"CONTENT ANALYSIS OF ADVANCED DIRECTIVES WRITTEN BY PATIENTS WITH SEVERE MENTAL ILLNESS IN REMISSION – A DESCRIPTIVE STUDY"

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LIST OF ABBREVIATIONS USED

Abbreviations	Glossary
MHCA	“Mental Health Care Act”
PAD	“Psychiatric Advance Directive”
AD	“Advance Directive”
IHBAS	“Institute of Human Behaviour And Allied Sciences”
UNCRDP	“United Nation’s Convention On The Rights Of Persons With Disabilities”
NR	“Nominated Representative”
ACP	“Advance Care Planning”
HCPA	“Health Care Power Of Attorney”
AI	“Advance Instruction”
ECT	“Eclectro-Convulsive Therapy”
UN	“United Nations”
HCP	“Health Care Proxy”
ACD	“Advance Care Directive”
RACF	“Residential Aged Care Facilities”
EAT	“Education-cum-Assessment Tool”
OPD	“Out-Patient Department”
IP/IPD	“Inpatient / Inpatient Department”
BADI	“Bangalore Advance Directive Interview”

CGI-S	“Clinical Global Impression – Severity Scale”
GAF	“Global Assessment of Functioning”
BCIS	“Beck Cognitive Insight Scale”
IBM-SSPS	“International Business Machines-Statistical package for social sciences”
BPAD	“Bipolar Affective Disorder”
P-SCHIZ	“Paranoid Schizophrenia”
P-SCHIZ.AFFEC	“Schizoaffective Disorder”
P-OTHER	“Other Psychotic Disorders”

ABSTRACT

Introduction : Psychiatric advance directives have been included in the Mental Health Care Act 2017. There are few factors that might influence the avance directive choices that the patients make. Only few studies have been done in India. It is important as "Advance Directives" will be a mandatory in coming future to protect the rights of the mentally ill patients according to the UNCRDP.

Aims:

1. To determine the treatment choices selected by the patients as part of advance directives.
2. To determine the factors that affect these choices while preparing the respective advance directive.

Methods and Material: After taking consent from the patients, a cross sectional study was conducted by convenient sampling till the sample size is reached. (Sample size 100).The patient's severity was assessed by Clinical Global Impression Scale – Severity (CGI –S). Patient's Insight was assessed by Beck's Insight Scale. Level of functioning was assessed by Global Assessment of functioning and the patient's capacity to consent for treatment was assessed according to MHCA guidelines – Chapter II, Sec 4 –IHBAS scale. A pre-drafted semi structured questionnaire was presented to the patient to find out the possible choices they make as a part of advance directives. The available treatment choices were explained. The filled questionnaires were analysed.

Results: All the study participants were made understood the concept of advance directives and all agreed and made advance directives. Almost nobody rejected oral

psychotropics, 75.73% rejected ECT, 80.58% rejected physical restraints, and 24.27% rejected future hospitalisations.

Conclusions: There was a significant impact of education status (up to pre-university level – opted more IPD, denied ECT more as AD) and socioeconomic status (lower class denied ECT as AD more than any other Socioeconomic class) on opting ECT as AD. History of receiving ECT has made participants select IPD as AD more. However the history of receiving ECT and getting physically restrained in the past had no impact on choosing the same options as AD.

Key-words: Advance directives, mental health care act, capacity assessment, INDIA

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INTRODUCTION:

It is a well-known fact that medical illnesses have biological basis, similarly mental illnesses also have biological basis and should be equally treated in the society.[1] Mental illnesses always have been undervalued throughout the world.[2] According to Vigo D et al, the approaches followed currently give an estimate which is less than third of the actual burden.[2] "The Mental Health Care Act (MHCA; No. 10 of 2017a)", "Psychiatric Advance Directives (PADs)" enacted and legalized in India recently has made it binding for the psychiatrists to use these directives while treating patients. But there is only a limited knowledge and research with regards to the acceptability of "Psychiatric Advance Directives" due to the lack of awareness.[3] An "advance directive" is legal document which enlists the decisions made by patients in advance regarding the preference or refusal to undergo a certain treatment modality in case of a future incident of the same or new mental illness, when they were deemed mentally fit to do so.[4] Advance Directives can both provide instructions for future care and outline personal choices like nomination of an individual for making decisions on their behalf. The nominated representative may be a non-family member.

These inclinations can be conveyed either alone or with support from facilitators, called as a facilitated-Psychiatric Advance Directive (PAD), including health professionals or peer support workers.[5] Advocates for the autonomy of mentally ill individuals supported PAD policy over the years. Using a PAD will allow such individuals, if competent and helped by a physician, to identify early signs of a relapse, to indicate preferences willing (or not willing) certain medications and other types of care in the form of treatment that probably (or probably not) have succeeded in the past, to express personal beliefs and appropriate treatment compromises, and to

give prior informed consent to treatment, including inpatient treatment. Although the concept of autonomy is given importance in well developed countries, but their feasibility in developing countries like India remain unanswered.[5]

The past studies conducted on the subject of advance directives have brought to light the positive response received from the patients regarding making advance directives primarily due to fact that patient has right to know and decide what treatment he/she wants. Various treatment modalities such as chemical injections/restraints, physical restraints, future admissions and electro convulsive therapy have been included. However majority of these studies state the lack of a conclusive sample size and the absence of accounting for the factors that affect the choices made by the patients.[6, 11-13]

Separate studies conducted by Srebnik D et al[7] in 2003, Swanson JW et al in 2006[5], Elbogen EB et al[8] in 2007 and Henderson C et al[9] in 2009 have stated that subjects who have effected PAD are self-determined , empowered and autonomous. Psychiatric Advance Directives (PAD's) have known to come with their own restrictions like inability to carry out the directives due to financial restraints, Psychiatric Advance directives that fail to reach the future doctor either due to the patient and/ or relatives forgetting about it or the PAD not being well documented.

This is compounded in India by the comparatively higher illiteracy rate due to which patients fail to completely understand its importance and future potential. Another drawback is that patients with acute exacerbation of mental illness like might refuse treatment but these draw backs are addressed in the current "Mental Health care act 2017".[10] Shields L et al[11] in 2013 concluded that there are positive outcomes with implementation of advanced directives in India though the factors that influence

the content and the exact content was not measured. Pathare S et al[12] in 2015 witnessed that 31% of their subjects would decline Electro Convulsive Therapies in spite of the advice of the treating physician, 25% would decline hospitalization. A pilot study conducted in 2018 by Tekkalaki et al[6] concluded that 10% of participants couldn't understand what advance directive meant. 89% agreed for advance directive in which 15% declined hospitalization in the future, twenty two percent rejected chemical restraints and injections, 47 % rejected further ECT's and sixty two percent declined getting physically tied in future. The positive outcome of PADs in India was further reinforced by the study conducted in 2018 by Gowda GS et al[13] as many people favored advance directives but they also observed that the outcome can be negatively influenced by absence of insight, psychopathological conditions and incomplete recovery as they didn't assess the insight and capacity before the "Advance Directive" were made.

So we carried out this study to determine the treatment choices selected by the patients as component of advance directives and the factors that affect these options while preparing the respective advance directive with capacity assessment prior according to the IHBAS capacity assessment scale prepared from mental health care act 2017 chapter 4 section 2 which was lacking in the study done from our institute earlier.[6]

AIMS AND OBJECTIVES:

- To determine the treatment choices selected by the patients as component of advance directives.
- To determine the factors that affect these options while preparing the respective advance directive.

REVIEW OF LITERATURE:

"Advance Directives":

An "advance directive (AD) is a legal document or agreement that specifies the treatment expectations for and treatment refusals in advance in case of a future incident of the same or new mental illness, when they were deemed mentally fit to do so".[4]

It came into context initially for end-of-life choices in the treatment. Gradually, in developed countries they were being used in subjects with severe mental illnesses. **"**PAD (Psychiatric Advance Directive) is a legal document by which the subject gives his consent for treatment or declining mental health care in the form of treatment in future by giving his instructions in advance or by assigning a decision maker in debilitating psychiatric illness." The term first emerged in the sense of decision-making on end-of - life care, subsequently these were utilised in persons with serious forms of mental illness.[14] They can be either oral or written. They can be in the form of an advisory or they can be a formal statutory document.[15] But an AD can never overtake the decisions of a subject who is mentally capable of making decisions. In case of emergencies, where there are no ADs or surrogates to make treatment choices, the treating physician can make appropriate treatment decisions. In emergency cases where a patient cannot engage in care choices and no substitute or "advance directives" are accessible to direct decisions, clinicians have to include medically necessary treatments for the patient when it is desperately needed to meet the immediate health needs and further can be withdrawn later when the preferences of the patient becomes known following the appropriate ethical guidelines.[16]

"before initiating or proceeding with treatment including life-sustaining treatments, the clinician should[17]

a) Determine the choice-making ability of the patient in the current clinical circumstances.

b) Find out whether the patient has an advance plan, and if so, if it correctly represents their existing beliefs and expectations. Determine if the current clinical circumstances of the patient meet the appropriate limitations in the "Advance Directive".

c) Make sure if a health care proxy has been appointed by the patient (example: verbally or via a written legal record).When the patient has not assigned health care proxy, enquire, whom the patient will like to select one if the patient cannot make it.

d) Record the conversation, including the study participant's choices of the various modalities of treatment, and nominated person's choices, in the medical record; contains any written directives (as accessible) in the medical record to make sure that these directives are available to the physicians;.

e) If treatment choices are taken by the surrogate of the patient, help the proxy representative to make them apprehend in what way one should do to meet the desires of the patient in congruence with the "advance directive" (if present), including how the "advance directive" applies in the present health conditions of the patient and what types of medical treatments are necessary to achieve the patient's care targets.

If there are discrepancies between the "advance directive" and the patient's proxy's wishes, the clinician may seek support from an ethics board or alternate relevant institutional authority.

f) If the patient is unable to take decisive capacity and/or has no "advance directive" and no surrogate is available and ready to make health care choices on behalf of the client, or no proxy can be identified, the psychiatrist should take help from an ethics board or other suitable source to determine the greatest interest of the patient.

g) Record clinician's instructions to enforce medical record care decisions, including instructions for actual, current treatments (e.g., palliative treatments) and orders to abandon actual procedures (e.g. "advance directive" advising not to resuscitate, administer breathing tube, not to give antimicrobials or dialysis).After the ADs are executed by the patient, then it must be ensured that their preferences are followed. Besides empowering the consumer, these directives improve the communication between the service providers and the consumers and their family .[14]

Paradigm shift towards advance directives:

Since the middle of 1970s, globally these ADs are being promoted as legal instruments for communicating health care preferences of an individual in the future towards the end of their life.[18] But their feasibility in a developing country like India is still not clear. "The 2017 Mental Health Act was a groundbreaking legislation that took a paradigm change from its predecessor in India, moving from discrimination against and criminalizing mentally ill people to acknowledging and granting them

their rights during diagnosis, treatment and care."[19] This is according to the "United Nation's Convention on the Rights of Persons with Disabilities (UNCRPD)". The law seeks to safeguard basic right and freedom of people who are suffering from mental illness. The law provides two new facilities: "The Advance Directive (AD)" and "The Nominated Representative (NR)." Though not compulsory, they empower the subjects besides creating awareness. This act empowers an individual to choose their treatment of choice in future besides allowing that individual to nominate the person of their preference to make their decisions. A clinician can certify the validity of this "advance directive" is licensed by the "Mental Health Board". This right-based approach represents a milestone for our country.

But, in order for the Act to begin to benefit persons who are mentally ill, many challenges must be cleared up. This will encourage mental health programs to expand.

"It is important to understand the meaning of Advance Directives properly. They are advance statements made by any individual (not necessarily one who is suffering from mental illness already), when they are healthy and capable to make decisions. So there is no rationale why someone who has the capacity [to do so] should not appreciate the decisions made by that person. Moreover, in effect, it is acceptance/refusal of consent given in advance before a person loses capacity to make decisions," said Dr. Soumitra Pathare, who worked hard in making the "Mental Healthcare Act, 2017".[61]

How advance directives came into existence:

The first advance directive was proposed by the Euthanasia Society of America in 1967.[20] It was described in an article by Luis Kutner, a lawyer fighting for

human rights in 1969.[21] He suggested that the individual should indicate in writing ahead of time the extent to which he or she would consent to treatment. He titled the document as a “living will,” “a declaration defining the end of life," or a "testament authorizing death,” among other names.[21] For individuals, living will offers a tool for expressing their preferences regarding end of life treatment, whether to accept or decline treatment while for the physicians it offers them immunity for complying with the choices of the individuals.[22]

Psychiatric advance directives and their evolution:

“Advance care planning (ACP) is a preparation mechanism for future healthcare, by which the principles and desires of the patient are made clear. ACP may also require naming a substitute who makes decision for the patient.[23, 24] Worldwide there are significant variations in terminologies and legal procedures related to ADs.[25]

PADs are nothing but derivatives of medical ADs and they are based on legal framework. Cases of Karen Ann Quinlan and Nancy Cruzan are two such cases.[26, 27] Thomas Szasz put forward the theory regarding “psychiatric will” as a way of preventing unnecessary mental health interventions. His proposal was based on his idea that illness of mind is illusory.[28] Other authors have also advocated the proposal of Szasz.[29] Empowerment of patients and patient choice of care in PADs were also main factors responsible for backing up of PADs.[30]

PADs permit the patients to formulate their treatment choices through either an “advance instruction (AI)” and/or a “health care power of attorney (HCPA)”. People in an “Advance Instructions” may agree or deny some types of drugs or

treatment in any modality, decide health institution choices, and agree or reject other interventions like ECT's. "Advance Instructions" are utilised to give details of methods to bring down emergency situation, make extra action appeal if admitted to health care institution (example: communicate to a family person), and even agree to subsequent institutionalizations. A "HCPA (variously called as a health care agent, proxy, or Durable Power of Attorney for Healthcare)" allows individuals to authorize a person to take health care choices on behalf of the person having mental illness (i.e., using the patient's known preferences as a substitute judgment) when the client or patient cannot do so.[31]

Psychiatric Advance Directives (PAD's) have known to come with their own restrictions like inability to carry out the directives due to financial restraints, Psychiatric Advance directives that fail to reach the future doctor either due to the patient and/ or relatives forgetting about it or the PAD not being well documented. This is compounded in India by the comparatively higher illiteracy rate due to which patients fail to completely understand its importance and future potential. Another drawback is that patients with acute exacerbation of mental illness might refuse treatment. A pilot study conducted in 2018 by Tekkalaki et al[6] concluded that 10% of participants couldn't understand what advance directive meant. 89% agreed for advance directive in which 15% rejected institutionalizations if falls sick later, twenty two percent rejected chemical restraints and injections, fourty seven percent rejected further ECT's and sixty two percent rejected to be tied physically in coming days of illness. Separate studies conducted by Srebnik D et al[7] in 2003, Swanson JW et al in 2006[5], Elbogen EB et al[8] in 2007 and Henderson C et al[9] in 2009 have stated that individuals executing PADs are self-determined, epowered and autonomous.

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Types of mental health advance directives

The two main forms of mental health advance directives are instructional directive and proxy directive.[32] the most popular forms of advance directives are the **living will**[33] and the **durable power of attorney for health care**[34] (sometimes known as the **medical power of attorney**). "The living will is used only at one's life end who is either terminally ill (cannot be cured) or permanently unconscious. The living will identify the type of medical care that the person would like to receive in these cases, or not. It can explain what circumstances an attempt to prolong one's life should be continued or stopped. This refers to procedures including dialysis, tube feedings, or direct life support (such as the use of ventilator)" A durable power of attorney for care of health, also referred to as a medical power of attorney, is a legal

document in which the patient names a representative (proxy) person to make all decisions of health care if they cannot to do by self.[26, 35]

I. Instructional directives

They are established on the medical care "living will" and they are made of directives given by the individuals in advance about their treatment and their preferences in case the patients are unable to communicate or become incompetent in making decisions.[33] They include the information about

1. Type and use of medicine, their dose, route of administration
2. Specific therapies like ECT to be used or not
3. Handling of emergency situations by using restraints or sedatives
4. Hospitalization and inclination for hospitals
5. Alternatives to hospitalization
6. Individuals who can visit them in hospitals
7. Their Consent for contacting their healthcare providers and accessing their records
8. Identifying individuals accountable for care of the home, children, pets and financial issues
9. Their preferences regarding participation in experimental treatments
10. Issues regarding medical care
11. The major disadvantage with this directive is that the individual would not be able to give information that is specifically required anticipating those future events.

II. Proxy directives

The proxy directive, or health care power-of-attorney, enables a person to nominate other person —a health care proxy—to make decisions regarding modality of treatment on their behalf if the person is deemed incompetent.[35, 36] It gives the capacity for making broad decisions to the health care proxy, who could then use the instructional directives to make decisions.

Legislation regarding mental illness in India:

Mental illness has long been known to cause significant handicap to both the affected and the care takers. It is a condition that chronically affects more than one life and with the reported prevalence of 7.5% in India.[37] Every sixth citizen of India needs mental health help and India needs to talk about mental illness.[37] Mental problems are common in age group of 30–49 years or over 60 and low income is linked to occurrence of mental disorders.[37] "Mental illness is characterized as a significant disorder of thought, affect, perception , orientation or memory that significantly impairs judgment, behavior, ability to perceive reality or ability to meet ordinary life demands, mental situations associated with alcohol and drug abuse, but does not include mental retardation that is a state of delayed or incomplete development of the person's mind, especially with sub normality of intelligence" by the Indian Mental Healthcare Act (MHCA), 2017".[19, 38] The Government of India came to an agreement with the "United Nations Convention for Rights of Persons with Disability (UNCRPD)" in September 2007 to make sure to guard the rights of persons with disability, among them is MHCA 2017 which was enforced on 7th July 2018.[7] The Committee on the "Rights of Persons with Disabilities (the Committee)" and other important UN bodies consider PADs as important tools adding to the

realization of the convention's general aims, such as boosting the autonomy and making sure of equal treatment of persons with disabilities. First attempts have been made to make the concept clear regarding PADs under the CRPD.[39] But critics have raised issues regarding the suitability of PADs in India.[40] "Section 89 of the Mental Health Care Act provides for admission and care in the form of treatment of an individual with mental illness without his or her permission but with a recommendation from a chosen representative." The Act stipulates that an individual with mental illness may be admitted in a psychiatric institution without his consent if he has "……tried or threatening to harm himself or has behaved violently or is causing fear and bodily harm to other person, or has shown/is showing failure of self-care to an extent that puts the patient at danger of harming himself".[19]

Patient insight regarding mental illness

The theory of insight in psychiatric diseases has emerged through different phases. From time immemorial, "psychiatrists" or "the soul doctors" have been fascinated regarding the beliefs and experiences of mentally ill people towards their troubled minds/self.[41] The theory has advanced to reach the following phases:

1. Insight into illness as present or absent dichotomy[42]
2. One dimensional grading of Insight from Complete Denial (grade 1) to True Emotional Insight (grade 6). This model explained understanding of cause because of internal or external factors.[43]
3. Multidimensional models which are referred to as 'biomedical models' by their anthropological critics.[44]
4. The socio-cultural modifications of multidimensional models and the concept of Narrative Insight.[45]

Amador XF and David AS[46] expanded the concept of insight with five different dimensions for insight in Schizoprenia:

1.	Awareness of having a mental illness.
2.	Awareness of the consequences of mental illness
3.	Awareness of symptoms of mental disorder.
4.	Attribution of symptoms to a mental disorder.
5.	Awareness of the effects of medication.

