright vision and better tomorrow.

INTRODUCTION

"The day will come when technology will surpass human interaction."

- Albert Einstein

The list of modern day gadgets is exhaustive and includes Laptops, iPads, iPods, Video games, Smart phones and playstations. These modern gadgets and technology have become predominant determinants of socioeconomic status and is not only vastly popular amongst teenagers and young adults but are fast spreading across all generations. This increasing dependence on technological gizmos has far-reaching consequences.

Parents often complain that their sons or daughters are increasingly addicted to their mobile phones or play video games and watch television the whole day. Human intelligence has evolved, so have our gadgets and the internet. Mechanised communications in social networking sites have largely replaced warm interpersonal interactions that once formed the basis of lasting bonds and relationships. 'Emotions' have been replaced by Emoticons'. It would not be wrong to say that "Man has become slaves to the modern day gadgets." In the words of the Michael Condry the chief operating and development officer of Sledgehammer Games, "All these gadgets, the phone and the computer, they expose the inside of your brain in a way that's bad." People prefer to spend their weekends and spare time at home in front of these gadgets.

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Children spend hours on end in front of laptops playing video games and social networking. Even pornography, erotica, dating websites and sex games are just a small'click' away. The parents are not fully aware of the provisions of family filter, internet site selection, and channel selection in televisions. As a result children are often exposed to the harmful effects of these materials. Children are becoming lazy, inactive and more aggressive. They are addicted to video games which often contain materials of extreme violent nature. Tender childly emotions have been replaced by rudeness adamance and defiance. The nuclear family structure and busy modern day schedule of working parents have made the opportunity of priceless human interactions bleaker. In today's world, people prefer to socialize on the internet more and more rather than face-to-face. There are frequent showdowns between the parents and children. Children no longer respect their parents and more than often parents view children as their competitors. Albert Einstein once expressed his concern that technology will surpass human interaction. That day has arrived.

Judicious use of internet is always advisable. Google can act as a gold mine of information for all kinds of people, young and old. The patterns of internet addiction across various generations are different. Selfies or "photographing of the self" and posting the pictures in the internet are the new trends in the social media. The internet is flooded with pictures of models, actors and actresses who upload their personal photographs for public view. The practice is no more confined to the celebrities. The generation Y has adopted this trend in no time. A recent study has explored the relationship between selfie-posting, photo-editing and personality disorders.[1]

It explored the inter-relationship between self-objectification and the three traits (known as the Dark triad of narcissism, psychopathy and machiavellianism). The study concluded that posting of higher number of selfies in the social media were directly related to narcissism and psychopathy.

Addiction to technology is causing significant loss of productivity as well as problems in interpersonal relationships. The internet has paved the way for the waves of globalisation to spread its claws into the smallest households of the country. It is high time now to formulate a comprehensive approach to curb the unrestricted use of the internet. Recently an incident where a teenager committed suicide on losing his mobile phone has shaken the nation to its root. Such slavery for gadgets are indeed worrisome.

We often witness people crossing busy roads and busy intersections and railway tracks listening to ipods or talking over the phone. This has lead to increase in the number of accidents.

Over-use of mobile phones can affect social and psychological well-being and health. The article was about a teenager boy from china who sold his "kidney" just to buy an iPhone for himself. Corresponding incidences and trends in developing nations like India are also on the rise.[2] Enormous amount of research has been directed in the last decade on mobile phone use and its influence on the human mind and body. It has been concluded that excessive mobile phone users may encounter increased stress, disturbances in sleep and symptoms of clinical depression. These symptoms are especially prominent in young adults.[3] Internet addiction disorder (IAD) or more commonly called problematic Internet use (PIU) or compulsive Internet use (CIU) or even iDisorder are now the common disorders of generation Y.[4,5,6] The nomenclature was originally proposed in a satirical hoax by Ivan Goldberg, M.D., in 1995. However, some time later, it started to be used as a more generalised term denoting excessive uncontrolled use of the internet. He used the model of pathological gambling (diagnosed by the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) as his model for the description of IAD. Lack of standardization in identifying PIU seems to be the major barrier in classifying this as a psychiatric disorder.[7]

IAD can be categorised into subtypes by the type of activity, like gaming; online social networking; blogging; email; viewing Internet pornography in excess; or even Internet shopping (shopping addiction). However, all compulsive behaviors may not be necessarily addictive.[8] A recent study suggests that the prevalence of Internet addiction varies considerably among different countries and is inversely related to the quality of life.[9] Addiction researchers, psychologists, healthcare providers as well as older adolescents have contributed data to build a conceptual model of PIU.[10, 11]