Some current definitions of insight include the following:[47]

`"The degree of personal awareness and understanding."

"The conscious recognition of one's own condition of illness."

"A person's capacity to understand the nature, significance, and severity of his or her own illness."

The logic of so much of debate throughout the world and research is going into this current topic is its importance regarding clinical, administrative and legal domains. The psychiatric practice of hidden medication (administering medication without the patient's knowledge) and admission without one's will in the mental hospital are very difficult things to come to terms with. The practice of forced interventions / admission is not only a therapeutic issue but also an institutional problem for the establishment of psychiatric healthcare. Things such as the use of physical restraints and compulsory interventions / admission typically go against the liberal human rights understanding. Besides psychiatric and administrative

considerations, the interpretation of the nature of insight (or related issues of economic, social and moral judgment) of the individual affected from a mental disorder will depend on the legal aspects of criminal liability, capacity for informed consent and legitimacy of an individual.[47] For the health, administrative and legal reasons, therefore, recognizing the absence of insight in a person suffering from mental illness is of greatest priority.[41]

Treatment adherence and violation of rights of patients with mental illness

There has been maltreatment of people suffering from mental illness and are being stigmatized due to their illness.[48] The abuse and stigma faced by them has been well documented.[48] These factors also affect their treatment.[49] Besides being termed unproductive, they are distanced from their family members and are abused, maltreated.[48] But for them to be treated, their informed consent is a must. In case if they lose the capacity to give consent, there arises the need for a caregiver or a proxy decision maker either through HCP or guardianship or through some default hierarchy. The HCP is the most common way through which patients appoint a surrogate decision maker.[18] In developed countries, trained professionals are accessible for treating patients with mental illness.[50] The violations of rights of mental health care patients also depend upon the resources available besides the cultural practices prevalent in the country.

The noncompliant patient in psychiatry:

One of the big challenges faced by the psychiatrist is the Non-compliance of the patients to treatment. In order to improve the compliance, the family members and service providers of the patient resort to covert/ surreptitious medication that is they

use techniques such as mixing the medications in food or hiding them in food products to be administered to the patient. But the issues of legality and ethical concerns do exist with these methods although they seem very trivial. Although administration of medicines by covert/ surreptitious techniques could be seen as a breach of doctor's trust or the trust of the family members by the patient, the major subject here is well being of the patient. Covert medication is in violation of current medical practice. Also treatment without consent is legally acceptable if such authority is provided by the law in that specific country or the state. Although these issues are not well discussed in the mental health laws in developing countries, respect for the autonomy and lack of the authority of the courts of parens patriae are two such requirements which argue for their importance and incorporation in mental health care acts. [parens patriae means 'parent of the country'; it permitted a court to consent or reject treatment on behalf of an 'incapacity', or alternatively to appoint a guardian with such powers].[51]

Most relevant global studies

Detering KM et al[52] (2019) in their study estimated the frequency, determinants of Advance Care Directives (ACD) use among Australians aged 65 and over. They did their study on 503 subjects going to general practitioners, 1208 people in Residential Aged Care Facilities (RACF), 574 subjects in hospitals. They observed that around 29.8% of subjects in their file had one ACD atleast. Subjects with greater functional impairment, treatment at RACF or in a hospital had higher odds of having an ACD.

Scholten M et al[39] (2019) in their review observed that "PADs are legal records in which members of the mental health service will express their care in

the form of treatment needs in a potential mental health crisis in future. Many states with explicit legal provisions for PADs have ratified the United Nations (UN) Convention on the Rights of Persons with Disabilities (CRPD)".

Zwakman M et al[53] (2019) conducted their study by analyzing advance directives filed by subjects with advanced cancer. They concluded that they got some insight regarding the preferences and perspectives of the subjects. They also observed that detailed conversation is required for understanding the reason behind those choices. They did a mixed methods study by analyzing the content. They observed out of the 442 subjects, thirty three percentage completed the preferences form. Their Content analysis disclosed that 'maintaining normal life' and 'experiencing meaningful relationships' were vital for subjects to live well.

Hindley G et al[54] (2019) conducted an online survey on 932 people with Bipolar disorder. They observed that majority (88%) of subjects had intention to plan their future care in advance by making some directives but about 64% of them had failed to do so. Their important determinant in use of advance directives was their keenness in being involved in making their choices regarding their mental health. Their study concluded that there is a desire among people with bipolar disorders for Advance Decision Making regardless of their education, ethnicity.

Most relavant indian studies:

Philip S et al[3] (2019) in their study evaluated approaches of assistance needed by the subjects to fill the PADs. A tool (Education-cum-Assessment Tool – EAT) was established as per requirements regarding PADs in the Mental Health Care Bill (2013). It was given to hundred subjects who were sampled purposively from review

of the adult psychiatry out-patient department (OPD). Patients were assessed on parameters such as retaining information, completing PADs, methods of assistance and the required time to complete a PAD. In the subjects, their mean duration of education in years was 8.28. They were ill for a mean duration of 8.3 years. 65% of the subjects were below the poverty line. The average time taken by the participants to complete a valid PAD was fifteen minutes. 93% needed assistance in writing. The retention was more than 70% according to EAT scores. They concluded that EAT can be a time-effective tool for giving education to the patients requiring PADs.

Gowda GS et al[55] (2019) did a hospital-based, descriptive, cross-sectional study from 2013 June to 2014 September on two hundred patients and their caregivers by using a semi-structured questionnaire to analyse the attitude of the caregivers and their perception of practices such as restraining and coercion. In their study the mean age of the subjects was 43.8 years. Among the caregivers, majority (67.5%) were members of the family. Majority (60.5%) were males. Majority (69.5%) were from a lower socio-economic class. "Numerous strategies were used by caregivers to get patients into hospital. The most popular coercion tool followed by persuasion (48.5 percent) was threat (52.5 per cent). Caregivers felt that chemical restraint (82.5 percent) was necessary and acceptable, followed by physical restraint (71 percent) and electroconvulsive therapy (ECT) (56.5 percent) during acute and emergency psychiatric care to control patients' agitated or unwanted behaviour.". The most difficult thing a caregiver expressed is bringing the patient to health care than staying with the patient during in patient treatment. Most caregivers expressed the need for public service to take care of highly ill patients like 108 public ambulance service for the emergency medical condition in India. They concluded that the most common

approaches to bring the patients to mental health care facility were threat, persuasion and physical restraint.

Gowda GS et al[55] (2019) researched the attitude and viewpoints of psychiatrists about the use of coercive intervention in clinical practice against the context of family and patient opinion. The in charge psychiatrist of hospital and patients was asked about their general view on coercion and was given a questionnaire on Staff Attitude to Coercion Scale. Findings were compared in the same study with previously reported research on the opinion of patients and the family. Analyzed data using descriptive statistics. Coercion appeared to be a usual factor applied in nearly 70 percent of the patients surveyed. Nearly all of the 189 psychiatrists involved in the study viewed coercion as treatment, health, and security from unsafe circumstances. Approximately 66 per cent of psychiatrists regarded physical and chemical restraint (sedation) in acute emergency treatment as necessary and appropriate. 1/3rd of the psychiatrists felt their patients lost autonomy, dignity and interpersonal communication possibilities. The same amount accepted that certain patients should have endured less limitations and coercive steps. They concluded that psychiatrists believed that in acute emergencies, physical and chemical restrictions were appropriate and reasonable, and most psychiatrists regarded coercion as a defensive and safety approach, but also recognized its possible negative effect on patient integrity and therapeutic ties.

Gowda GS et al[56] (2019) in their study assessed the prevalence and described the attributes of subjects absconding during inpatient mental health care from psychiatric hospitals. They did their study on 200 subjects who were admitted to a tertiary level psychiatric institute. For every hundred admissions, the absconding rate

was around 4.5. They concluded that in their study majority of the subjects who absconded were males and belonged to a nuclear family, lower socio-economic class. Majority of them were admitted involuntarily and they either had an associated psychiatric disorder like schizophrenia or a disorder involving substance use and lack of insight. 2 out of the 9 subjects who ran away from their psychiatric institution committed suicide. The MacArthur Perceived Coercion Scale score was 4.58.

Tekkalaki B et al[6] (2018) in their study determined the various treatment decisions available with a subject while making PADs. They conducted their study on 50 subjects with severe mental illness. Ten percentage of the subjects were futile in understanding the concept of AD (Advance Directives). Out of the remaining subjects, 89% had the desire to make AD while 15% declined hospitalizations in the future. Future ECTs were declined by 47% while 62% declined future physical restraints.

Gowda GS et al[13] (2018) did a descriptive study on 200 subjects admitted to a hospital by using Bangalore Advance Directive Interview (BADI). They assessed their attitude towards PADs. Sixty seven percentage of the subjects applauded the need for making PADs. 80% of the subjects followed the advice of the physician while 96% percentage made their own PADs. They stressed the importance of timing, the capacity of the subject and symptom status of the subjects in making PADs.

Shields LS et al[11] (2013) in their study explored the practical and possible use of PADs in India. They did a study on 51 subjects which included 39 patients and 12 caregivers in Tamil Nadu. Most of the patients were aged between eighteen to forty nine years while the caregivers were mostly above 60 years of age. Caregivers included 7 parents, 3 spouses and 2 sons or daughters. 8 dropped out of the study

while 3 did not complete the interview post PAD. Most of the patients had no clue regarding what were PADs and what it meant. The authors came to conclusion that PADs have significant positive outcomes but the need for better understanding of this tool is still unfulfilled at the level of service users.

Lacunae of literature

Although being commonly used worldwide, the knowledge about advance directives in the Indian patients and their rights is lacking. The past studies conducted on the subject of advance directives have brought to light the positive response received from the patients regarding making advance directives primarily due to fact that patient has right to know and decide what treatment he/she wants. Various treatment modalities such as chemical injections/restraints, physical restraints, future admissions and electro convulsive therapy have been included. However majority of these studies state the lack of a conclusive sample size and the absence of accounting for the factors affecting the decisions made by the patients.[6, 11-13] The study done in our institute didn't assess the capacity of the participants before evaluating the advance directives and the factors affecting them. Hence in this study prior to the assessment of the AD choices and the factors affecting the same capacity was assessed using IHBAS scale which is designed according to the chapter 2, section 4 of the MHCA 2017 act.[61]

MATERIALS & METHODS:

Study site: This study was conducted in the department of Psychiatry at Jawaharlal Nehru Medical College K.L.E. Academy Of Higher Education, Belagavi

Study sample: All the patients with severe mental illness, attended and taking treatment in the department of Psychiatry at Jawaharlal Nehru Medical College were considered as study sample.

Study design: The current study was a cross sectional study

Sample size: 100 (103 samples collected)

Sampling method: All the eligible subjects were recruited into the study consecutively by convenient sampling

Study duration: This study was done from January 2019 to December 2019 for a period of one year.

Inclusion Criteria:

- Any patient 18 years or older
- Diagnosed with severe mental illness currently in remission
- competent to give consent according to IHBAS
- CGI – S scores 1 or less

Exclusion criteria:

- Organic psychosis
- Mental retardation
- Severe physical illness/disabilities

Ethical considerations: Study was accepted by ethics board. Informed written consent **(Annexure - I)** was taken from study individuals and those individuals willing to sign the informed consent were inducted in the study. The advantages and disadvantages noticed in the study and voluntary nature of participation were informed before taking consent. Confidentiality of the individuals was maintained. **(Annexure II – MDC/DOME/47)**

Data collection tools: All the significant parameters were documented in a structured study proforma. **(Annexure – III)**

Methodology:

The patients with diagnosed severe mental illness in KLE'S Dr.Prabhakar Kore Hospital & Research Centre and Charitable Hospital, Belagavi were explained in detail about the study and informed consent was taken for the study. Then with the help of a senior consultant, the diagnosis was confirmed according to ICD-10 Guidelines. The patient's severity was assessed by Clinical Global Impression Scale – Severity (CGI –S) **(Annexure IV).** Patient's Insight was assessed by Beck's Insight Scale [58] **(Annexure – V).** Level of functioning was assessed by Global Assessment of functioning(GAF)**(Annexure - VI)** and then patient's capacity to consent for treatment was assessed according to MHCA guidelines – Chapter II, Sec 4, IHBAS SCALE -**(Annexure – VII)**. Eligible patients were informed in detail about the concept of "advanced directives." All the patients included in this study were made to understand what an psychiatric advance directive meant by giving examples of will, free will to choose treatment options in departments other than psychiatry, medical advance directives, DNR(do not resuscitate) etc. Minimum of 3 attempts and a maximum of 12 attempts made to make the patient and their accompanied caregivers

to understand the concept of advance directive (which was directly related to their ability to comprehend and also their education status). The reason why it is being done was also addressed to patients and their caregivers. They were also briefed regarding the mental health care act and how advance directives will become part of every psychiatric patient in the coming future. All this information was conveyed in their own vernacular language. At last they were asked to repeat the summary in brief in their own words so as to know the extent of their understanding the same. A pre-drafted semi structured questionnaire was presented to the patient to know the probable decisions made as a component of "Advance directives". The available treatment modalities were explained, however the patient were free to make their own decisions. The filled questionnaires were analysed.

The Clinical Global Impression Scale[57] (CGI-S): It is the assessment of the patient according to the clinician's experience, to what extent the patient is mentally ill at present and is assessed according to the 7-point likert scale

1. Normal, not at all ill
2. Borderline mentally ill
3. Mildly ill
4. Moderately ill
5. Markedly ill
6. Severely ill
7. Among the most extremely ill patients.

This study included the patients with score 1 or less. (All were in remission)

The Beck Cognitive Insight Scale[58] (BCIS) was formulated to assess self-reflectiveness and their self certainity of the study participants. It consists of 15 element self-administered questionnaire, a nine-element "self – reflectiveness" and a six-item "self-certainty" subscale. The initial part contains of nine elements measuring objectivity reflectiveness and openness to feedback and has given the label "self-reflectiveness." Under the roof of taking decision and resistance to feedback, six elements were united in a 2nd part of the scale, labelled "self-certainity." Greater scores on the subscale self-reflectiveness and low scores on subscale self-certainity are considered normal. A "*composite index"* of the BCIS indicating cognitive insight was measured by deducting the score for the "self certainity" scale from that of the "self-reflectiveness" scale; a score of ten points or greater indicates better cognitive insight. Patients are enquired to what extent they acknowledge with each statement used in the instrument by using a four – point scale that varies from 0 (do not agree at all) to 3 (agree completely). The self-reflectiveness' alpha co-effiecient and self-certainty scores were 0.68 and 0.60 respectively which were almost same for schizophrenia, schizoaffective disorder,major depressive disorder, also has good convergent validity, inter-rater reliability and internal consistency.

Global assessment of functioning[59, 60]: It is a single rating scale for evaluating a person's multiple aspects like psychological, social and occupational functioning. The score 1 indicates the most mentally ill individual with impaired multiple aspects of life mentioned and the score 100 indicates the most healthy or normal person with normal multiple aspects of life mentioned. The entire scale is divided into 10 equal parts, each division has particular characteristics which include symptoms and functioning. This scale has good inter-rater reliability, validity and internal consistency. It provides a valid summary of clinical features that the patient presents

along with the functioning. This is also used in defining severe mental illness where the score should be 50% or less.

Capacity assessment MHCA[61] / IHBAS (institute of Human Behaviour and Allied Sciences): This scale is designed by institute of Human Behaviour and Allied Sciences, Delhi. This scale is designed on the basis of MHCA chapter 2, section 4 to assess the capacity of the mentally ill person. The scale has 12 questions in total and has to be answered in dichotomous manner (yes/no). If the answer to those questions is "yes" to all the 12 questions then to be concluded that the patient has the capacity to make choices in advance for future treatment (advance directives).

Statistical Methods:

Future IPD, Future ECT, Future physical restraints were the choices made by the patients as part of Advance directive. Age, Gender, Occupation, Religion etc., was considered as explanatory variable for the choices made.

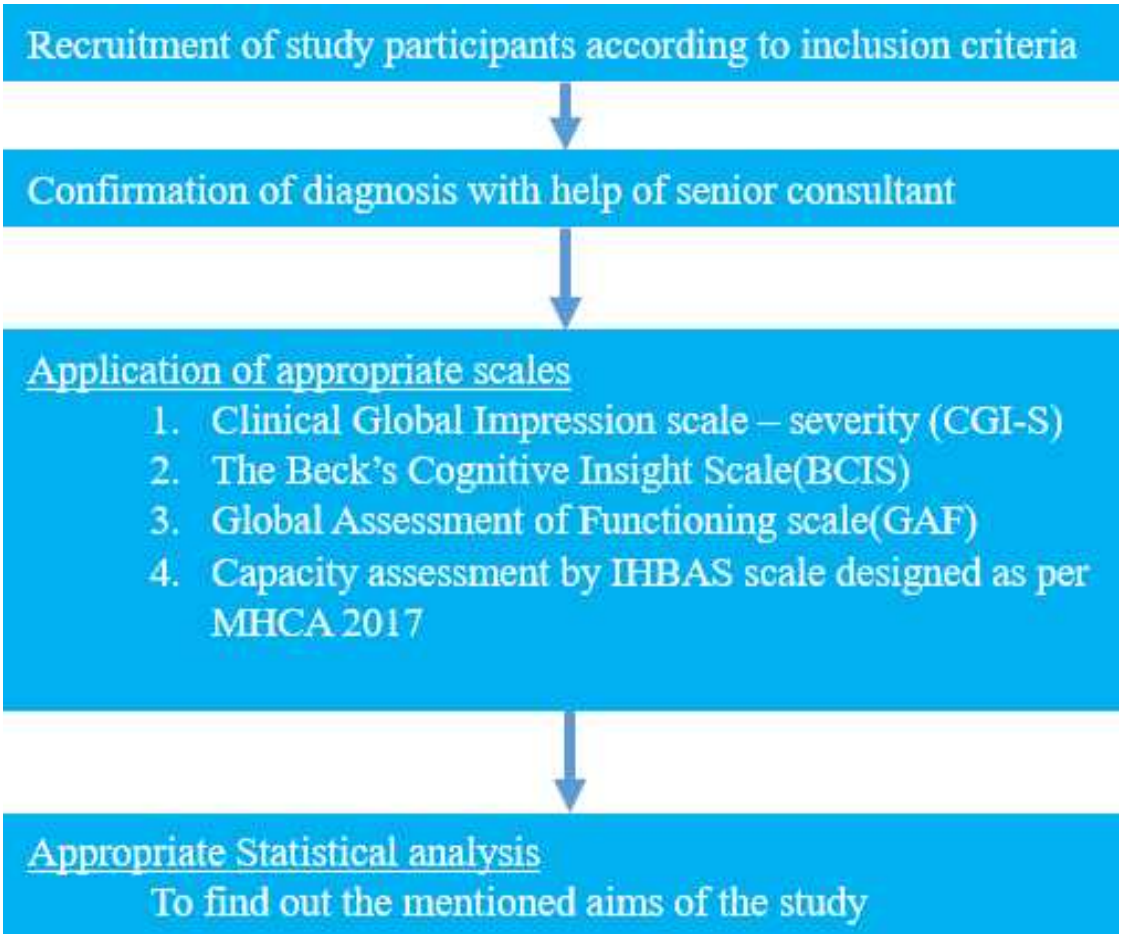
Descriptive analysis for quantitative variables, frequency, and proportion for categorical variables was performed by mean and standard deviation. None of the quantitative variables normally distributed were summarized by median and interquartile range (IQR). Appropriate diagrams such as bar chart, pie chart, were used to display data.

For normal distribution within of group of explanatory variable, all quantitative variables were analyzed using visual analysis of histograms and Q-Q plots for normality. Even the shapiro- wilk test was used to determine normal distribution. As normal distribution, the shapiro wilk test p value of > 0.05 was considered.

For normally distributed Quantitative parameters the mean values were compared between study groups using Independent sample t-test (two groups)

Categorical findings were compared between study groups using Chi square test / Fisher's Exact test (If the total sample size was < 20 or if the predicted number in any of the cells is < 5, the exact Fisher test was used).

P value < 0.05 was considered significant statistically. "IBM SPSS version 22" was used for statistical analysis.[57]



RESULTS:

A total of 103 subjects were included in the final analysis.

Table1: Descriptive analysis of various sociodemographic variables group in the study sample (n=103)

Parameter	Frequency	Percentages
Age group		
Age (Mean±SD) **= 38.6±13.21**		
Up to 30 years	36	34.95%
31 to 40 years	28	27.18%
41 to 50 years	20	19.42%
>50 years	19	18.45%
Gender		
Male	55	53.40%
Female	48	46.60%
Religion		
Hindu	89	86.41%
Muslim	12	11.65%
Cristian	2	1.94%
Education		
No formal education	23	22.33%
Up to pre university	62	60.19%
Graduates and above	18	17.48%

Marital Status		
Married	70	67.96%
Single	33	32.04%
Socio economic status	**Frequency**	**Percentages**
Lower class	48	46.60%
Middle class	14	13.59%
Lower middle class	34	33.01%
Upper middle class	7	6.80%
Informant	**Frequency**	**Percentages**
Daughter	10	9.71%
Father	16	15.53%
Mother	24	23.30%
Neighbour	2	1.94%
Sibling	13	12.62%
Son	13	12.62%
Spouse	23	22.33%
Uncle	2	1.94%

Among the study sample, 30 (34.95%) were aged up to 30 years, 28 (27.18%) were aged between 31 to 40 years, 20 (19.42%) were aged between 41 to 50 years and 19 (18.45%) were aged more than 50 years. The mean age in the study was 38.6±13.21 .Among the male 55 (53.40%) were male and 48 (46.60%) were female. Among the study sample, 89 (86.41%) were Hindus, 12 (11.65%) were Muslims and 2 (1.94%) were Christians. Among the study sample, 23 (22.33%) had no formal education, 62(60.19%) studied uptopreuniversity, 18(17.48%) were graduates and

above. Among the study sample, 70 (67.96%) were married, 33 (32.04%) were single and 2 (1.94%) were widow. Among the study sample, 48 (46.60%) were lower class, 14 (13.59%) were middle class, 7 (6.80%) were upper middle class and 34 (33.01%) were lower middle class. Among the study sample, 10 (9.71%) were daughters, 16 (15.53%) were fathers, 24 (23.30%) were mothers, 2 (1.94%) were neighbors, 13 (12.62%) were siblings, 13 (12.62%) were sons, 23 (22.33%) were spouse and 2 (1.94%) were uncles. (Table 1)

Figure 1: Pie chart showing the distribution of the education status in the study sample (n=103)

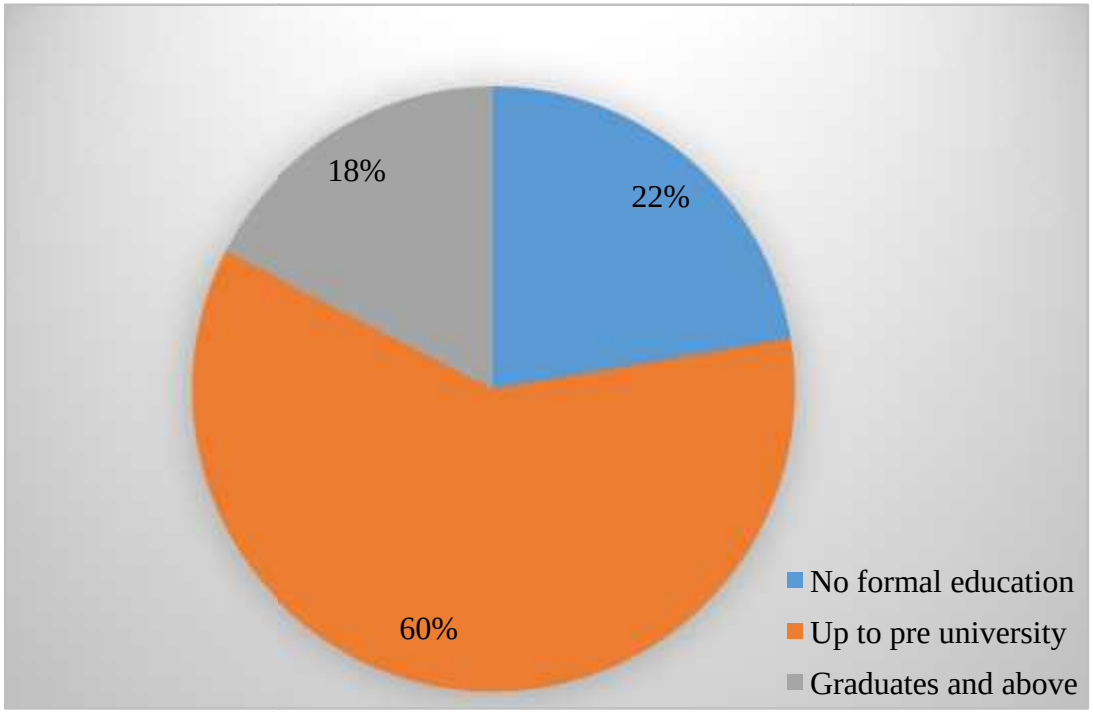


Table 2: Descriptive analysis of various diagnosis in the study sample (n=103)

Diagnosis	Frequency	Percentages
Psychosis – 71(68.93%)		
• Bipolar affective disorder	34	33.00%
• Schizophrenia	30	29.13%
• Schizoaffective disorder	3	2.91%
• Other psychotic disorders	4	3.88%
Non- Psychotic illness -32(31.06%)		
• Anxiety disorder	2	19.417%
• Depressive disorder	30	29.126%

Among the study sample, the diagnosis was broadly classified into Psychotic illnesses, 71(68.93%) of 103 patients and Non psychotic illnesses 32(31.06%) of 103 patients.

34 (33.00%) were diagnosed with bipolar affective disorder, 30 (29.13%) were diagnosed with schizophrenia, 4 (3.88%) were diagnosed with Other psychotic diosrders, 3 (23.91%) were diagnosed with schizoaffective disorder, 2 (1.94%) were diagnosed with Anxiety disorder , 26 (98.06%) were diagnosed with Depressive disorder. (Table 3)

Fig 2: Pie chart of descriptive analysis of distribution of various diagnosis in the study sample (n=103)

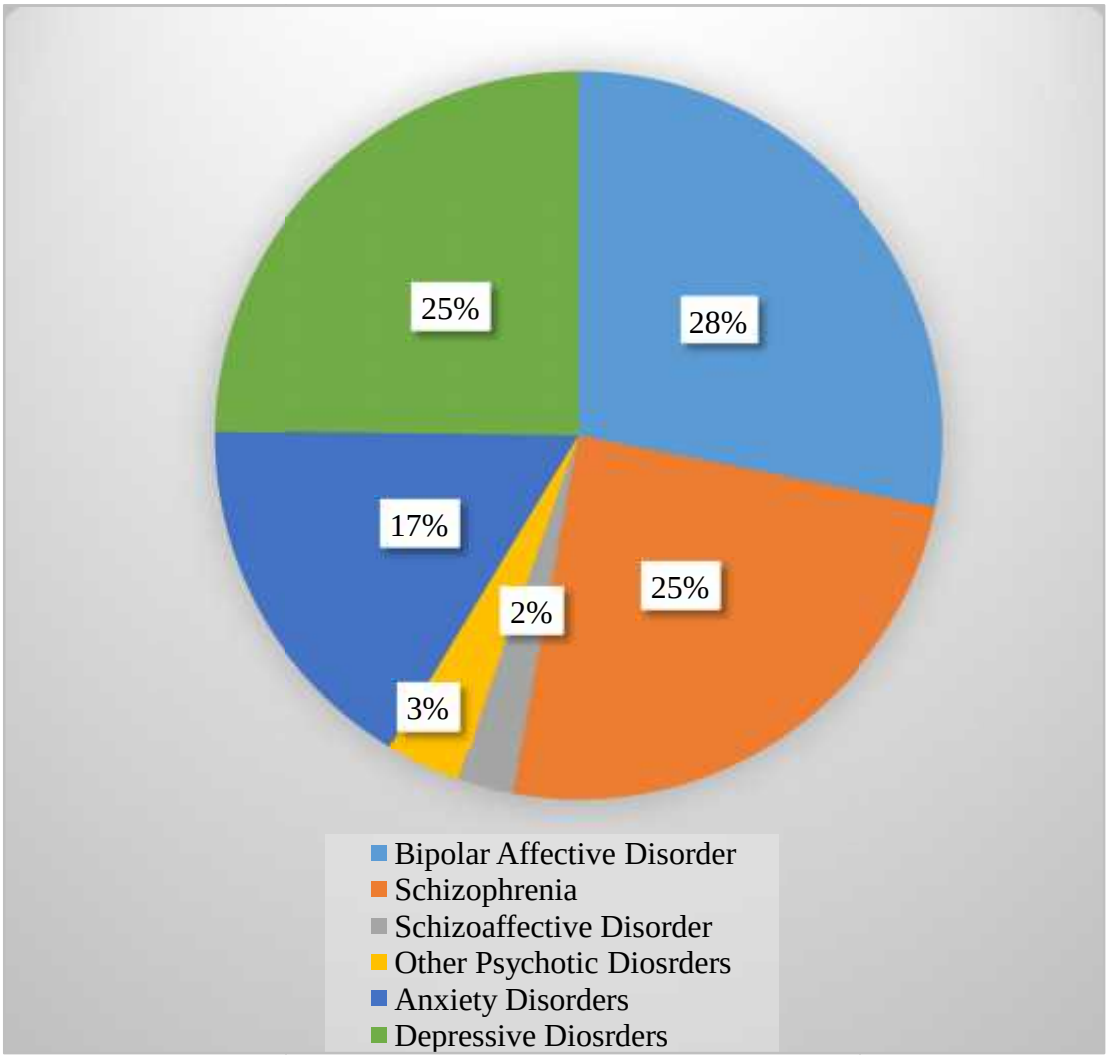


Table 3: Descriptive analysis of Patients who received various modalities of the treatment in the study sample (n=103)

Modality Of Treatment	Frequency	Percentages
Patients who received oral psychotropic/drugs	103	100.00%
Patients receiving ECT in the past (Electroconvulsive Therapy)	62	60.19%
Patients getting physically restrained in the past	36	34.95%
Patients getting Chemical restrained in the past	35	33.98%
Patients receiving depot injections in the past	6	5.83%

Among the study sample, 103 (100%) had received oral psychotropics in the past, 62 (60.19%) patient**s** received ECT in the past, 36 (34.95%) had got physical restraints in the past, 35 (33.98%) received chemical restraint in the past, 6 (5.831%) had received depot injections. and 11 (10.68%) (Table 2)

Table 4: Descriptive analysis of various Adverse effects due to psychotropic parameters in the study sample (n=103)

Parameter	**Frequency**	**Percentages**
Adverse Drug Reatcion – Extrapyramidal Symptoms	18	17.48%
Adverse Drug Reatcion -Weight Gain	42	40.78%
Adverse Drug Reatcion - Sedation	62	60.19%
Adverse Drug Reatcion -Anticholinergic effects	32	31.07%
Adverse Drug Reatcion - Gastric adverse Effects	22	21.36%
Adverse drug reaction - Menstrual Irregularities	1	2.08%

Among the study sample, 18 (17.48%) had **Adverse Drug Reatcion – Extrapyramidal Symptoms**., 42 (40.78%) had **Adverse Drug Reatcion -Weight Gain**., 62 (60.19%) had **Adverse Drug Reatcion - Sedation**, 32 (31.07%) had **Adverse Drug Reatcion -Anticholinergic effects**, 22 (21.36%) had **Adverse Drug Reatcion - Gastric adverse Effects.** Among the study sample, Total female patients – 48, of which 1(2.08%) had menstrual irregularities. (Table 4)

Fig. 3: Bar chart of various Adverse effects due to psychotropic parameters in the study sample (n=103)

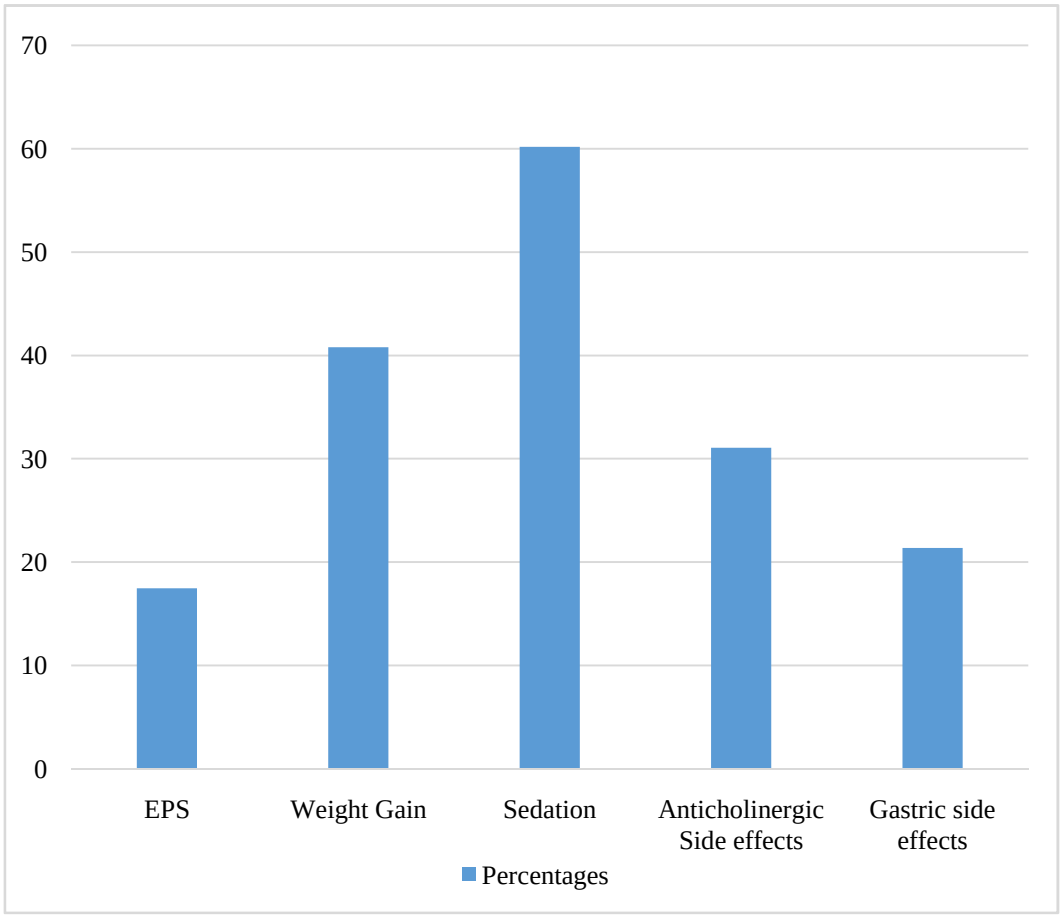


Table 5: Descriptive analysis of self-reflectiveness, self-certainty, composite becks score[(a)-(b)], global functioning score in study sample (n=103)

Parameter	Mean ± SD	Minimum	Maximum
Self-reflectiveness	21.3 ± 3.35	14.00	27.00
Self-certainty	5.8 ± 2.85	2.00	15.00
Composite becks score	15.38 ± 3.66	10.00	25.00
Global functioning score	99.46 ± 1.51	95.00	100.00

The mean self-reflectiveness was 21.3 ± 3.35 in the study sample, minimum was 14 and maximum was 27 in the study sample. The mean self-certainty was 5.8 ± 2.85 in the study sample, minimum was 2 and maximum was 15 in the study sample. The mean composite becks score was 15.38 ± 3.66 in the study sample, minimum was 10 and maximum was 25 in the study sample. The mean global functioning score was 99.46 ± 1.51 in the study sample, minimum was 95 and maximum was 100 in the study sample. (Table 5)

10 or more score of composite becks score indicates good insight

Table 6: analysis of assessment of capacity (IHBAS) in the study sample (n=103)

SI.No	Test	Yes/No
1.	**Test of diagnosis**	**Yes**
a.	Does the person have an impairment or disturbance in functioning(Permanent or temporary)	**Yes**
b.	Does the impairment or disturbance mean that the person is unable to make specific decisions when they need to?	**Yes**
2.	**Test Of Functionality**	**Yes**
a.	Patient understands that he/she was ill.	**Yes**
b.	Patient understands that he/she required treatment	**Yes**
c.	Patient understands the treatment that was offered	**Yes**
d.	Patient was been explained the risks and benefits of the treatment being offered to him.	**Yes**
e.	Patient understood that the treatment would be best administered In hospital setting(optional)	**Yes**
f.	Patient understood that there is a significant risk in taking treatment on OPD basis.(optional)	**Yes**
g.	All possible help and support was provided to make the patient understand the decision	**Yes**
h.	The information was explained to the patient in a safe and comfortable setting.	**Yes**
i.	Patient understood that taking the decision would mean taking medication for the illness and would need to stay in hospital for the same	**Yes**
j.	Patient was given adequate time to think over the decision and discuss with his family	**Yes**