That study put forward seven concepts, or clusters such as: psychosocial risk factors; physical, emotional, as well as social and functional impairments; risky Internet use; impulsive Internet use; and Internet use dependence.[12] Risky Internet use are those behaviors that increase the risk of harmful consequences. Harmful effects include difficulty in memory and concentration, emotional turbulence, anxiety, insomnia, compulsive disorders as well as depression. The impulsive use is the inability to control internet use in day-to-day life. Finally, dependent use describes extreme situations like withdrawal symptoms.[10] Internet addiction disorder is not yet listed in the latest DSM manual (DSM-5, 2013), which is commonly used by psychiatrists all over the world.[13] The only behavioural (non-substance related) addiction included in DSM-5 is gambling disorder. However excessive Internet gaming is listed in an appendix as a disorder requiring further study.[14]

Jerald J. Block, a leading psychiatrist observed that diagnosis of Internet addiction was difficult since 86% of study subjects presented with symptoms pertaining to various other mental health disorders. [15] Young explained "Internet addiction" as a broad term that include addiction to 'cyber sex', 'cyber relationships', 'net compulsions', 'information and research' and 'computer gaming'. 'Internet Addiction' is actually addiction to the 'content' available online like gaming, shopping, gambling cyber-relations and anonymity, hence internet serves as the tool necessary to fuel these addictions.'[16] Thus, excessive Internet users are actually not Internet addicts per say. Another study by Young elaborated that the new users of the internet were the ones who were addicted more than regular users who have been using the internet over a period of a year and were largely nondependant, conforming to the concept that internet addiction may wane over time.[17] Young the founding member of The Centre for On-Line Addiction claims Internet addiction covers five principal subtypes of behavioural and impulse control disorders that include:

1. Cybersexual addiction: addiction to cybersex and cyberporn.
2. Cyber-relationship addiction
3. Obsessive online gambling, shopping or day-trading.
4. Compulsive and over-excessive web surfing or database searches.
5. Obsessive computer gaming.[18]

Hypersexuality and Internet pornography use has come under the scanner in recent years.[19, 20] Internet pornography is very common in the West.[21] There has been a dramatic rise in mental disorders as an aftermath of pervasive internet pornography addiction.[22, 23]

Joshua B. Grubbs, a specialist in Addictive Behavior Patterns, that at present there is no single prevalent consensus regarding Internet pornography addiction and hence the defining Internet pornography use as an addiction is very much controversial.[24] The current Diagnostic and Statistical Manual of Mental Disorders (DSM-5) does not classify Internet pornography as an addiction. However, hypersexuality is mentioned while discussing other disorders.[25] But there is no independant entity as hypersexual disorder in DSM-5. While pornography is mentioned in DSM-5, pornography is not identified as a mental health problem. Cyber-Relationship addiction has been defined as an impulse-control problem within Internet Addiction Disorder; it has

been described as an addiction to social networking in all forms.[26, 27]

Cyber-Relationships are in essence a virtual relationship or form of communication between two people. Anonymity and privacy in relationships are something that are cherished by many. Over time virtual online friends win importance over time to real-life family and friends. People who experience social phobia and anxiety issues can find a suitable vent for their emotional necessities. However, these virtual relationships have more than often devastated real lives. Criminal intentions are always in search of weak unsuspecting minds. The fake profiles and its dire consequences had been cinematized in the movie named "catfish" after the famous documentary film was released in 2010. These fake profiles are often created in the social networking sites with vile intentions and people are often tricked into false relationships. Robbery, thefts, kidnappings, blackmailings and even murders have been the aftermath of such intentions. Many people have suffered irretrievable personal losses due to internet social networking addiction.

The term addiction or habituation has largely been replaced by the term "dependence" Mobile phone addiction has been added in the long list of psychoactive substance abuse, alcohol and tobacco under ICD 10.[28,29] Shambare et al. claim that cell-phone use is "possibly the biggest non-drug addiction of the 21st century;"[30] The results of two studies aimed to explore the behavioral aspects associated with the use of excessive use of mobile phones clearly showed that college students, as well as nonstudents, reported problematic mobile phone use and their behavior fulfilled a number of the addiction criteria. Mobile phone use has been attributed to increasing number of accidents and accidental deaths. Mishaps occur due to negligence not only on the part of the driver but also on the part of the pedestrian. In majority of accidents, talking over phone while crossing roads or driving cars are responsible for these mishaps. Mobiles have replaced the warm personal interaction that once formed the basis of a healthy familial relationship. However it has also fostered increased connectivity across huge distances. High speed internet has enabled excellent resolution in video calling, multimedia messaging (also popular as "MMS"). These have truly made any place in the universe "accessible" and "within the reach" which previously was unimaginable. Thus Internet has its fair share of goodness as well.[31]

Two scales, a 20-item self-reported Problematic Use of Mobile Phones (PUMP) scale, and Mobile Phone Problem Use Scale (MPPUS), estimated the prevalence of avid internet users among British adolescent population and found it to be approximately 10% among those aged 11–14 years and corresponding figures in India were estimated to be 39-44%.[28, 32, 33, 34] In contrast, the prevalence of Internet addiction was 4.9-10.7% in Korea and is a serious public health concern.[34]

Addictive behaviour is more common among women as compared to men.[35] Women tend to use mobiles more for social purposes than men do. Older people tend to use mobiles the least for social purposes. This is the largely due to lesser popularity and greater self-regulation among elders.[36] In another survey by Gazelle, 44% participants reported anxiety and irritability on being unable to interact with their phones for a week.[37]

Approximately, 70% people use their mobile phones within the first hour of getting up in the morning. 56% of the subjects check their phones before going to bed. 51% check their phones constantly even during holidays. A study in Egypt showed that the risk of transmitting micro-organisms by medical staff via mobile phones is much higher.[38]

Although substantial evidence is still lacking, there has been speculation that overuse of mobile phones can lead to cancer, specially brain cancer. In 2011, the International Agency for Research on Cancer of the World Health Organisation suggested that radiofrequency can be a probable human carcinogen. Links were established between use of mobile phones and the potential risk of developing glioma.[39]

Headaches, impaired memory and concentration, fatigue , dizziness and sleep disturbance has been associated with radiation sickness.[40, 41] A study links insomnia to the use of cell phone before bed. In 2014, 58% WHO states issued guidelines to the general population to cut down radiofrequency exposure below heating guidelines. The major recommendation was to use hands-free kits and to reduce call time duration, apart from using text messaging and avoiding calls with low signals or using phones with low SAR.[42] In 2015, Taiwan banned toddlers from using mobile phones and France withdrew wifi from toddlers' nurseries.[43, 44]

The genera of mobile phone that are used for multitasking could be called as "Smartphone" and had the features of PDA(Personal digital assistant). In todays world, smartphones have touchscreen user-interface, camera, media player, radio, innumerable apps, motion sensors and even independant GPS navagation unit. Nowadays smartphones have been operating high speed mobile broadband 4G LTE internet and mobile bill payment solutions.

Nomophobia or "no-mobile-phobia" is a new term that has gained popularity. The psychological factors like low self-esteem and lack of self confidence are the basis of this behaviour. It is likely that these individuals suffer from social phobia, social anxiety disorder and/or panic disorder and this kind of behaviour is an external manifestation of underlying phenomena based on the study that investigated the anxieties suffered by 2163 mobile phone users in Britain.[45, 46]

Kathy Scherer, a psychologist from the The University of Texas at Austin asserted that,"13% of college internet users fit the criteria for Internet addicts". In her study, Scherer enrolled 531 college students. Further it was revealed that "72% of the Internet addicted students were men".[47]

Cyber dependency was found on an average in 5% and 10% of Web surfers in a study and depression and anxiety were common among internet addicts.[48]

Compulsive Internet use has been linked to morphological changes in the brain. A study among Chinese college cyber addicts found reductions in the sizes of the dorsolateral prefrontal cortex,rostral anterior cingulate cortex, supplementary motor area and parts of the cerebellum Although these changes can signify learning type cognitive adaptations for efficient cyber use, there was impairment of short-term memory and decision-making skills.[49] Changes in the brain ultra-structure were also found in internet addicts as revealed by a 2009 study and these neurobiological correlates are similar to chemical addiction as evidenced by MRI studies which revealed that internet addicts had impaired grey and white matter integrity in the orbitofrontal cortex of the prefrontal regions of the brain.[50, 51]

The orbitofrontal cortex is important to execute functions like planning and prioritization, remembering details as well as controlling our motivation".[52, 53] It has been postulated that rather than a separate entity, internet addiction is a manifestation of a variety of depression, anxiety, impulse control disorders or pathological gambling. Parallels have been drawn between internet addiction and food disorders where overeating acts as a relief from depression and anxiety; or impulse control disorders where the person is addicted to bidding, pornography, gaming and gambling, whether or not they are online or offline.[54, 55]