IHBAS(capacity assessment)	**Frequency**	**Percentages**
Yes	103	100%

Among the study sample, 103 (100%) had capacity to decide for future treatment modalities and to nominate representative. (Table 6)

Table 7: Descriptive analysis of choices made by the study sample with respect to advance directive (n=103)

Various AD choices made by the patient	Frequency	Percentages
Patients selecting In Patient Treatment (IPD) as an option of AD in the study sample	78	75.73%
Patients selecting ECT as an option of Advance directive(AD)	25	24.27%
Patients selecting Physical Restraints as an option of Advance directive(AD)	20	19.42%
Future Oral Medications	102	99.03%

Among the study sample, 78 (75.73%) opted in patient treatment (IPD) as an Advance directive, 25 (24.27%) Patients selected ECT as an option of Advance directive, 20 (19.42%) opted future physical restraints as an option of Advance directive (AD) and 102 (99.03%) opted oral medications as an option of advance directive. (Table 7)

Fig. 4: Bar chart of descriptive analysis of patient selecting various AD in study sample (n=103

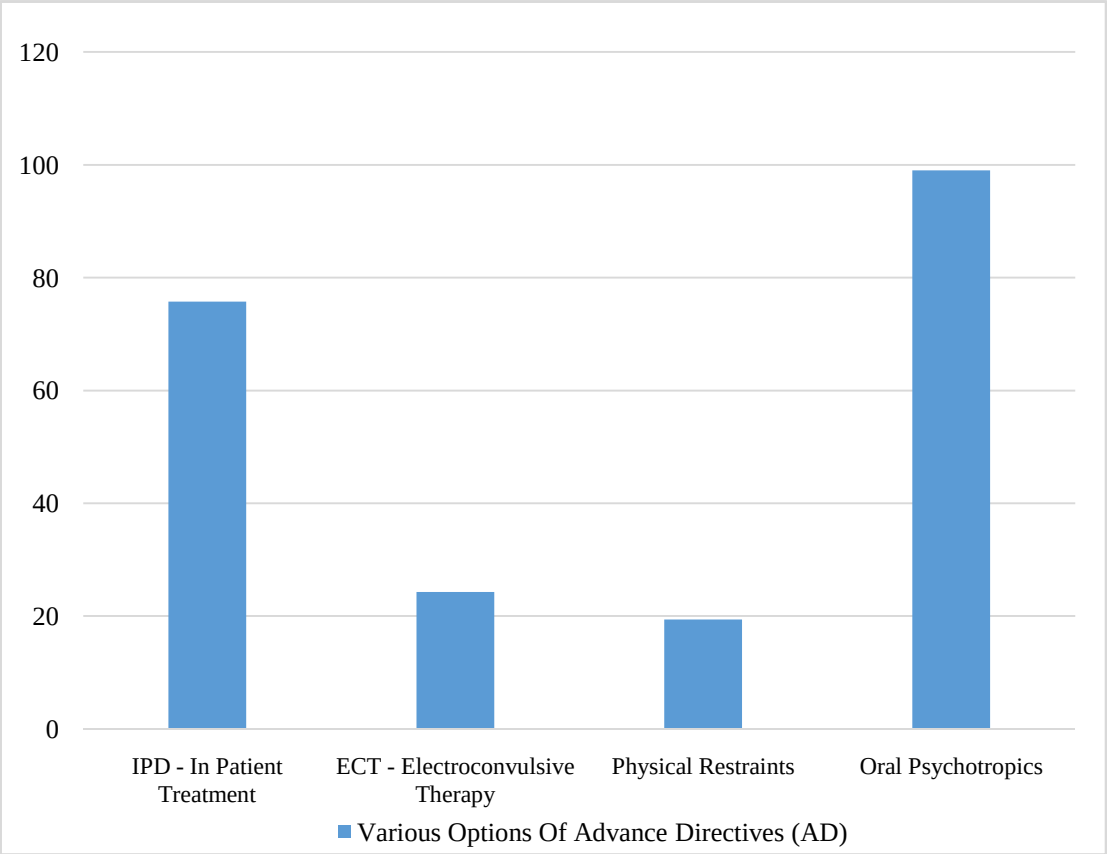


Table 8: Descriptive analysis of patients selecting various caretaker (Nominated representatives) in the study sample (n=103)

Patients selecting various caretaker (Nominated representatives)	Frequency	Percentages
Daughter	7	6.80%
Parents	40	38.83%
Sibling	11	10.68%
Son	6	5.82%
Spouse	39	37.86%

Among the study sample, 7 (6.80%) opted daughters as Nominated Representatives, 40 (38.83%) opted as Nominated Representatives, 11 (10.68%) opted siblings as Nominated Representatives, 6 (5.82%) opted sons as Nominated Representatives and 39 (37.86%) opted spouse as Nominated Representatives. (Table 8).

Fig.5: Bar chart of descriptive analysis of patients selecting various caretaker (Nominated representatives) in the study sample (n=103)

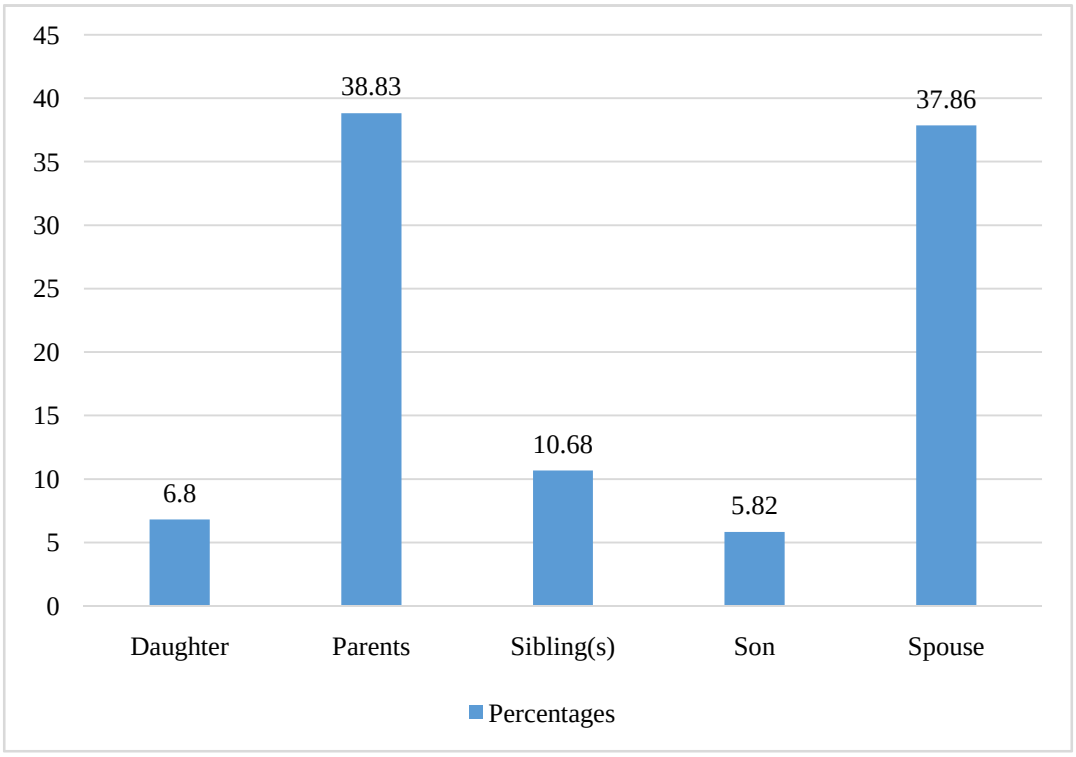


Table 9: Comparison of demographic profile of patients opting IPD as an option of AD (n=103)

Parameter	Future IPD		Chi square	P value
	Yes (78)	**No (25)**		
Age (Mean±SD)	38.83±13.4	37.88±14.4	NA	*0.762*
Gender				
Male (55)	42 (53.8%)	13 (52%)	0.026	*0.872*
Female (48)	36 (46.2%)	12 (48%)		
Education				
No Formal Education (23)	19 (24.4%)	4 (16%)	6.174	*0.046*
Up To Pre University (62)	42 (53.8%)	20 (80%)		
Graduates And Above (18)	17 (21.8%)	1 (4%)		
SocioEconomic Status				
Lower Class (48)	31 (39.7%)	17 (68%)	7.241	*0.065*
Middle Class (14)	13 (16.7%)	1 (4%)		
Lower Middle Class (34)	29 (37.2%)	5 (20%)		
Upper Middle Class (7)	5 (6.4%)	2 (28%)		
Marital Status				
Married(70)	53(67.9%)	17(68%)	2.287	0.996
Single(33)	25(24%)	8(32%)		

The mean age of patients who opted for IPD was 38.83±13.4 and who didn't opt for IPD was 37.88±14.4 and were younger than the patients who accepted the IPD admissions .The mean difference in the age of patients opting IPD as an option of AD was statistically not significant (P value 0.762).

In gender analysis, it appeared, more males (53.8%) opted for IPD as a treatment option of AD than females (46.2%) and was statistically not significant (p value – 0.872)

In analysis across education status, the people who studied up to pre-university level (53.8%) opted IPD as a treatment option of AD than others (no formal education – 24.4%, graduates and above – 21.8%) and was statistically significant (p value – 0.046)

In analysis across socio economic status, it appeared, the people who belonged to lower Class(39.7%) opted IPD more as a treatment option of AD than others(middle class-16.7%, Upper middle class – 6.4%, lower middle class – 37.2%) and was statistically insignificant (p value – 0.065)

In analysis of marital status it appeared that the married participants(67.9%) opted IPD more as treatment option of AD than single(24%) study participants and was statistically insignificant (p value – 0.996)(Table 9)

Table 10: Comparison of demographic profile of patients opting ECTas an option of AD (n=103)

Parameter	Opting ECT as an option of AD		Chi square	P value
	Yes (25)	No (78)		
Age (Mean±SD)	37.7±14.5	38.9±13.4	NA	*0.699*
Gender				
Male (55)	19 (76%)	36 (46.2%)	6.777	*0.009*
Female (48)	6 (24%)	42 (53.8%)		
Education				
No Formal Education (23)	3 (12%)	20 (25.6%)	8.428	*0.015*
Up To Pre University (62)	13 (52%)	49 (62.8%)		
Graduates And Above (18)	9 (36%)	9 (11.6%)		
SocioEconomic Status				
Lower Class (48)	6 (24%)	42 (53.8%)	8.603	*0.035*
Middle Class (14)	3 (12%)	11 (14.2%)		
Lower Middle Class (34)	13 (52%)	21 (26.9%)		
Upper Middle Class (7)	3 (12%)	4 (5.1%)		
Marital Status				
Married(70)	14(56%)	56(71.79%)	1.504	0.220
Single(33)	11(44%)	22(28.20%)		

The mean age of patients who opted for ECT was 37.7±14.5 and who didn't opt for ECT was 38.9±13.4 and were older than the patients who accepted the ECT admissions .The mean difference in the age of patients opting ECT as an option of AD was statistically not significant (P value 0.699).

In gender analysis more males (76%) opted ECT as a treatment option of AD than females (24%) and was statistically significant (p value – 0.009).

In analysis across education status, the people who studied up to pre-university level(62.8%) denied opting ECT as a treatment option of AD more than others (no formal education – 25.6%, graduates and above – 11.6%) and was statistically significant (p value – 0.046).

In analysis across socio economic status, the people who belonged to lower Class(53.8%) denied ECT more as a treatment option of AD than others(middle class-14.2%, Upper middle class – 5.1%, lower middle class – 26.9%) and was statistically significant (p value – 0.035).

In analysis of marital status it appeared that the married participants(71.79%) rejected ECT more as treatment option of AD than single(28.20%) study participants and was statistically insignificant (p value – 0.220) (Table 10).

Table 11: Comparison of demographic profile of patients opting physical restraints as an option of AD (n=103)

Parameter	Opting physical restraintsas an option of AD		Chi square	P value
	Yes (20)	**No (83)**		
Age (Mean±SD)	37.9±12.5	38.8±13.9	NA	*0.785*
Gender				
Male (55)	14 (70%)	41 (49.4%)	2.749	*0.097*
Female (48)	6 (30%)	42 (50.6%)		
Education				
No Formal Education (23)	3 (15%)	20 (24.1%)	1.401	*0.496*
Up To Pre University (62)	12 (60%)	50 (60.2%)		
Graduates And Above (18)	5 (25%)	13 (15.7%)		
SE Status				
Lower Class(48)	8 (40%)	40 (48.2%)	3.868	*0.276*
Middle Class(14)	1 (5%)	13 (15.7%)		
Lower Middle Class(34)	10 (50%)	24 (28.9%)		
Upper Middle Class(7)	1 (5%)	6 (7.2%)		
Marital Status				
Married(70)	15(75%)	55(66.27%)	0.234	0.628
Single(33)	5(25%)	28(33.73%)		

The mean age of patients who opted for physical restraints was 37.9±12.5 and who didn't opt for physical restraints was 38.8±13.9 and were younger than the patients who accepted the physical restraints admissions .The mean difference in the age of patients opting physical restraints as an option of AD was statistically not significant (P value 0.785).

In gender analysis, it appeared, more Females (50.6%) denied physical restraints as a treatment option of AD than males (49.4%) but was statistically not significant (p value – 0.097)

In analysis across education status, it appeared, the people who studied up to pre-university level (60.2%) denied Physical restraints as a treatment option of AD than others (no formal education – 24.1%, graduates and above – 15.7%) but was statistically not significant (p value – 0.496)

In analysis across socio economic status, it appeared, the people who belonged to lower Class(48.2%) denied Physical restraints more as a treatment option of AD than others(middle class-15.7%, Upper middle class – 7.2%, lower middle class – 28.9%) and was statistically not significant (p value – 0.276)

In analysis of marital status it appeared that the married participants(66.27%) rejected Physical restraints more as treatment option of AD than single(33.73%) study participants and was statistically insignificant (p value – 0.628) (Table 11)

Table 12: Assessment of the effects of previous ECT treatment in choosing Inpatient treatment (IPD) as an option of advance directive (n=103)

Past history of ECT	Opting IPD as an option of AD		Chi square	P value
	Yes(78)	No (25)		
Yes (62)	55 (70.51%)	7 (28%)	14.280	<0.001
No (41)	23 (29.49%)	18 (72%)		

In the table 12: The people who opted IPD as an option of AD with history of receiving ECT (70.51%) were more than with no history of receiving ECT(29.49%) and is statistically significant (p – value – less than 0.001

Figure 6: Bar chart of Assessment of the effects of previous ECT treatment in choosing Inpatient treatment (IPD) as an option of advance directive (n=103)

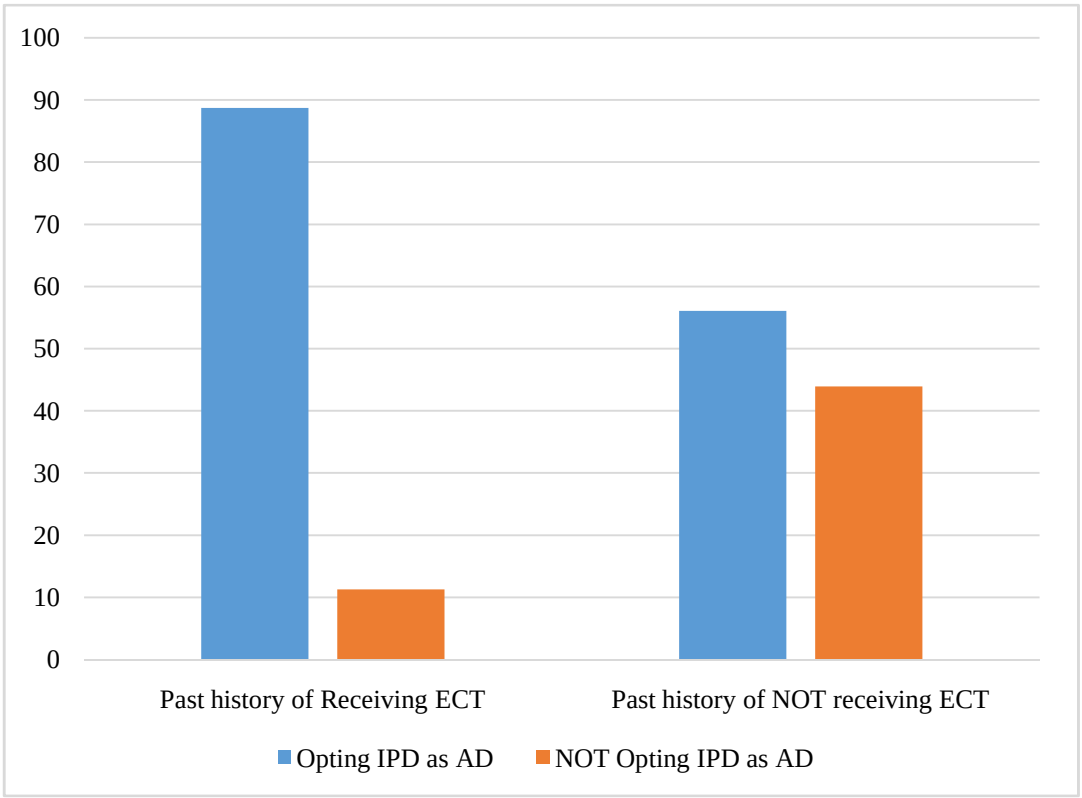


Table 13: Assessment of the effects of previous Physical restraints in choosing Inpatient treatment (IPD) as an option of advance directive (n=103)

Past history of physical restraints	Opting IPD as an option of AD		Chi square	P value
	Yes (78)	No (25)		
Yes (36)	34 (43.59%)	2 (8%)	10.547	0.001
No (67)	44 (56.41%)	23 (92%)		

In the table 13: The people who denied IPD as an option of AD with no history of getting physically restrained (92%) were more than with history of getting physically restrained (8%) and is significant statistically (p – value – 0.001)

Figure 7: Bar Chart of Assessment of the effects of previous Physical restraints in choosing Inpatient treatment (IPD) as an option of advance directive (n=103)