Byun et al. asserted the fallacies of most of the studies as they have inconsistent criteria for defining net addicts resulting in conspicuous sampling bias and investigates degree of association rather than causal relationships.[56] Pathological use of the internet can lead to increase in job losses, divorce rates, financial debts and academic failures according to a Korean study. 70% of internet users play online games, and 18% among them are addicts of online gaming. The gamers documented that addiction to online games helped them to avoid stress in real life. Kimberley Youngs questionnaire was used in this study.[57, 58]

Young discusses the findings of Dr. Maressa Hecht-Orzack of McLean Hospital whose set up for computer and internet de-addiction, received patients with depression and bipolar depression in its full depressive swing. Also patients were largely referred from different clinics throughout the hospital rather than direct self-referrals.[59] The instrument used to assess cyber abuse was the Internet Addiction test by Kimberly Young classified addictive behaviour into mild, moderate and severe impairment. Available in three different languages, English, Italy and French, this was the first global psychometric measure.[60]

The Compulsive Internet Use scale (CIUS) developed in 2009 consists of 14 items and rated on a 5-point scale from 0=never and 4=very often.Some other scales are Problematic and Risky Internet Use Scale (PRIUSS). The Chen Internet Addiction Scale(CIAS) is a 4-point Likert scale with 26 items, with a higher total score indicating greater severity of net addiction and is applicable to both adults and adolescents.[61,62,63] In a Hong Kong based study, 18% Chinese adolescents were reported to be net addicts.[64] Some proponents commented that those who are lonely and depressed develop a preference for online interaction rather than face-to-face rendezvous. This can lead substantial negative outcomes like mood swings and withdrawal symptoms when they were away from the internet.The intrinsic deficit is not healed, but in turn its severity gets exacerbated.[65]

Mark D. Griffith proposed six criteria for Internet addiction and are as follows :[66]

1. **Salience :** Internet use pre-occupies individuals personal life and thought process.
2. **Mood modification :** The positive experience is a consequence of engaging to the cyberworld and helps in avoiding situations in life that are difficult to deal with.
3. **Tolerance :** Increasing the use of the internet helps to achieve a desired level of mood elevation.
4. **Withdrawal symptoms :** Substantial unpleasant use on discontinuation or reduction of internet use and consist of physical symptoms like tremors, mood disorders or irritability.
5. **Conflict :** Interpersonal conflict,conflicts with other essential activities like job, social life or even within the individual may result from net addiction.
6. **Relapse :** Recurrence of behavioral patterns previously observed after periods of abstinence or control.

Some researchers found on longitudinal follow up that internet addiction corrects itself over time. Some of the correction measures include softwares to restrict the content, cognitive and behavioural therapy.Rather than total abstinence, control over the internet usage is preferable.[67]

There have been rehabilitative measures to correct internet overuse. One of such endeavour is ReSTART, a center for residential therapy based on Seattle, Washington, USA for net addicts that offers a 45-day program to wean people from pathological internet use.[68]

A somewhat harsher measure was invented in August 2013 by researchers at the MIT Media Lab, USA who developed a USB connected keyboard accessory that "punishes" net addicts with a small electrical jolt every time there is excess time spent on a particular website.

Pathological gambling, according to David Hodkins, professor of psychology at the University of Calgary , is a separate entity altogether. The surge of globalisation has created a desperation for 'fast' money, particularly among young teenagers. The option of online gambling is attractive due to lack of any social inhibition and the widespread use of the internet where the gambling sites are just one click away.

Online stock trading , according to Brian Bloch is very addictive due to the sense of empowerment it

generates as traders have the ownership over when and how stocks are traded and money distributed. The environment is free from arrogant bosses or hectic schedules that the individual encounters in a day-to-day life. They are enthralled into a cycle of imperishable desire to win money that often leads to repeated losses and bankruptcy. Video game addiction has drawn significant attention since the past decade.[70]

With the advancement of technology, it has gained phenomenal proportions. Online video games flood the cyberspace. Cyber game addicts range from children to adults. Andrew Doan, with a background in neuroscience research had to fight with his mammoth internet addiction whereby he spent approximate 20,000 hours of game play spread over a period of nine years.

OnlineGamersAnonymous,anon-profitorganisation was developed in 2002 for de-addiction support for avid gamers include an array of discussion forums, online chat sessions, skype communications to help recover from the deleterious effects of internet games.[71]

Jim Rossignol, a finance journalist who, similar to Andrew Doan, was a game addict himself, is now a well known reporter of internet gaming and gaming culture.[72]

Social network addiction is a behavioural problem that necessitates a constant urge to communicate with other people on the social media even though there is no immediate necessity for such interaction. Facebook has created a wave of communication addiction. It has become a platform for social communication, fostering relationships as well as a source of unbound entertainment. People update their status on their facebook page, sometimes even minute details of day to day life are updated. Some people are in the habit of uploading their own self-clicked pictures in the urge of getting noticed by their peers. Sharing personal moments are very much in vogue. Friends in social networking sites are seldom friends in real life. Having large numbers of friends and followers in social networking sites are regarded as indices of high social quotient. This has lead to this "virtual world addiction". Presently this addiction is limited to interactive visual media for example social media like facebook. But scientists predict the future of virtual reality to be a computer stimulated pseudo-environment that can have extreme potential for addiction.[73]

There is one TV addict in every household.Around 70% of Americans are TV addicts.This is still on the rise, thanks to the modern television technological advancement. LED, Plasma TVs with mammoth screens and concept of home theatres have created a revolution in the television world. People are more and more drawn inside the comforts of their homes, keeping the time for healthy social interactions completely at bay. Addictions have lead to the loss of valuable work hours in total laziness and lethargy. However TV addiction is not classified as a separate condition in DSM-IV.Technostress is the negative impact of the modern technology and includes altered work habits that is brought about by the use of these technologies at office and home situations.[74, 75]

There exists a range of symptoms that people experience from technostress. Some of these are headache, mental exhaustion, panic, helplessness, insomnia, loss of temper, irritability, anger and frustration. Hours infront of the computer can lead to physical symptoms like backache, stiffness in the neck, shoulder and reduced job satisfaction and productivity. Jobs that have increased likelihood of developing technostress should employ adequate preventive measures like periodic assessments to check the effects of technostress on the physical and emotional aspect of the employee. There should be workshops organised for employees not only to impart knowledge and enhance their technical skills but also to make them aware of the deleterious effects of technostress. IT troubleshooters should help maximise the system accessibility and strive to make the employees more comfortable with the system.

The principal causes of technostress are

- fast pace of technological change with lesser time for acclimatisation
- lack of adequate training
- Phenomenal workload
- Absence of standardization within technologies
- Reliability of hardware and software

Technophobia (from Greek technē, "art, skill, craft" and phobos, "fear") is the fear or dislike of modern technology particularly computers.According to Dr. Larry Rosen, research psychologist and professor at the California State University describes that there are three types of technophobes- the "uncomfortable users", the "cognitive computerphobes", and "anxious computerphobes".[76]

World War II and the bombings of Hiroshima and Nagasaki worked as catalysts to the existing fear and phobia .War technologies such as napalm, explosives, and gases during the Vietnam War further escalated the situation.[77] The British Luddites protested the application of the machines and argued that the skills of human labour needed protection from destructionby the autonomy of machines.[78]

New technologies often encounter conflict with established beliefs. They contradict personal values of simplicity and modest lifestyle. Technophobic ideas can be found in various forms of art, from creative literature such as Frankenstein to science fiction drama like Metropolis. These works mainly portray the evil side of technology as perceived by the technophobic. With the technologies becoming increasingly complicated, people are more and more likely to harbor anxieties relating to the use of these advanced technologies.With the advent of modern medicine and the likes of Louis Pasteur, Charles Darwin, Gregor Mendel, Michael Faraday, Henri Becquerel, and Marie Curie, and inventors such as Nikola Tesla, Thomas Edison and Alexander Graham Bell, world was changing rapidly. Poets like William Wordsworth and William Blake harboured the thoughts that the technology was polluting the perfect and pure nature in more than singular ways.

Let us welcome the technological revolutions with a widespread awareness of its potential danger to get addicted by limited fruitful use of modern day gadgets the generation of today needs to move ahead with bright vision and better tomorrow.