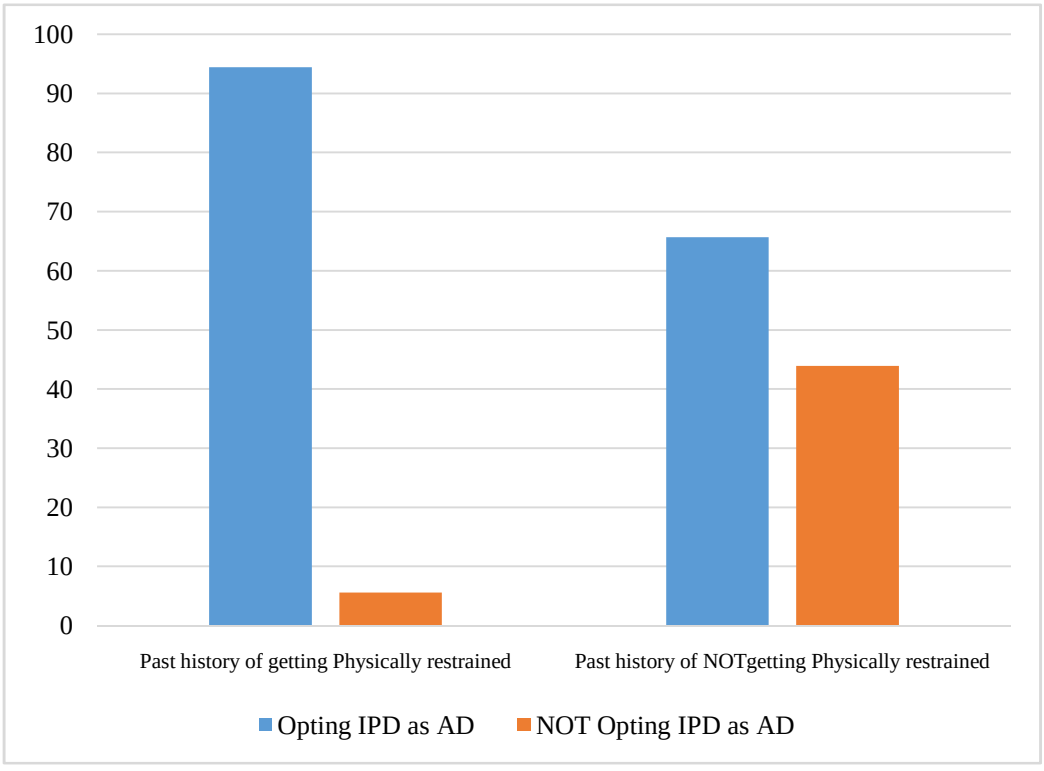


Table 14: Assessment of the effects of patients who received ECT in the past on choosing ECT as an option of advance directive (n=103)

Past history of receiving ECT	Opting ECT as an option of AD		Chi square	P value
	Yes (25)	No (78)		
Yes (62)	18 (29.03%)	44 (70.97%)	1.920	0.166
No (41)	7 (17.07%)	34 (82.93%)		

In the table 14: The people who denied ECT as an option of AD with no history of getting ECT treatment (82.93%) appeared more than with history of getting ECT treatment (70.97%) but is not statistically significant (p – value – 0.166)

Figure 8: Bar chart of Assessment of the effects of patients who received ECT in the past on choosing ECT as an option of advance directive (n=103)

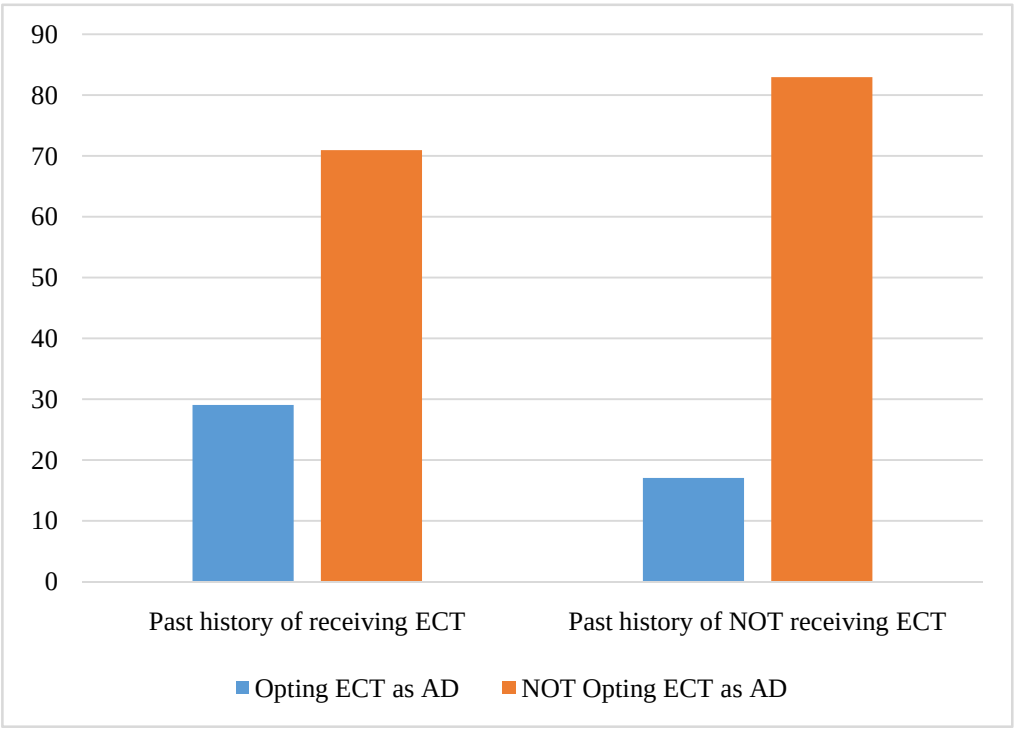


Table 15: Assessment of the effects of previous physical restrains in choosing Physical restraints as an option of advance directive (AD) (n=103)

Past history of Getting physically restrained	Opting physical restraints as an option of AD		Chi square	P value
	Yes (20)	No (83)		
Yes (36)	9 (45%)	27 (32.53%)	1.102	0.294
No (67)	11 (55%)	56 (67.47%)		

In the table 15: The people who denied getting physically restrained as an option of AD with no history of getting physically restrained (67.47%) appeared more than with history of getting physically restrained (32.53%) but is not statistically significant (p – value – 0.294).

Figure 9: Bar chart of Assessment of the effects of previous physical restrains in choosing Physical restraints as an option of advance directive (AD)

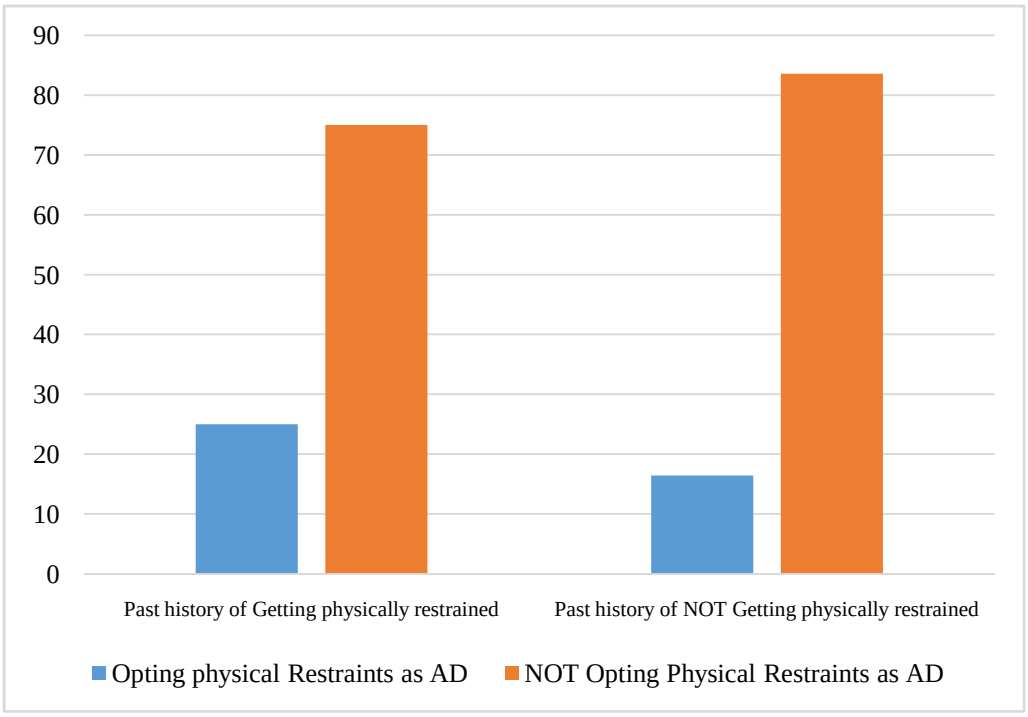
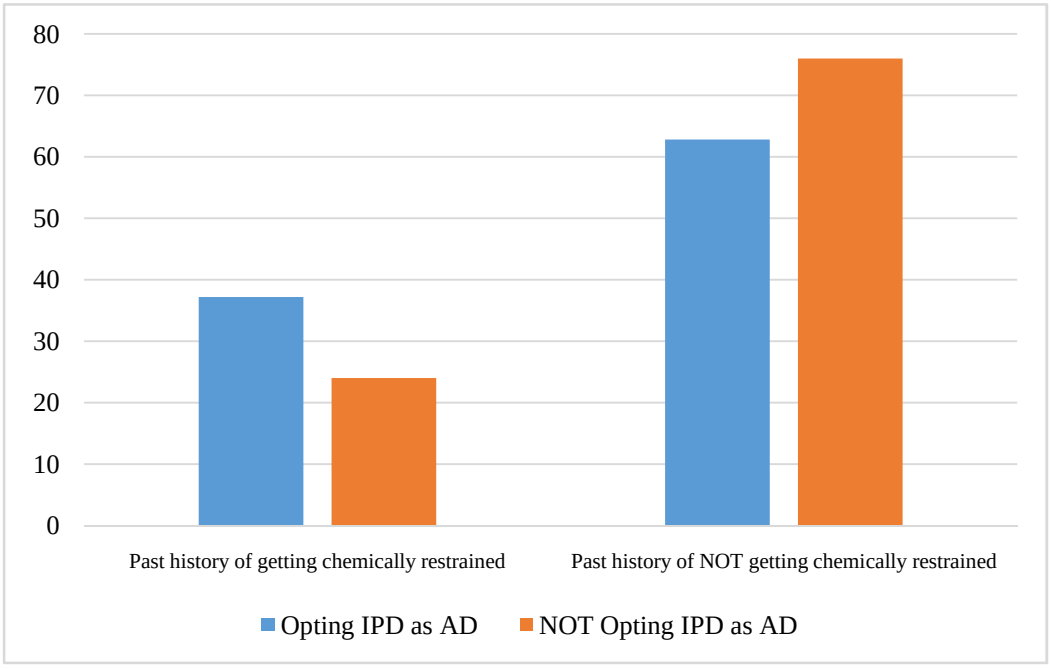


Table 16: Assessment of the effects of chemical restrains in choosing Inpatient treatment (IPD) as an option of advance directive (AD) (n=103)

Past history of getting chemically restrained	Opting IPD as an option of AD		Chi square	P value
	Yes (78)	No (25)		
Yes(n=35)	29 (37.18%)	6 (24%)	1.466	0.226
No(n=68)	49 (62.82%)	19 (76%)		

In the table 16: The people who opted In patient treatment(IPD) as an option of AD with no history of getting chemically restrained (62.82%) appeared more than with history of getting chemically restrained (37.18%) but is not statistically significant (p – value – 0.226).

Figure 10: Bar Chart of Assessment of the effects of chemical restrains in choosing Inpatient treatment (IPD) as an option of advance directive (AD) (n=103)



DISCUSSION:

Globally, there is an underestimation of mental illness' burden in public's view.[2] According to Vigo D et al, the approaches followed currently give an estimate which is less than third of the actual burden.[2] Psychiatric Advance Directives (PADs) enacted and legalised in India recently has made it binding for the psychiatrists to use these directives while treating patients. But there is only a limited knowledge and research with regards to the acceptability of Psychiatric Advance Directives due to the lack of awareness.[3] Advance Directives can both provide instructions for future care and outline personal choices like nomination of an individual for making decisions on their behalf. Although the concept of autonomy is given importance in well developed countries, but their feasibility in developing countries like India remain unanswered.[5]

The past studies conducted on the subject of advance directives have brought to light the positive response received from the patients regarding making advance directives primarily due to fact that patient has right to know and decide what treatment he/she wants. Various treatment modalities such as chemical injections/restraints, physical restraints, future admissions and electro convulsive therapy have been included. However majority of these studies state the lack of a conclusive sample size and the absence of accounting for the factors affecting the decisions made by the patients.[6, 11-13]

So we carried out this study to determine the treatment choices selected by the patients as component of "Advance directives" and the factors that affect these decisions while preparing the respective advance directive.

Baseline sociodemographic variables:

As described in table 1, the mean age of this study subjects was 38.6±13.21 years ranging between 20 to 71 years. The youngest subject was 20years old and the oldest subject was 71 years old. Majority of the participants in the study belonged to the age group upto 30years (34.95%), 31-40 years (217.18%), 41-50 years (19.42%), participants above 50 years (18.45%). Gowda GS et al[55] (2019) did a hospital-based, descriptive, cross-sectional study from 2013 June to 2014 September on two hundred patients and their caregivers. The mean age of the subjects in the study was 43.8 years. Zwakman M et al[53] did their study on 125 subjects, with mean age of the study subjects was 66.9 years with the range being 40 to 86 years. Shields LS et al[11] (2013) in their study explored the practical and possible use of PADs in India and most of the patients were aged between 18 to 49 years. In this study it appeared that younger age group accepted psychiatric advance directives more than any other age group which is discussed in the later part.

In this study there was almost equal distribution of males and females, 53.40% and 46.60% respectively. Zwakman M et al[53] did their study on 125 subjects, of which 61.6% were males and rest were females. In contrast, Detering KM et al[51] observed a higher proportion of females in their study which could be due to different study settings.

Majority of this study had hindus 86.41% followed by muslims 11.65% and the least were Christians 1.94 %.The studies of Gowda GS et al[13] (2018) and Gowda GS et al[55-56] (2019) had hindus as majority (90.5%) which may be due to study conducted in areas of similar religion distribution. In this study some religions have orthodox and conservative practices where acceptance of this psychiatric advance

directive (PAD) is difficult, however religion did not have much effect on acceptance of psychiatric advance directive (PAD).

Majority of the participants in the study had education up to pre university level (60.19%) followed by the people with no formal education (22.33%) and the least were graduates and above 17.48%. In the study by Shields LS et al[11], majority of the subjects had educational qualification below the level of secondary school. Philip S et al[3] (2019) in their study their mean duration of education in years was 8.28 years.

This variation in the findings might be due to study conducted in different settings and impact of education status on opting various "Advance Directives(AD)" is described in later part

Majority of the study participants were married 67.96% followed by people who were unmarried 30.10%, followed by widow/widower 1.94 %.In the study by Zwakman M et al[53], 64.8% were married and the findings of this study are similar to earlier studies done. The impact of this on making psychiatric advance directive (PAD) is described in later half of the discussion.

Among the study sample, 46.60% were lower class, 13.59% were middle class, 6.80% were upper middle class and 33.01% were lower middle class. Philip S et al[3] (2019) in their study 65% of the subjects were below the poverty line. Gowda GS et al[55] (2019) did a hospital-based, descriptive, cross-sectional study from 2013 June to 2014 September on two hundred in which majority (69.5%) were from a lower socio-economic class. Influence of this on decision making is described in the later part.

The majority of the patients' informants were mothers 23.30%, followed by spouse 22.33%, followed by fathers 15.52%, followed by sons and siblings 12.62% each followed by neighbours and uncle/aunts 1.94 each. Shields LS et al[11] (2013) in their study had 7 parents, 3 spouses and 2 sons or daughters as caregivers. In the study by Gowda et al[64], son or daughter were the caregivers in majority of subjects followed by parents and spouse. Here we can see that all of the study participants' informants and care givers were either spouse or the first degree blood relative who know more details regarding the patient and is consistent with the findings of other studies mentioned

Types of mental illness:

Mental illness has long been known to cause significant handicap to both the affected and the care takers. Severe Mental Illness (SMI) has been defined as individuals who fulfil the following 3 criteria: Those with diagnosed non-organic psychosis or a personality disorder, Duration of treatment of 2 years or more, severe dysfunction with a Global Assessment Functioning (GAF) score of 50 or less indicating severe symptoms or severe difficulty in social, school or occupational functioning. The disorders that fall under this category are Schizophrenia , Schizoaffective Disorder, Bipolar Disorder, Major Depression, and Obsessive Compulsive disorder.[63]

In this study as described in table 2, number of subjects with psychotic illness - 68.93% (Bipolar Affective Disorder – 33%, Schizophrenia – 32.04%, Schizoaffective disorder – 2.91%, other psychotic disorder – 3.88%) and Subjects with Neurotic Illness – 31.06% (Depressive disorder – 29.13% , Anxiety disorders – 19.42%) which is graphically represented in figure 2. Owen GS et al[10] in their study observed that 24% of their study subjects had psychotic episodes, 21% had

schizophrenia while 24% had unipolar depression. Hindley G et al[54] (2019) conducted an online survey on 932 people with Bipolar disorder and their study concluded that younger subjects were more interested in ADs Which may be due to their better comprehending ability and the curiosity regarding the same compared to other age study participants.

History of receiving various modalities of treatment:

According to the description in table 3, all the patients received oral psychotropics. 60.19% of the study participants received ECT's in the past. 34.95% patients got physically restrained in the past. 33.98% of the patients got chemically restrained in the past. 5.83% patients received depot injections. Gowda GS et al[64] (2019) in their study observed that in majority (52.5%) of subjects, threat was commonly used for coercion followed by persuasion (48.5%). Physical restraint was acceptable to 71% of caregivers in their study. However in this present study caregivers' opinion was not considered in "Psychiatric Advance Directives (PAD's)." Impact of receiving various treatments on making "Psychiatric Advance Directive (PAD)" in the study is described later

Details of adverse effects experienced by the study participants due to psychotropics:

According to the description in table 4, the study participants in this study, 17.48% had extrapyramidal symptoms, 40.78% had weight gain, 31.07% had anticholinergic side effects, 21.36% had adverse gastric effects, and 1% of the females had menstrual irregularities which is graphically represented in figure 3. However this didn't impact much as almost all the study participants in the study conducted agreed for the oral

psychotropics as an option of AD which probably might be due to fear and stigma associated with other treatment modalities.

Competency and insight:

According to table 5, the composite Beck's insight score which was calculated by taking difference of self-certainty(b) from self-reflectiveness(a)(mean composite Beck's insight) and was equal to or greater than 10 in all study participants, hence there were no problems in decision making by the study participants. According to table 6, all the participants had competence to make AD according to the IHBAS scale. All the patients had good "Global assessment of Functioning" score. The mean Global functioning score was 99.46 ± 1.51 in this study sample. Tekkalaki et al[6](2018) and Gowda GS et al[13] didn't measure capacity and insight prior evaluating the "advance directives(AD)" and the factors influencing "Advance Directives(AD)". Hindley G et al[54] (2019) in their study observed hat interest in "ADM (Advance Decision Making)" was associated with younger age but not with the level of education or gender or ethnicity. Philip S et al[3] (2019) in their study concluded that EAT scores can be used to estimate the decision making capacity of the subject while exhibiting a PAD and help in facilitation needed. This study is unique in a way that assessment of insight and competency is done before analyzing the psychiatric advance directive(PAD) choices and factors influencing the same which was lacking in the other few studies mentioned.

ADVANCE DIRECTIVES:

Details of study participants making various advance directives:

According to table 7, 75% of the study participants made IPD (in patient treatment) as an option of AD, 25% made ECT as an option of AD. 20% made Getting Physically restrained as an option of AD. Almost all (99.03%) accepted the oral medications as option of AD which is graphically represented in figure 4. In the study conducted by Gowda GS et al (2018)[13], 67% of the subjects accepted the need for PADs. 80% of the subjects followed the advice of the physician while 96% percentage made their own PADs. Tekkalaki B et al[6] (2018) in their study determined the various treatment decisions available with a subject while making PADs. They conducted their study on 50 subjects with severe mental illness. Ten percentage of the subjects were futile in understanding the concept of AD (Advance Directives). Out of the remaining subjects, 89% had the desire to make AD (they were encouraged to make their own decision when some of the study participant's answer was to follow their psychiatrist's advice) while 15% declined hospitalizations in the future. Future ECTs were declined by 47% while 62% declined future physical restraints. This study findings are almost similar to other studies mentioned.

Nominated representative:

According to the table 8, majority of the study participants selected parents 38.83% as their nominated representative/proxy to take decisions on their behalf in future incompetency, followed by spouses 37.86%, followed by siblings 10.68%, followed by daughters 6.80%, followed by son 5.82% which is graphically represented in figure 5. About 67.5% of the caregives were family members who were appointed as nominated representative in the study by Gowda GS et al.[13](2018). Here we can see that all the study participants chose family members as nominated representatives

which might be due to trust on them regarding their care and also a true belief that their psychiatric advance directive(PAD) would be followed respecting their wish.

Impact of sociodemographic data on making various advance directives: According to the tables 9,10 and 11, the age of the study participants had no significant impact in opting the "Advance Directives" of various types. Hindley G et al[54] (2019) in their study observed that interest in ADM (Advance Decision Making) was associated with younger age but not with the level of education or gender or ethnicity.

According to the tables 9,10 and 11, the analysis across education status, the people who studied up to pre-university level (53.8%) opted IPD as a treatment option of AD than others (no formal education – 24.4%, graduates and above – 21.8%) and was statistically significant (p value – 0.046) According to the tables 9,10 and 11, the people who studied up to pre-university level (62.8%) denied opting ECT as a treatment option of AD more than others (no formal education – 25.6%, graduates and above – 11.6%) and was statistically significant (p value – 0.046). Gowda GS et al (2018)[13] in their study observed that a lower socio-economic class, prior ECT and reluctance for hospital stay were correlated inversely when expressing choice of treatment in PADs. There was no significant difference in proportion of subjects with history of ECT, physical restraints respectively opting for future ECT, physical restraints in this study. There were no respective comparable studies in this aspect.

According to the tables 9, 10 and 11, the gender analysis more males (76%) opted ECT as a treatment option of AD than females (24%) and was statistically significant (p value – 0.009). In the study done by Detering KM et al[52], gender was

significantly associated with presence of ACD. It may be due to the difference in the study settings and the characteristics of the study population.

According to the tables 9, 10 and 11, the analysis across socio economic status, the people who belonged to lower Class(53.8%) denied ECT more as a treatment option of AD than others(middle class-14.2%, Upper middle class – 5.1%, lower middle class – 26.9%) and was statistically significant (p value – 0.035)

According to the tables 9, 10 and 11, the marital status of the study participants had no significant impact in opting the "Psychiatric Advance Directives (PAD)" of various types. Generally it is expected that the married study participants would have an impact on opting various psychiatric advance directives (PAD's) which can be due to a possibility of the spouses' influence on the study participant's decision making but was not true according to this study.

Impact of receiving various treatment modalities in past on making various advance directives:

According to the tables 12 and 13, the people who opted IPD as an option of AD with history of receiving ECT (70.51%) were more than with no history of receiving ECT (29.49%) and is statistically significant (p – value – less than 0.001) which is graphically represented in figures 6 and 7 respectively. The people who denied IPD as an option of AD with no history of getting physically restrained (92%) were more than with history of getting physically restrained (8%) and is significant statistically (p – value – 0.001) Gowda GS et al (2018)13 in their study observed that a lower socio-economic class, prior ECT and reluctance for hospital stay were correlated inversely when expressing choice of treatment in PADs.

CONCLUSIONS:

"An advance directive (AD) is a legally binding document which describes the preferences for and refusals of treatment in advance." This was a Cross-Sectional study conducted on 103 subjects aged 18 years and above with severe mental illness currently in remission with capacity assessed according to IHBAS scale, MHCA 2017, Chapter 2, Section 4.There was fairly equal gender distribution in this study. As per the primary objective regarding what decisions the participants would choose as their advance directive option – majority of the participants opted to take oral psychotropics as an option of AD. Majority of our subjects rejected Electro convulsive therapy and physical restraints in forth coming event of disease while they opted for oral medications and IPD and wanted their parents or spouse as their caretakers. There was a significant impact of Education status and socioeconomic status on opting ECT as an option of AD. History of receiving ECT in the past made a significant impact on the participants selecting Inpatient treatment as an AD i.e more people who have received ECT in the past have selected IPD treatment as an AD (provided they were assured that no ECT during the admission would be given). However getting physically restrained and ECT in the past has not made any significant impact on options of same AD (physical restraints and ECT). The findings of this study give an insight to the service providers about the treatment choices selected by the patients as component of "Advance directives" and the factors that affect these decisions while preparing them.

SUMMARY:

Mental illnesses always have been undervalued throughout the world. "Psychiatric Advance Directives (PADs)" enacted and legalized in India recently has made it binding for the psychiatrists to use these directives while treating patients. But there is only a limited knowledge and research with regards to the acceptability of "Psychiatric Advance Directives" due to the lack of awareness. "Psychiatric Advance Directive (PAD) is legal document which enlists the decisions made by patients in advance regarding the preference or refusal to undergo a certain treatment modality in case of a future incident of the same or new mental illness, when they were deemed mentally fit to do so". The past studies conducted on the subject of advance directives have brought to light the positive response received from the patients regarding making advance directives primarily due to fact that patient has right to know and decide what treatment he/she wants. Various treatment modalities such as chemical injections/restraints, physical restraints, future admissions and electro convulsive therapy have been included. However majority of these studies state the lack of a conclusive sample size and the absence of accounting for the factors that affect the choices made by the patients. So this study was carried out to determine the treatment choices selected by the patients as component of advance directives and the factors that affect these options while preparing the respective advance directives by prior assessing insight and competency which few other studies didn't assess.

The present study was a Cross-Sectional study on 103 subjects aged 18 years and above with severe mental illness during the period of Jan 2019- December 2019 attending the Psychiatry ward or OPD of a charitable Hospital from 1st January 2019 to 31st December 2019. The mean age of this study population was 38.6 ± 13.6 years.

The youngest subject was 20 years old and the oldest subject was 71 years old. Majority of the participants in this study belonged to the age group of 20 to 30 years (34.95%). In this study there was almost equal distribution of males and females, 53.40% and 46.60% respectively. Majority of this study participants were Hindus (86.41%). Majority of the participants in this study had education up to pre university level (60.19%) followed by no formal education (22.33%) and the least were graduates and above (17.48%). Majority of this study participants were married (67.96%). 46.6% of these study population were from lower class followed by 33.01% from lower middle class. In the present study, majority of the patients' informants were mothers (23.30%), followed by spouse (22.33%) and fathers (15.52%). In this study, 68.93% of subjects had psychotic illness. (33% had Bipolaraffective Disorder, 29.13% had Schizophrenia, 2.91% had Schizoaffective disorder and 3.88% had other psychotic disorders. In this study, 31.06% of subjects had neurotic illness. Among those 29.13% had Depressive disorder and 19.42% had Anxiety disorders. Their past treatment may influence their choices. In the present study, all the patients received oral psychotropics. 60.19% of the study participants received ECT's in the past. 34.95% patients got physically restrained in the past. 33.98% of the patients got chemically restrained in the past. 5.83% patients received depot injections. With regards to side effects experienced due to psychotropics, 17.48% had extrapyramidal symptoms, 40.78% had weight gain, 31.07% had anticholinergic side effects, 21.36% had adverse gastric effects, and 1% of the females had menstrual irregularities and this didn't make any impact on PAD's and almost all of the study participants selected oral psychotropics as an option of PAD.

All the participants had competence to make AD according to the IHBAS scale. All the patients had good "Global assessment of Functioning" score. The mean Global functioning score was 99.46 ± 1.51. The composite Beck's insight score which was calculated by taking difference of self-certainty (b) from self-reflectiveness (a) and was greater than 10 in all study participants. Hence there were no problems in decision making by the study participants. All the patients included in this study were made to understand what an psychiatric advance directive meant by giving examples of will, free will to choose treatment options in departments other than psychiatry, medical advance directives, DNR(do not resuscitate) etc. Minimum of 3 attempts and a maximum of 12 attempts made to make the patient and their accompanied caregivers to understand the concept of advance directive. Majority of this study participants selected parents (38.83%) as their nominated representative/proxy to take decisions on their behalf in future incompetency, followed by spouses (37.86%), followed by siblings (10.68%), followed by daughters (6.80%), followed by sons (5.82%).

In this study 75% of the study participants made IPD (in patient treatment) as an option of AD, 25% made ECT as an option of AD. 20% made getting physically restrained as an option of AD. Almost all (99.03%) accepted the oral medications as option of AD. There was a significant impact of Gender, Education status and socioeconomic status on opting ECT as an option of AD (p values – 0.009, 0.015, and 0.035 respectively). History of receiving ECT in the past made a significant impact on the participants selecting Inpatient treatment as an AD i.e more people who have received ECT in the past have selected IPD treatment as an AD (provided they were assured that no ECT during the admission would be given)(p – value less than 0.001). However getting physically restrained and ECT in the past has not made any

significant impact on options of same AD (physical restraints and ECT)(p values – 0.294,0.166 respectively)

The findings of this study give an insight to the service providers about the treatment choices selected by the patients as component of "Advance directives" and the factors that affect these decisions while preparing them.

Strengths of the Study

1. This study is one of its kind in the post MHCA era.
2. Assessed the capacity and insight prior assessing the aims of the study

Limitations:

1. There is a necessity for large-scale multicentric studies on the subject, to improve the quality of available proofs on the Indian population. Till such quality evidence is awaited, it is difficult to make any strong clinical practice recommendations

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ANNEXURE I

Title: "CONTENT ANALYSIS OF ADVANCE DIRECTIVES WRITTEN BY PATIENTS WITH SEVERE MENTAL ILLNESS IN REMISSION – A DESCRIPTIVE STUDY"

Principal Investigator (PI): _____

Objective/Purpose of the study:

You/your relative are/is being requested to be a subject in this study, the purpose of which is to determine the treatment choices selected by the patients as part of advance directives and to determine the factors that affect these choices while preparing the respective advance directive which will be conducted form January 2019 to December 2019, i.e for a period of 1 year by Dr. ShreyasPatil, a post graduate student in the Department of Psychiatry at Jawaharlal Nehru Medical College, KLE Academy of Higher Education and Research,, Belagavi, Karnataka.

You/Your relative have/has been requested to participate in this study as you/your relative are/is has a psychiatric illness and now currently in remission (without any symptoms) with good socio-occupational functioning.This study by completing the mentioned objectives helps us to know how Psychiatric Advance Directive will help us and whether it is feasible in a country setup like India.

Procedure involved: If you/your relative agree to be a part of the study, the PI will interview you/your relative using some scales or instruments.

Risks involved: There are no risks involved.

Alternatives: You/Your relative's participation in this study is a completely voluntary decision. If You/Your relative do/does not want to be a part of the study, you/your relative may refuse for the same or if you/your relative are/is already a part of the study

and if you/your relative want/wants to withdraw from the study for any reason, you/your relative may do so without any hesitation. Discontinuation from the study for any reason will not affect you/your relative's current or future relationship with KLES Dr. PrabhakarKore Hospital, Belagavi.

Privacy and confidentiality: The information provided by you/your relative will be known to the PI and the members of the research team. This information will remain confidential and will be disclosed to others only with you/your relative's written permission or if required by the law.

Financial incentives for participation: You/your relative will not be paid/offered any gifts for participation in the research and you/your relative will not be reimbursed for any expenses, such as bus/train travelling/companion/assistant etc.

Authorisation to publish results: When the results of the research are to be published or discussed n conferences by the PI, no information will be disclosed that will reveal your/your relative's identity.

If you have any queries regarding violation of rights or ethical issues, you can contact **Dr. RoopaBellad,** Chairperson, Institutional Ethics Committee for Human Subjects' Research, J. N. Medical College, Belagavi – 590010, Contact number: 9448113403.

STATEMENT OF CONSENT

I/my relative have/has read and have/has completely understood the entire information given in the consent form, which explains all the details of the study, i.e, the purpose, procedure involved, risks & benefits, privacy & confidentiality, incentives and the authorization to publish the results of the study. My/my relative's signature in the space provided for signature below indicates that I/my relative have/has voluntarily agreed to participate in the study. I/my relative may withdraw my/my relative's participation for any reason or may be withdrawn by the investigator from the study for any reason at any time. I/my relative am/is not giving up any of my/my relative's legal rights by signing this consent form.

Signature of the participant with date: _____

Name of the participant: _____

Signature of the authorized representative with date: _____

Name of the authorized representative: _____

Relationship of authorized person: _____

Signature of the witness with date: _____

Name of the witness: _____

Signature of the Investigator with date: _____

ANNEXURE II. ETHICAL CLEARANCE – MDC/DOME/47

K.L.E. ACADEMY OF HIGHER EDUCATION AND RESEARCH
(Deemed – to- be- University)
Accredited 'A' Grade by NAAC (2nd Cycle) Placed in Category 'A' by MHRD (GoI)
JAWAHARLAL NEHRU MEDICAL COLLEGE,
NEHRU NAGAR, BELAGAVI-590010 (KARNATAKA-INDIA)
Website: http//www.jnmc.edu
E-Mail : dome@jnmc.edu
Phone: (+ 91-(0)831 Office : 2472550
Principal: 2471701
Fax No. +91 (0)831 – 2470759

Ref: MDC/DOME/47 **Date: 24/11/2018**

To,

REG NO.BQ0118003

Sub: Institutional Ethical Clearance for the study.

With reference to the above, we wish to inform you that your proposed research project titled **"CONTENT ANALYSIS OF ADVANCE DIRECTIVES WRITTEN BY PATIENTS WITH SEVERE MENTAL ILLNESS IN REMISSION – A DESCRIPTIVE STUDY",** is ethical and justifiable. The proposed research project has been cleared by the JNMC Institutional Ethics Committee on Human Subjects Research.

(Dr. Arathi Darshan)
Member Secretary
JNMC Institutional Ethics Committee
on Human Subjects Research,
J.N.Medical College, Belagavi.

(Dr. Roopa M Bellad)
Chairman,
JNMC Institutional Ethics Committee
on Human Subjects Research,
J.N.Medical College, Belagavi.

ANNEXURE – III - PROFORMA

"CONTENT ANALYSIS OF ADVANCE DIRECTIVES WRITTEN BY PATIENTS WITH SEVERE MENTAL ILLNESS IN REMISSION – A DESCRIPTIVE STUDY"

NAME: IP/OP No:

AGE:

SEX:

- M – MALE
- F – FEMALE

RELIGION:

- HINDU
- MUSLIM
- CHRISTIAN
- OTHERS

EDUCATION:

- NO FORMAL EDUCATION
- UPTO PRE UNIVERSITY
- GRADUATES AND ABOVE

MARITAL STATUS

- MARRIED
- SINGLE
- WIDOW/WIDOWER

OCCUPATION

- SKILLED
- SEMI-SKILLED

- UNSKILLED
- UNEMPLOYED

SOCIO ECONOMIC STATUS

- LOWER CLASS
- MIDDLE CLASS
- UPPER MIDDLE CLASS
- LOWER MIDDLE CLASS

INFORMANT

- DAUGHTER
- FATHER
- MOTHER
- NEIGHBOUR
- SIBLING
- SON
- SPOUSE
- UNCLE/AUNT
- OTHERS (INCLUDING FRIENDS)

NUMBER OF CAREGIVERS:

HISTORY OF RECEIVING ORAL DRUGS

- YES
- NO

HISTORY OF RECEIVING ECT

- YES
- NO
-

HISTORY OF PHYSICAL RESTRAINTS

- YES
- NO

HISTORY OF CHEMICAL RESTRAINTS (IMMEDIATE INJECTIONS)

- YES
- NO

HISTORY OF RECEIVING LON ACTING DEPOT INJECTIONS

- YES
- NO

FAMILY HISTORY OF PSYCHIATRIC ILLNESS

- YES
- NO

ADVERSE DRUG REACTION – EXTRAPYRAMIDAL SYMPTOMS

- YES
- NO

ADVERSE DRUG REACTION – WEIGHT GAIN

- YES
- NO

ADVERSE DRUG REACTION – SEDATION

- YES
- NO

ADVERSE DRUG REACTION – ANTICHOLINERGIC EFFECTS

- YES
- NO
-

ADVERSE DRUG REACTION – MENSTRUAL IRREGULARITIES

- YES
- NO

ADVERSE DRUG REACTION – GASTRIC EFFECTS (INCLUDES CONSTIPATION)

- YES
- NO

CGI – S SCORE

- 1 - Normal, not at all ill
- 2 - Borderline mentally ill
- 3 - Mildly ill
- 4 - Moderately ill
- 5 - Markedly ill
- 6 - Severly ill
- 7 - Among the most extremely ill patients.

(a) – BECK'S SELF RELFREFLECTIVENESS SCORE:

(b) – BECK'S SELF CERTAINITY SCORE:

(a)-(b) – COMPOSITE BECK'S INDEX:

GLOBAL ASSESSMENT OF FUNCTIONING (VALUE):

CAPACITY ASSESSMENT ACCORDING TO IHBAS SCALE (MHCA 2017)

- YES
- NO

OPTING IN-PATIENT TREATMENT (IPD) AS AN OPTION OF ADVANCE DIRECTIVE

- YES
- NO

OPTING ELECTROCONVULSIVE THERAPY (ECT) AS AN OPTION OF ADVANCE DIRECTIVE

- YES
- NO

OPTING PHYSICAL RESTRAINTS AS AN OPTION OF ADVANCE DIRECTIVE

- YES
- NO

APPOINTMENT OF NOMINATED REPRESENTATIVE BY THE PATIENT

- DAUGHTER
- FATHER
- MOTHER
- NEIGHBOUR
- SIBLING
- SON
- SPOUSE
- UNCLE/AUNT
- OTHERS (INCLUDING FRIENDS)

DIAGNOSIS:

- SCHIZOPHRENIA → P-SCHIZ
- BIPOLAR AFFECTIVE DISORDER → P-BPAD
- SCHIZOAFFECTIVE DISORDER →P-SCHIZ.AFFEC
- DEPRESSIVE DISORDERS → N-DEP
- ANXIETY DISORDERS → N-ANXIETY DISORDERS

ANNEXURE – IV – CLINICAL GLOBAL IMPRESSION - SEVERITY (CGI –S)

Clinical Global Impressions-Severity Scale (CGI-S)

Severity of Illness

Considering your total clinical experience with this particular population.
how mentally ill is the patient at this time? Severity Score:.....