Digital amnesia symptoms is the habit of automatically going online to get answers to questions. The trend to look up information before even try to recall it prevents the build up of long term memories. The loss of data stored in smart phones causes immense distress, particularly among women and people under 35. Selfitis is an obsessive compulsive desire to take selfie and post them on social media to make up for the lack of self-esteem and to fill a gap in intimacy. Acute selfitis is defined as taking photos of one's self at least three times a day and posting each of the photos to social media. Chronic selfitis is the uncontrollable urge to take photos of one's surroundings round the clock and posting the photos more than six times a day. Selfie obsession is attributed to low self-esteem as people try to find a way to boost themselves. It could be attributed to gain attention from the society. In India 74% of adolescents are found moderately addicted to their smartphones. Smartphone dependence may cause stress, depression, anxiety, insomnia, delinquency and aggressiveness (Int J of Preventive Medicine). According to researchers, the presence of ADHD increases the risk of Internet addiction. Research suggests that adolescents with IAD have more aggressive dispositions than others. Early psychiatric intervention may prevent IAD. According to recent studies on school going adolescents, boys are more likely to have internet dependency. Secondary school students, who suffer from IAD, may have psychological behavioural problems like restlessness, palpitation, tremors etc. Recent studies provide evidence of compromised prefrontal cognitive control over emotional interference in adolescents. Increased internet use predicted higher levels of social support, reduced loneliness & psychological well-being among older adults. A survey of facebook overusers demonstrated novel self-other discrepant

perceptions concerning risk and benefit of facebook. According to recent studies, late adolescents who are victims of cyber bullying, are at higher risk of depression of problematic alcohol use. IA prevalence is inversely associated with quality of life reflected by subjective (life satisfaction) and objective (environmental) indicators. According to studies, avoidant coping and coping inflexibility are the cause of psychological maladjustments in Internet Addicts. Texting while driving has become a cultural artefact, which conflicts with driver safety as well as laws prohibiting texting while driving. Recent studies suggest that online gaming is negatively correlated with college engagement and academic performance of college going students. Recent studies suggest that the extent of social anxiety is a predictor of preference for online social interaction & IAD Cybersexual addiction is defined as a type of IAD where the addict spends excessive time on websites for cybersex or cyberporn. Data suggests that approximately 20% internet addicts are engaged in some form of online sexual activities. Problematic and repetitive sexual behaviour serves as a means to escape stress and tension, becoming a way to handle the problems. Cyberchondria is defined as anxiety induced by health related excessive online search causing hypochondriasis. Cyberchondria is caused by excessive information; patient tries to convince himself that he is suffering from illnesses, causing anxiety and depression. Individual searching for reassurance online may experience anxiety as a result of escalating search behaviour.

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Psychiatric Symptoms in Brain Tumor

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ABSTRACT

Patients with structural brain lesions may sometimes present with a variety of psychiatric symptoms for a prolonged period of time without any neurologic symptoms and signs. In such cases the underlying pathology of such clinical picture can be easily misinterpreted to be functional in origin and can delay actual diagnosis as well as alter the prognosis. This report presents a case of elderly gentleman who presented with sudden onset atypical psychiatric manifestations with alteration in mood and behaviour which was diagnosed later on secondary to brain tumour involving both frontal lobes and corpus callosum. Hence we suggest that any atypical psychiatric manifestation in elderly patients warrants a detailed evaluation accompanied by neuro-imaging to rule out possible organic cause including tumours.

Keywords : Brain Tumour, Neuropsychiatry, Mood and Behavioural disorders.

INTRODUCTION

Brain tumours are commonly associated with neurological manifestations. However it is not common for these tumours to present with neurobehavioral changes in the absence of any focal neurological deficits. We report a case of 61 year old gentleman presenting with sudden onset change in mood and behaviour over 2 months. Neuro-imaging revealed large tumour possibly Glioblastoma Multiformae occupying bilateral frontal lobes and corpus callosum.

CASE REPORT

Mr X. a 61 year old gentleman, a retired government employee from rural background presented to us in December, 2012 with a sudden onset progressive course of illness over two months. The symptoms started with behavioural changes. The patient was noticed to be restless and roaming around aimlessly. He had spontaneous bouts of whistling, singing loudly, speaking out in different voices, use table, bucket and utensils to make thumping noise. His sleep reduced markedly. He showed over-familiarity and would become jocular by reciting TV advertisements which were out of context and amuse others. He would abruptly give a running commentary of a cricket match which was very unusual and unheard of him. This particular feature was also observed during course of ward stay. All above actions were unprovoked, impulsive and associated with agitation if interrupted from doing so. These symptoms lasted for 15-20 days followed by gradual reversal in his behaviour in form of withdrawn attitude, vacant staring, psychomotor retardation, reduced socialization and markedly reduced appetite. He remained apathic and had to be forced to do even basic self care activities.

Subjectively he complained of a low mood and expressed nihilistic ideas. Above symptoms were not associated with other mood or psychotic symptoms, substance abuse, any seizures, head injury, recent febrile illness or sensory-motor deficits. There was no history of headache, vomiting or other neurodeficits.

Initially he was diagnosed by local psychiatrist as late onset psychosis versus mood disorder and started on antipsychotics for two weeks but were poorly tolerated. There was no improvement and patient stopped taking oral feeds for 4-5 days leading to dehydration. Patient was a known case of hypertension detected two years ago when he had cerbrovascular attack with left sided hemiparesis. There was a history of one episode of post stroke depression of moderate severity lasting 4-6 months with spontaneous recovery without treatment. There was no past history of other psychiatric disorders. Family history was positive for mood disorder in elder sibling. At admission patient was medically evaluated and dehydration corrected and referred to psychiatry in view of behavioural abnormalities. General and systemic examination was within normal limits. Central nervous system examination was within normal limits except minimal residual motor weakness on left side. He was oriented to time, place and person. Mental status examination revealed averagely kempt general appearance, poor oral hygiene, psychomotor retardation, and a minimally cooperative attitude. Rapport was established with difficulty. Speech was non-spontaneous, monotonous, coherent and relevant with latency of response at times. Thought content revealed delusion of guilt. Mood was conveyed as sad, affect was inappropriate and restricted. Cognitive assessment revealed impaired immediate and recent memory, impaired conceptualization and judgement with absent insight. A differential diagnosis of dementia with behavioural and psychological symptoms versus late onset mood disorder possibly organic was considered though the presenting symptoms and signs were quite unusual. All baseline investigations were within normal range. Hemogram revealed no abnormality except Haemoglobin of 10.2gm%. MRI brain was then planned in order to rule out local pathology and past history of cerebro-vascular insult. Neuroimaging revealed high grade space occupying lesion involving B/L frontal lobes, Genu and Rostrum of Corpus Callosum approximately 4.5 × 5.5 cm in size on each side with structural pathology suggestive of possible Glioblastoma Multiforme (Fig. 1 and Fig. 2). Fundus examination suggested grade I hypertensive changes but no papilloedema. Thus diagnosis of organic mood disorder was confirmed as secondary to frontal lobe tumour. Patient was started on low dose Quetiapine (25-50 mg) in divided doses for symptomatic control. Neurosurgery consultation was initiated and patient was started on antiepileptics as prophylaxis. Patient was advised for tumour resection and prognosis was explained. Considering the prognosis and absence of any physical disability the family members refused getting operated and opted for palliative care management. Subsequently patient lost to follow up.

DISCUSSION

Above case illustrates how brain pathology in form of tumour presents with psychiatric symptoms in absence of any neurodeficit. As this patient had previous history of stroke followed by an episode of depression, current episode was assumed to be a part of the same spectrum initially. Mood disorders and cognitive decline in form of dementia are known to be precipitated by stroke. However considering the esoteric presentation of behavioural and mood symptoms, which were sudden in onset, unusual in presentation and not temporally correlated to previous medical condition led to suspicion of different aetiology. Hence it was immediately decided to proceed with neuro-imaging considering possibility of independent organic brain pathology. Though it is not uncommon for brain tumours to present with neuropsychiatric manifestations but purely mood and behavioural symptoms in elderly patients with other co-morbidities in absence of any localizing neurodeficits is more likely to be

suspected as of functional aetiology. The patient was diagnosed to have functional psychiatric disorder and treated on same lines before presenting to us.

Brain tumours can present as predominantly psychiatric manifestations in up to 10-100 % cases[1]. There have been attempts to categorize psychiatric symptoms in accordance with the location of the tumour For example Frontal lobe tumours are reported to manifest as abulia, personality change, and impaired judgement along with seizures, motor deficits, gaze abnormalities or incontinence. Similarly tumours in the temporolimbic areas can present in form of auditory and visual hallucinations, mania, panic attacks, or amnesia[2]. On other hand in areas such as the occipital lobe, corpus callosum, and intraventricular space, tumours can remain silent before they grow considerably and only produce transitory symptoms without localizing signs[3]. However a recent metanalysis by Madhusoodanan et al, 2010 revealed that these symptoms are not always specific to type, size or location of tumours[4]. Hence there can be delay in exact evaluation and diagnosis of the cause of the symptoms. Alternatively tumour like primary Glioblastoma Multiformae is commonly seen in older age group and can be very aggressive and rapidly progressive if untreated[5]. The scenario was similar in current case, where tumour got detected at a very late stage as it either remained clinically silent (considering its size at time of detection) earlier presenting later with only non-localizing psychiatric symptoms or it progressed rapidly during early phase of clinical presentation. Both these factors can deter the prognosis as it happened in our patient. Hence it is recommended that any change in the clinical presentation of patients with previous neuropsychiatric complications or the emergence of atypical psychiatric symptoms should be further explored through neuroimaging and other necessary investigations.