0 Not assessed
1 Normal, not at all ill
2 Borderline mentally ill
3 Mildly ill
4 Moderately ill
5 Markedly ill
6 Severely ill
7 Among the most extremely ill of subjects

Note: Evaluation should be made as a comparison to baseline

It is the assessment of the patient according to the clinician's experience, to what extent the patient is mentally ill at present and is assessed according to the 7-point likert scale

0. Normal, not at all ill
1. Borderline mentally ill
2. Mildly ill
3. Moderately ill
4. Markedly ill
5. Severly ill
6. Among the most extremely ill patients.

Our study included the pateints with score 1 or less. (All were in remission)

ANNEXURE V – BECK'S INSIGHT SCALE

Figure 2. Beck Cognitive Insight Scale (BCIS)

	Do not agree at all	Agree slightly	Agree a lot	Agree completely
Self-reflectiveness				
1. At times I have misunderstood other people's attitudes towards me				
3. Other people may be more objective about the cause of my unpleasant experiences than I am.				
4. I have jumped to conclusions too fast.				
5. Some of may experiences that seemed very real may have been due to my imagination.				
6. Some of the ideas that I was certain were true turned out to be false.				
8. Even though I feel strongly that I was right I could be wrong.				
12. If somebody points out that my beliefs are wrong I am willing to consider it.				
14. There is often more than one possible explanation for why people act the way they do				
15. My unusual experiences may be due to me being extremely upset or stressed.				
Self-certainty				
2. My interpretations of my experiences are definitively right.				
7. If something feels right, it means that it is right.				
9. I know better than anyone else what my problems are.				
10. When people disagree with me, they are generally wrong.				
11. I cannot trust other people's opinion about my experiences.				
13. I can trust my own judgement at all times.				

Beck's insight scale

The Beck Cognitive Insight Scale (BCIS) was developed to evaluate patients' self-reflectiveness and their over confidence in their interpretations of their experiences . It consists of 15 item self report questionnaire, a 9-item self – reflectiveness subscale, and a 6-item self-certainty subscale. The first component consisted consists of 9 items measuring objectivity reflectiveness and openness to feedback and has given the label self-reflectiveness. Under the umbrella of decision making and resistance to feedback, 6 items were united in a second component of the scale, labelled self-certainity. High

scores on the subscale self-reflectiveness and low scores on subscale self-certainity are considered normal.

A ***composite index*** of the BCIS reflecting cognitive insight was calculated by subtracting the score for the self certainity scale from that of the self-reflectiveness scale; a score of 10 points or more signifies good cognitive insight. Respondents are asked to rate how much they agree with each statement by using a 4 – point scale that ranges from 0 (do not agree at all) to 3 (agree completely). The alpha co-effiecient of self-reflectiveness and self-certainty scores were 0.68 and 0.60 respectively which were almost same for schizophrenia, schizoaffective disorder,major depressive disorder, also has good convergent validity, inter-rater reliability and internal consistency

ANNEXURE – VI – GLOBAL ASSESSMENT OF FUNCTIONING

(GAF)

Global Assessment of Functioning (GAF) Scale

(From DSM-IV-TR, p. 34.)

Consider psychological, social, and occupational functioning on a hypothetical continuum of mental health-illness. Do not include impairment in functioning due to physical (or environmental) limitations.

Code	(Note: Use intermediate codes when appropriate, e.g., 45, 68, 72.)
100 | 91	**Superior functioning in a wide range of activities, life's problems never seem to get out of hand, is sought out by others because of his or her many positive qualities. No symptoms.**
90 | 81	**Absent or minimal symptoms** (e.g., mild anxiety before an exam), **good functioning in all areas, interested and involved in a wide range of activities, socially effective, generally satisfied with life, no more than everyday problems or concerns** (e.g. an occasional argument with family members).
80 | 71	**If symptoms are present, they are transient and expectable reactions to psychosocial stressors** (e.g., difficulty concentrating after family argument); **no more than slight impairment in social, occupational or school functioning** (e.g., temporarily falling behind in schoolwork).
70 | 61	**Some mild symptoms** (e.g. depressed mood and mild insomnia) **OR some difficulty in social, occupational, or school functioning** (e.g., occasional truancy, or theft within the household), **but generally functioning pretty well, has some meaningful interpersonal relationships.**
60 | 51	**Moderate symptoms** (e.g., flat affect and circumstantial speech, occasional panic attacks) **OR moderate difficulty in social, occupational, or school functioning** (e.g., few friends, conflicts with peers or co-workers).
50 | 41	**Serious symptoms** (e.g., suicidal ideation, severe obsessional rituals, frequent shoplifting) **OR any serious impairment in social, occupational, or school functioning** (e.g., no friends, unable to keep a job).
40 | 31	**Some impairment in reality testing or communication** (e.g., speech is at times illogical, obscure, or irrelevant) **OR major impairment in several areas, such as work or school, family relations, judgment, thinking, or mood** (e.g., depressed man avoids friends, neglects family, and is unable to work; child frequently beats up younger children, is defiant at home, and is failing at school).
30 | 21	**Behavior is considerably influenced by delusions or hallucinations OR serious impairment in communication or judgment** (e.g., sometimes incoherent, acts grossly inappropriately, suicidal preoccupation) **OR inability to function in almost all areas** (e.g., stays in bed all day; no job, home, or friends).
20 | 11	**Some danger of hurting self or others** (e.g., suicide attempts without clear expectation of death; frequently violent; manic excitement) **OR occasionally fails to maintain minimal personal hygiene** (e.g., smears feces) **OR gross impairment in communication** (e.g., largely incoherent or mute).
10 | 1	**Persistent danger of severely hurting self or others** (e.g., recurrent violence) **OR persistent inability to maintain minimal personal hygiene OR serious suicidal act with clear expectation of death.**
0	Inadequate information.

Global assessment of functioning

It is a single rating scale for evaluating a person's multiple aspects like psychological, social and occupational functioning. The score 1 indicates the most mentally ill individual with impaired multiple aspects of life mentioned and the score 100 indicates the most healthy or normal person with normal multiple aspects of life mentioned. The entire scale is divided into 10 equal parts, each division has particular characteristics which include symptoms and functioning. This scale has good inter-rater reliability, validity and internal consistency. It provides a valid summary of clinical features that the patient presents along with the functioning. This is also used in defining severe mental illness where the score should be 50% or less.

ANNEXURE – VII – IHBAS CAPACITY ASSESSMENT, AS PER MHCA 2017

MHA 2017/ (Sec 4)/IHBAS/ 001

ASSESSMENT OF CAPACITY

Definitions and general principles:

Mental Healthcare- Section 2(O) includes analysis and diagnosis of a person's mental condition and treatment as well as care and rehabilitation of such person for his mental illness or suspected mental illness.

Capacity-Ability to take decision at the time it needs to be taken. It is decision specific and time specific.

Past treatment or hospitalization shall not by itself justify any present or future determination of person's Mental Illness (Chapter II, sec 3(4), MHA, 2017).

Determination of a person's mental illness shall alone not imply or be taken to mean that the person is of unsound mind unless he is declared as such by a competent court (Chapter II, sec 3(4), MHA, 2017)

Two staged process of MHC assessment:

S.no	Test	Yes/No
1	**Test of diagnosis:**	
(i)	Does the person have an impairment or disturbance in functioning (Permanent or temporary)	
(ii)	Does the impairment or disturbance mean that the person is unable to make specific decisions when they need to?	
2	**Test of functionality:**	
(i)	Patient understands that he/she is ill.	
(ii)	Patient understands that he/she requires treatment.	
(iii)	*Patient understands the treatment that is being offered*	
(iv)	*Patient has been explained the risks and benefits of the treatment being offered to him.*	
(v)	Patient understands that the treatment would be best administered In-hospital setting.	
(vi)	Patient understands that there is a significant risk in taking treatment on OPD basis.	
(vii)	All possible help and support have been provided to make the patient understand the decision.	
(viii)	The information has been explained to the patient in a safe and comfortable setting.	
(ix)	Patient understands that taking the decision would mean taking medication for the illness and would need to stay in hospital for the same	
(x)	Patient has been given adequate time to think over the decision and discuss with his family	

Capacity assessment MHCA / IHBAS SCALE

This scale is designed by institute of Human Behaviour and Allied Sciences, delhi. This scale is designed on the basis of MHCA chapter 2, section 3(4) to assess the capacity of the mentally ill person. The scale has 12 questions in total and has to be answered in dichotomous manner (yes/no). If the answer to those questions is “yes” to all the 12 questions then to be concluded that the patient has the capacity to make choices in advance for future treatment (advance directives)

ANNEXURE-VIII

KEY TO MASTER CHART

Y- Yes

N – No

M- Male

F – Female

ADR.EPS – Adverse drug reaction – extrapyramidal symptoms

ADR.wt Gain – Adverse drug reaction – weight gain

ADR.sedation – Adverse drug reaction sedation

Anticholinergic – Adverse drug reaction anticholinergic

CGI – S – Clinical global impression – severity

(a)-(self reflectiveness) – Beck's self reflectiveness score

(b)-(self certainity) – Beck's self certainity score

Composite score – (a)-(b)

IHBAS – Institute Of Human Behaviour And Allied Sciences, capacity assessment scale interpretation, Y – has capacity, N- has no capacity.

Future IPD – Opting in patient care (IPD) as an option of Advance Directive

Future ECT -Opting in Electroconvulsive therapy(ECT) as an option of Advance Directive

Future oral medications - Opting oral medications as an option of Advance Directive

Diagnosis

P-BPAD – Bipolar Affective dosirder

N-DEP – depression

P-Schiz – Schizophrenia

P-schiz.affec – Schizoaffective disorder

P – other – other psychotic disorders

N-Anxiety disorder – Anxiety disorder

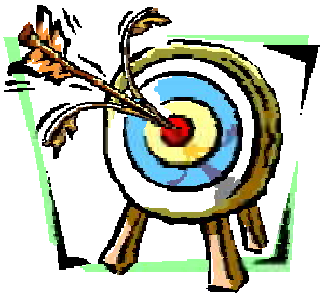
ANNEXURE-IX

KEY TO MASTER CHART

SI NO	Age	SEX	Religion	Education	Marital Status	Occupation	SE Status	Informant	Caregivers	Oral Drug History	ECT History	Physical Restraints History	inj immediate	inj.depot	Family History	a.ADR EPS	b.ADRwt Gain	c.ADR sedation	d.ADR Akathisia	e.ADR NMS	f.acute dystonia	g.Anticholinergic	h.Seizures	i.Menstrual Irregularities	j.Sexual Dysfunction	k.Gastric effects	CGI-S	a(self reflectiveness)	b(self certainty)	composite Becks score[(a)-(b)]	Global functioning score	IHBAS	Future IPD	Future ECT	Future Physical restraints	Future Oral Medications	Appoint Caretaker	DIAGNOSIS
1	68	M	Hindu	illiterate	Married	semi-skilled	Middle Class	Daughter	2	Y	Y	Y	N	N	N	N	N	Y				Y		DOES NOT APPLY		Y	0	19	3	16	95	Y	Y	N	N	Y	daughter	P - BPAD
2	33	M	Hindu	Primary school	Married	unemployed	Lower Class	Mother	3	Y	Y	N	N	N	N	N	N	N				Y		DOES NOT APPLY		N	0	26	4	22	100	Y	Y	N	N	Y	Parents	N - DEP
3	23	M	Hindu	secondary school	single	semi-skilled	Upper Middle Class	Father	3	Y	Y	N	N	N	N	N	N	N				Y		DOES NOT APPLY		N	0	26	14	12	100	Y	N	Y	N	Y	Parents	P-SCHIZ
4	38	M	Hindu	Graduate	Married	Skilled	Lower Middle Cass	Sibling	3	Y	Y	N	N	N	N	N	Y	Y				N		DOES NOT APPLY		N	0	27	6	21	100	Y	Y	Y	Y	Y	Spouse	N-DEP
5	57	M	Hindu	Primary school	Married	semi-skilled	Lower Middle Cass	Neighbour	6	Y	Y	Y	N	N	Y	N	N	N				N		DOES NOT APPLY		N	0	18	8	10	100	Y	Y	Y	N	Y	Spouse	P-SCHIZ
6	34	F	Hindu	secondary school	single	Skilled	Middle Class	Mother	2	Y	Y	Y	N	N	N	N	Y	Y				N		N		N	0	26	10	16	100	Y	Y	N	N	Y	Parents	P-BPAD
7	42	F	Hindu	illiterate	Married	unskilled	Lower Class	son	2	Y	Y	N	N	N	N	N	N	Y				N		N		N	0	20	5	15	100	Y	Y	N	N	Y	Son	N-DEP
8	63	M	Hindu	Primary school	Married	semi-skilled	Lower class	daughter	2	Y	N	Y	N	N	N	N	N	Y				N		DOES NOT APPLY		N	0	20	2	12	100	Y	Y	N	N	Y	Spouse	P-BPAD
9	37	F	Hindu	illiterate	Married	semi-skilled	Middle Class	Spouse	2	Y	Y	Y	N	N	N	N	N	Y				N		N		Y	0	19	5	14	95	Y	Y	N	N	Y	Spouse	P-SCHIZ
10	39	M	Hindu	illiterate	Married	unskilled	Lower Middle Cass	Sibling	3	Y	Y	N	N	N	N	N	N	N				N		DOES NOT APPLY		N	0	27	8	19	100	Y	Y	Y	Y	Y	sibling	N - RDD
11	51	F	Hindu	illiterate	Married	semi-skilled	Middle Class	Son	1	Y	Y	N	N	N	N	N	Y	Y				N		N		N	0	22	4	18	95	Y	Y	N	N	Y	Spouse	N-DEP
12	43	F	Hindu	Primary school	Married	semi-skilled	Middle Class	Father	2	Y	Y	Y	N	N	N	Y	N	N				Y		N		N	0	20	5	15	98	Y	Y	N	N	Y	Spouse	P - SCHIZ
13	56	M	Hindu	Primary school	Married	semi-skilled	Lower Class	Sibling	3	Y	N	Y	N	N	N	N	Y	Y				N		DOES NOT APPLY		N	0	25	6	19	100	Y	Y	N	Y	Y	sibling	P - BPAD
14	40	F	Hindu	illiterate	Married	semi-skilled	Lower Middle Cass	Spouse	2	Y	Y	Y	N	N	N	Y	Y	Y				N		N		Y	0	22	10	12	95	Y	Y	N	Y	Y	Spouse	P - SCHIZ
15	60	F	Hindu	illiterate	Widow	semi-skilled	Lower Middle Cass	son	1	Y	Y	N	N	N	N	Y	N	N				Y		N		N	0	19	6	13	100	Y	Y	N	N	Y	Son	P-BPAD
16	47	F	Hindu	Primary school	Married	semi-skilled	Middle Class	daughter	2	Y	Y	Y	N	N	N	N	Y	Y				Y		N		Y	0	19	8	11	95	Y	Y	N	N	Y	daughter	P-SCHIZ
17	58	M	Hindu	illiterate	Married	Skilled	Lower Middle Cass	daughter	2	Y	Y	Y	Y	N	N	N	N	Y				Y		DOES NOT APPLY		Y	0	20	5	15	100	Y	Y	Y	Y	Y	daughter	P - BPAD
18	39	M	Hindu	PG	Married	Skilled	Upper Middle Class	Spouse	1	Y	Y	Y	Y	N	N	N	N	Y				Y		DOES NOT APPLY		N	0	25	9	16	100	Y	Y	N	N	Y	Spouse	P - BPAD
19	42	F	Hindu	Graduate	single	Skilled	Lower Middle Cass	Sibling	3	Y	Y	Y	Y	N	N	N	N	N				N		N		N	0	20	6	14	95	Y	Y	Y	N	Y	Parents	P - SCHIZ.AFFEC
20	21	M	Hindu	secondary school	single	semi-skilled	Lower Middle Cass	Sibling	4	Y	Y	Y	Y	N	N	N	N	Y				N		DOES NOT APPLY		N	0	18	4	14	100	Y	Y	N	N	Y	Parents	P - BPAD
21	64	M	Hindu	illiterate	Married	semi-skilled	Lower Middle Cass	Son	2	Y	N	N	Y	N	N	N	N	N				Y		DOES NOT APPLY		N	0	20	3	17	100	Y	Y	N	N	Y	Spouse	N - DEP
22	38	F	Hindu	illiterate	Married	semi-skilled	Lower Middle Cass	Spouse	4	Y	Y	Y	Y	N	N	N	N	N				N		N		N	0	14	3	11	100	Y	Y	N	N	Y	Spouse	P - BPAD
23	34	F	Hindu	secondary school	Married	unskilled	Lower Middle Cass	Uncle	2	Y	N	N	Y	N	N	Y	Y	Y				N		N		N	0	21	9	12	100	Y	Y	N	Y	Y	Spouse	P - BPAD
24	27	F	Hindu	illiterate	Married	semi-skilled	Lower Class	Sibling	2	Y	Y	Y	Y	N	Y	Y	Y	Y				Y		N		N	0	23	11	12	95	Y	Y	N	N	Y	Spouse	P - BPAD
25	71	M	Hindu	illiterate	single	semi-skilled	Lower Middle Cass	Daughter	2	Y	N	N	Y	N	N	Y	N	Y				N		DOES NOT APPLY		N	0	20	8	12	100	Y	Y	N	N	Y	daughter	P - SCHIZ
26	62	F	Hindu	illiterate	Married	semi-skilled	Lower Class	Son	1	Y	Y	Y	Y	N	N	Y	N	N				N		N		N	0	14	3	11	100	Y	Y	N	N	Y	Son	P - OTHER
27	23	M	Hindu	secondary school	single	semi-skilled	Lower Middle Cass	Mother	2	Y	Y	Y	Y	N	N	Y	Y	Y				Y		DOES NOT APPLY		N	0	19	6	13	100	Y	Y	N	N	Y	Parents	P - BPAD
28	44	M	Hindu	Graduate	Married	Skilled	Upper Middle Class	Son	3	Y	Y	Y	Y	N	N	N	Y	Y				N		DOES NOT APPLY		N	0	22	7	15	100	Y	Y	N	N	Y	Spouse	P - SCHIZ.AFFEC
29	28	M	Hindu	Preuniversity	Married	unskilled	Lower Middle Cass	Father	3	Y	N	N	N	N	N	N	N	N				N		DOES NOT APPLY		N	0	24	4	20	100	Y	Y	Y	Y	Y	Spouse	N - DEP
30	24	M	Hindu	secondary school	single	semi-skilled	Lower Middle Cass	Mother	3	Y	Y	Y	Y	Y	N	N	Y	Y				N		DOES NOT APPLY		N	0	18	6	12	100	Y	Y	Y	Y	Y	Parents	P-SCHIZ
31	52	F	Hindu	illiterate	Married	semi-skilled	Lower Middle Cass	Son	1	Y	Y	N	N	N	N	N	Y	Y				N		N		N	0	26	7	19	95	Y	Y	N	N	Y	Spouse	N-DEP
32	63	F	Hindu	Graduate	Married	Skilled	Upper Middle Class	Daughter	6	Y	Y	Y	Y	Y	N	N	N	N				N		N		N	0	18	5	13	100	Y	Y	Y	Y	Y	daughter	P - OTHER
33	25	F	Hindu	Graduate	single	Skilled	Middle Class	Sibling	4	Y	N	Y	Y	N	N	N	Y	N				N		N		N	0	23	9	14	100	Y	Y	Y	N	Y	sibling	P - BPAD
34	44	M	Hindu	Graduate	Married	Skilled	Upper Middle Class	Father	3	Y	Y	Y	Y	N	N	Y	N	Y				Y		DOES NOT APPLY		N	0	17	5	12	98	Y	Y	N	N	Y	Parents	P- BPAD
35	30	F	Hindu	Preuniversity	single	unemployed	Lower Middle Cass	Mother	3	Y	Y	N	N	N	N	N	Y	Y				N		Y		N	0	20	4	16	100	Y	Y	N	N	Y	Parents	N-DEP
36	45	M	Hindu	Preuniversity	Married	semi-skilled	Lower Class	Mother	5	Y	Y	N	N	N	N	N	Y	N				Y		DOES NOT APPLY		Y	0	18	7	11	100	Y	Y	N	N	Y	daughter	P - SCHIZ
37	43	F	Hindu	illiterate	Married	unskilled	Lower Middle Cass	Son	2	Y	N	N	N	N	N	N	N	N				Y		N		Y	0	18	2	16	100	Y	N	N	N	Y	Spouse	N-DEP
38	21	F	Hindu	Primary school	single	unskilled	Lower Class	Father	3	Y	Y	Y	Y	N	N	N	N	N				N		N		N	0	22	8	14	100	Y	Y	N	N	Y	Parents	P-SCHIZ
39	26	M	Hindu	Graduate	single	Skilled	Lower Middle Cass	Daughter	5	Y	N	N	N	N	N	N	N	N				Y		DOES NOT APPLY		Y	0	14	2	12	100	Y	Y	N	N	Y	Parents	P - SCHIZ
40	28	M	Hindu	Graduate	single	unemployed	Lower Class	Father	3	Y	Y	N	N	N	N	N	N	Y				N		DOES NOT APPLY		N	0	19	3	16	100	Y	Y	Y	Y	Y	Parents	P - SCHIZ
41	40	F	Hindu	illiterate	Married	semi-skilled	Lower Class	Mother	6	Y	Y	N	N	N	N	N	N	N				N		N		N	0	23	4	19	100	Y	Y	N	N	Y	sibling	N-DEP
42	27	M	Hindu	Preuniversity	single	unskilled	Lower Class	Mother	4	Y	N	N	N	N	N	N	N	Y				N		DOES NOT APPLY		N	0	22	10	12	100	Y	Y	Y	Y	Y	Spouse	P - BPAD
43	33	M	Hindu	secondary school	single	unskilled	Lower Class	Mother	3	Y	Y	N	N	Y	N	N	Y	Y				Y		DOES NOT APPLY		N	0	26	15	11	100	Y	Y	N	N	Y	Parents	P - SCHIZ
44	46	F	Hindu	illiterate	Married	semi-skilled	Lower Class	Neighbour	2	Y	N	N	Y	N	N	N	Y	N				N		N		N	0	24	11	13	100	Y	Y	N	N	Y	son	P - SCHIZ
45	45	M	Hindu	secondary school	Married	unemployed	Lower Class	Sibling	3	Y	Y	Y	N	N	N	N	Y	N				Y		DOES NOT APPLY		N	0	26	5	21	100	Y	Y	N	Y	Y	sibling	P - BPAD
46	42	M	Hindu	Preuniversity	Married	Skilled	Lower Middle Cass	Spouse	4	Y	N	N	Y	N	N	N	Y	N				N		DOES NOT APPLY		N	0	16	6	10	100	Y	N	N	N	Y	Spouse	P-SCHIZ
47	31	M	Hindu	Primary school	Married	unskilled	Lower Middle Cass	Sibling	3	Y	N	N	N	N	N	N	N	Y				N		DOES NOT APPLY		N	0	26	3	23	100	Y	Y	N	N	Y	sibling	N-DEP
48	26	M	Muslim	Graduate	Married	Skilled	Middle Class	Mother	4	Y	N	Y	N	Y	N	N	Y	Y				Y		DOES NOT APPLY		N	0	22	6	16	100	Y	Y	Y	N	Y	Spouse	P - BPAD