CONCLUSION

Brain tumours can be notorious to present with unusual set of symptoms. Atypical psychiatric symptoms and signs with rapid fluctuations, poor tolerance to medications, resistance to cure occurring in any age group, warrants a detail evaluation accompanied by neuro-imaging to rule out possible organic cause including tumours. Early detection has a direct influence on treatment options and quality of life of patients.

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COMPETING INTERESTS

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Title : Initiative of Sikkim District Mental Health Program

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Suicide is one of the major public health problems in Sikkim and the State has been facing the dramatic rise in suicide cases. According to the National Crime Records Bureau (NCRB) report, 2008 Sikkim had the highest suicide rate and in 2009, Sikkim (39.9) was recorded as second highest state in the country in terms of suicide. The major cause of concern in Sikkim is the unusually high rate of suicide. Alcohol use is traditionally prevalent among Sikkim's population. National Family Health Survey-2, Government of India, has also highlighted a signi¬ficant prevalence of alcohol use in Sikkim-32% and 17% among above 15 years of age males and females, respectively. From their observations prevalence of alcohol use is more common in rural areas than urban and negatively related to level of education and socioeconomic condition. These rough estimates make it obvious that alcohol use has become an important public health issue in Sikkim. As a result, abuse of opioids including heroin and other synthetic opioids have been reported from treatment centers. Similarly injection drug use (IDU) behavior has also been reported. Therefore, this is an early attempt to address the problem of substance abuse and mental Health problem in Sikkim.

OBJECTIVES

- Develop strategy for prevention of mental illness.
- To promote Mental Health & ensure availability and accessibility of mental health services to the vulnerable section of the society.
- Application of mental health knowledge to general health care of social development.
- To promote community participation in mental health services development and to stimulate efforts towards self help in the community.
- To explore public health approaches to suicide prevention.
- Managements through early detection/ diagnosis/referral/follow up.

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ACTIVITIES UNDERTAKEN

- The Psychiatric hospital with 24 bedded Indoor services at STNM Hospital, Gangtok has been functioning with an average of 30-40 patients per day with 24 hours emergency services integrated with emergency department of the hospital.
- Extensive Outreach Programme has been organized for identification of mentally disabled people.
- Orientation Training Programme for the awareness of the mental health is being imparted to the Medical Officer, Nursing Staff, Community Health Officers, PHNS, MPHW (Male / Female), Teachers Incharge of Police Personnel, Panchayat Members and Secretary and NGOs regularly.
- Health Education and IEC activities to bring awareness of Mental Health is being carried out to educate the general public through posters, booklets, pamphlets, audio visual publicity, dramas, radio talk etc.

- Outreach clinic at District Hospital at Singtam has been started covering 7 PHCs and 48 PHSCs under Singtam Hospital.
- The Mental Health Booklets both in English and Nepali version to educate the general public about mental illness depicted in pictorial form, showing the easy way to recognize the signs and symptoms of mental illness has been prepared.
- Emphasis has been given to the Media for promoting awareness among general people regarding mental illness by delivering programme in local newspapers focusing mental illness, suicide and drug addiction.
- Mental Health Programme has been started in all the four Districts and Sub-Divisions of the State.
- Mental Health Awareness Programme regarding mental illness, Drug Addiction, Suicide and Adolescent Psychological problems has been started at different schools.
- Suicide hotline services established for promotion of 24X7 counseling services to suicidal and mentally ill clients at times of crisis.

In convergence with CATCH, attempt has been made to screen the population with depression, people with suicidal ideation and those who have attempted suicide and refer them to appropriate center for management. Attempt has been made to provide community based integrated Mental Health Care with support from appropriate Institute for management of mental illness and prevent suicide. Though till 2011-12 only East district was covered under District Mental Health Programme. However the programme has been extended to all 4 districts through mission flexi pool under NRHM. Therefore, Sikkim is perhaps the only state in India which has attempted to provide Mental Health services to rural population.