49	30	M	Hindu	secondary school	single	semi-skilled	Lower Middle Cass	Sibling	9	Y	N	N	N	N	N	Y	N	N				Y		DOES NOT APPLY		N	0	26	14	12	100	Y	Y	Y	Y	Y	Parents	P - BPAD
50	25	F	Hindu	secondary school	Married	semi-skilled	Lower Class	Father	3	Y	Y	N	Y	N	N	N	Y	Y				Y		N		N	0	23	4	19	100	Y	Y	N	N	Y	Parents	N-DEP
51	32	M	Hindu	Graduate	Married	Skilled	Middle Class	Spouse	4	Y	N	N	Y	N	N	N	Y	Y				Y		DOES NOT APPLY		N	0	19	3	16	100	Y	Y	N	N	Y	Spouse	P - BPAD
52	22	F	Hindu	secondary school	single	semi-skilled	Lower Class	Mother	2	Y	N	N	N	N	N	N	Y	Y				N		N		N	0	20	2	18	100	Y	N	N	N	Y	Parents	N-DEP
53	24	F	Muslim	secondary school	Married	semi-skilled	Lower Class	Father	3	Y	Y	N	N	N	N	N	N	N				N		N		N	0	19	4	15	100	Y	Y	N	N	Y	Parents	P-BPAD
54	21	F	Hindu	Preuniversity	single	semi-skilled	Lower Class	Mother	2	Y	Y	N	N	N	N	N	Y	Y				N		N		N	0	21	4	17	100	Y	N	N	N	Y	Parents	P-BPAD
55	46	F	Hindu	secondary school	Married	semi-skilled	Lower Class	Spouse	2	Y	Y	N	N	N	N	N	Y	N				Y		N		N	0	19	6	13	100	Y	Y	Y	N	Y	Spouse	P-SCHIZ
56	34	F	Muslim	Preuniversity	Married	semi-skilled	Lower Class	Spouse	3	Y	N	N	N	N	N	N	N	Y				N		N		N	0	22	10	11	100	Y	N	N	N	Y	Spouse	P-OTHER
57	47	F	Hindu	secondary school	Married	semi-skilled	Lower Class	Spouse	4	Y	N	N	N	N	N	N	N	Y				N		N		N	0	25	5	20	100	Y	N	N	N	Y	Spouse	N-DEP
58	29	F	Hindu	Graduate	Married	Skilled	Middle Class	Mother	2	Y	Y	Y	Y	N	N	Y	Y	Y				Y		N		Y	0	19	8	11	100	Y	Y	Y	Y	Y	Parents	P - SCHIZ.AFFEC
59	35	F	Hindu	secondary school	Married	semi-skilled	Lower Class	Spouse	3	Y	N	N	N	N	N	N	N	Y				N		N		N	0	17	3	14	100	Y	N	N	N	Y	Spouse	P-BPAD
60	27	M	Muslim	secondary school	Married	semi-skilled	Lower Class	Father	4	Y	Y	Y	Y	N	N	N	Y	Y				Y		DOES NOT APPLY		N	0	21	5	16	100	Y	Y	N	N	Y	Parents	P-BPAD
61	61	M	Hindu	secondary school	Married	semi-skilled	Lower Class	Spouse	2	Y	N	N	N	N	N	N	N	Y				Y		DOES NOT APPLY		N	0	22	8	14	100	Y	Y	Y	Y	N	Spouse	N-DEP
62	34	M	Hindu	secondary school	single	unemployed	Lower Class	Father	2	Y	Y	N	N	Y	N	N	Y	Y				Y		DOES NOT APPLY		N	0	23	6	17	100	Y	Y	Y	N	Y	Parents	P-SCHIZ
63	32	F	Hindu	illiterate	Married	semi-skilled	Lower Class	Spouse	3	Y	Y	Y	N	N	N	N	N	Y				N		N		N	0	18	4	14	100	Y	N	N	N	Y	Spouse	P-BPAD
64	26	F	Hindu	illiterate	single	semi-skilled	Lower Class	Sibling	4	Y	Y	N	N	N	N	N	N	Y				N		N		Y	0	21	2	19	100	Y	Y	N	N	Y	Parents	P-SCHIZ
65	66	M	Hindu	illiterate	Married	semi-skilled	Lower Class	Son	2	Y	N	N	N	N	N	N	N	Y				N		DOES NOT APPLY		Y	0	25	4	21	100	Y	N	N	N	Y	Spouse	N-DEP
66	28	F	Hindu	Preuniversity	single	semi-skilled	Lower Middle Cass	Mother	2	Y	Y	N	N	N	N	N	N	N				N		N		Y	0	21	8	13	100	Y	Y	N	N	Y	Parents	P-BPAD
67	70	M	Hindu	Primary school	Married	semi-skilled	Lower Class	Spouse	3	Y	N	N	N	N	N	N	N	Y				N		DOES NOT APPLY		N	0	26	3	23	100	Y	N	N	N	Y	Spouse	N-MIXED ANX.DEP
68	36	F	Hindu	secondary school	Married	unskilled	Lower Class	Spouse	6	Y	Y	Y	N	N	N	Y	Y	Y				N		N		Y	0	20	2	18	100	Y	Y	N	Y	Y	Spouse	N-DEP
69	45	M	Hindu	Primary school	single	unskilled	Lower Class	Spouse	4	Y	N	N	N	N	Y	N	N	Y				N		DOES NOT APPLY		N	0	25	9	16	100	Y	N	N	N	Y	sibling	P-SCHIZ
70	25	M	Hindu	secondary school	single	unskilled	Lower Class	Uncle	4	Y	Y	Y	N	N	N	Y	N	Y				N		DOES NOT APPLY		Y	0	18	3	15	100	Y	Y	N	Y	Y	Parents	P-BPAD
71	33	M	Christian	Graduate	single	Skilled	Upper Middle Class	Father	3	Y	Y	N	Y	N	N	Y	N	Y				Y		DOES NOT APPLY		N	0	20	4	16	100	Y	Y	N	N	Y	Parents	P-BPAD
72	28	M	Hindu	secondary school	single	semi-skilled	Lower Middle Cass	Mother	3	Y	N	N	Y	N	N	N	N	Y				N		DOES NOT APPLY		N	0	22	6	16	100	Y	Y	N	N	Y	sibling	P-BPAD
73	27	M	Hindu	secondary school	Married	Skilled	Lower Class	Sibling	4	Y	N	N	N	N	N	N	N	Y				N		DOES NOT APPLY		N	0	27	2	25	100	Y	N	N	N	Y	sibling	N- GAD
74	31	M	Muslim	Graduate	Married	skilled	Lower Middle Cass	Spouse	3	Y	Y	N	N	N	N	Y	N	Y				N		DOES NOT APPLY		N	0	16	6	10	100	Y	Y	N	N	Y	Spouse	P-SCHIZ
75	30	F	Hindu	secondary school	Married	unskilled	Lower Class	Mother	3	Y	N	N	Y	N	N	N	N	N				N		N		N	0	16	6	10	100	Y	Y	N	N	Y	sibling	P-BPBD
76	40	F	Hindu	secondary school	Married	unskilled	Lower Class	Spouse	2	Y	N	N	Y	N	N	N	Y	N				N		N		N	0	20	4	16	100	Y	Y	N	N	Y	sibling	P-SCHIZ
77	45	M	Muslim	Preuniversity	Married	semi-skilled	Lower Middle Cass	Spouse	3	Y	Y	N	Y	N	N	N	Y	Y				N		DOES NOT APPLY		N	0	25	3	22	100	Y	N	N	N	Y	Spouse	N-DEP
78	33	M	Christian	Preuniversity	Married	semi-skilled	Lower Middle Cass	Spouse	4	Y	Y	N	Y	N	N	N	N	N				N		DOES NOT APPLY		N	0	20	5	15	98	Y	Y	Y	Y	Y	Spouse	P-OTHER
79	46	F	Muslim	Primary school	Married	unskilled	Lower Middle Cass	Spouse	2	Y	N	N	N	N	Y	N	Y	Y				N		N		Y	0	23	6	17	95	Y	Y	N	N	Y	Spouse	P-BPAD
80	27	M	Muslim	Primary school	single	unskilled	Lower Class	Mother	2	Y	N	N	N	N	Y	N	Y	N				N		DOES NOT APPLY		N	0	25	4	21	100	Y	N	N	N	Y	Parents	N-DEP
81	26	F	Muslim	illiterate	Married	unskilled	Lower Class	Mother	3	Y	N	N	Y	N	N	N	N	N				N		N		N	0	26	5	21	100	Y	N	N	N	Y	Parents	N-DEP
82	25	F	Hindu	Primary school	Married	semi-skilled	Lower Class	Mother	2	Y	N	N	N	N	Y	N	Y	N				N		N		Y	0	18	7	11	100	Y	Y	N	Y	Y	Parents	P-BPAD
83	23	F	Muslim	secondary school	Married	semi-skilled	Lower Class	Mother	2	Y	N	N	Y	N	N	N	N	Y				N		N		N	0	27	9	12	100	Y	N	N	N	Y	Parents	P-SCHIZ
84	30	M	Hindu	secondary school	single	semi-skilled	Lower Class	Mother	2	Y	N	N	Y	N	N	N	N	N				N		DOES NOT APPLY		N	0	27	2	25	100	Y	N	N	N	Y	Parents	N-PANIC DISORDER
85	42	F	Muslim	Primary school	Married	semi-skilled	Lower Middle Cass	Daughter	4	Y	N	N	N	N	Y	N	N	Y				N		N		N	0	24	5	19	100	Y	N	N	N	Y	daughter	N-DEP
86	41	F	Hindu	secondary school	Married	semi-skilled	Lower Class	Son	2	Y	Y	Y	Y	N	Y	Y	Y	Y				N		N		Y	0	18	8	10	100	Y	Y	N	N	Y	Spouse	P-SCHIZ
87	26	F	Hindu	Primary school	single	unskilled	Lower Class	Father	3	Y	N	Y	Y	N	N	N	Y	Y				N		N		N	0	22	12	10	100	Y	Y	N	N	Y	Parents	P-SCHIZ
88	31	F	Hindu	Graduate	Married	Skilled	Middle Class	Mother	5	Y	Y	N	N	N	N	N	N	N				Y		N		N	0	23	11	12	100	Y	Y	N	N	Y	Parents	P-SCHIZ
89	71	M	Hindu	secondary school	Widower	semi-skilled	Lower Middle Cass	Son	4	Y	N	N	N	N	N	N	Y	Y				N		DOES NOT APPLY		Y	0	23	8	15	100	Y	N	N	N	Y	son	P-SCHIZ
90	43	M	Hindu	secondary school	Married	unskilled	Lower Class	Daughter	2	Y	N	N	N	N	N	N	N	N				N		DOES NOT APPLY		N	0	19	5	14	100	Y	N	N	N	Y	Spouse	N-DEP
91	65	F	Hindu	illiterate	Married	unskilled	Lower Class	Spouse	3	Y	Y	N	N	N	Y	N	Y	Y				N		N		N	0	18	3	15	100	Y	Y	Y	N	Y	Spouse	N - RDD
92	43	F	Muslim	secondary school	Married	unskilled	Lower Class	Spouse	2	Y	Y	Y	Y	N	N	Y	Y	Y				N		N		Y	0	14	2	12	100	Y	N	N	N	Y	Spouse	P-SCHIZ
93	20	M	Hindu	secondary school	single	Skilled	Lower Middle Cass	Father	4	Y	Y	N	N	N	N	N	N	Y				N		DOES NOT APPLY		Y	0	24	4	20	100	Y	Y	Y	N	Y	Parents	N-DEP
94	27	F	Hindu	Graduate	Married	Skilled	Middle Class	Father	2	Y	N	N	N	N	N	N	N	N				N		N		Y	0	24	8	16	100	Y	N	N	N	Y	Parents	P - BPAD
95	25	M	Hindu	Graduate	single	Skilled	Lower Middle Cass	Father	2	Y	N	N	N	N	N	Y	N	N				N		DOES NOT APPLY		N	0	19	4	15	100	Y	Y	Y	N	Y	Parents	P-SCHIZ
96	34	M	Hindu	secondary school	Married	semi-skilled	Lower Class	Spouse	3	Y	N	N	N	N	N	N	N	N				N		DOES NOT APPLY		N	0	20	5	15	100	Y	Y	N	N	Y	Parents	N-DEP
97	38	M	Hindu	secondary school	Married	semi-skilled	Lower Class	daughter	1	Y	Y	N	N	Y	Y	N	Y	N				Y		DOES NOT APPLY		N	0	25	6	19	100	Y	N	N	N	Y	Parents	P-SCHIZ
98	69	M	Hindu	illiterate	Married	semi-skilled	Middle Class	Son	2	Y	Y	Y	N	N	N	N	N	Y				Y		DOES NOT APPLY		Y	0	24	5	19	95	y	Y	N	N	Y	son	N-DEP
99	35	M	Hindu	Primary school	Married	unemployed	Lower Class	Mother	3	Y	Y	N	N	N	N	N	N	N				Y		DOES NOT APPLY		N	0	21	8	13	100	y	Y	N	N	Y	Parents	P-SCHIZ
100	25	M	Hindu	secondary school	single	semi-skilled	Upper Middle Class	Father	3	Y	Y	N	N	N	N	N	N	N				Y		DOES NOT APPLY		N	0	16	5	11	100	y	N	Y	N	Y	Parents	P - BPAD
101	38	M	Hindu	Graduate	Married	Skilled	Lower Middle Cass	Sibling	3	Y	Y	N	N	N	N	N	Y	Y				N		DOES NOT APPLY		N	0	19	5	14	100	y	Y	Y	Y	Y	Spouse	N - DEP
102	58	M	Hindu	Primary school	Married	semi-skilled	Lower Middle Cass	Son	6	Y	Y	Y	N	N	Y	N	N	N				N		DOES NOT APPLY		N	0	24	5	19	100	y	Y	Y	N	Y	Spouse	P-SCHIZ
103	33	F	Hindu	secondary school	single	Skilled	Middle Class	Mother	2	Y	Y	Y	N	N	N	N	Y	Y				N		N		N	0	22	2	20	100	y	Y	N	N	Y	Parents	N-DEP

Introduction



Objectives

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Annexure-III

Annexure-IV

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