

SYNOPSIS
ON
'DRUG REHABILITATION'

BACHELORS OF ARCHITECTURE
2019-2020

SUBMITTED BY
GAANDHARVI RAI
4th YEAR
1621101006

GUIDED BY
AR. BUSHRA FATIMA



SCHOOL OF ARCHITECTURE
GALGOTIAS UNIVERSITY
GREATER NOIDA 201310

1.INTRODUCTION

DRUG REHABILITATION CENTRE: Drug rehabilitation or “drug rehab”, is a residential facility that specializes in the treatment of addiction. Addiction is a clinical disease of the brain. Addiction to substances – such as alcohol, prescription drugs or street drugs such as cocaine, heroin and methamphetamine – can cause serious damage not only to a person’s health and well-being, but to their psychological, psychiatric and emotional states.

1.1 AIM:

- To study the architectural response to society’s health, needs by creating a detox facility which is ready to motivate, inspire and help drug addicts in their battle to overcome addiction.

1.2 OBJECTIVES:

- One of the goals of drug and alcohol rehab centre is to educate the abuser to the facts about addiction. Addiction is a complex brain disorder characterized by drug seeking and drug craving. The more an addict knows and understand the disease concept of addiction, the more likely he will be to succeed in long term recovery.
- To teach the person about the changes needed to live a drug-free lifestyle.
- Motivating the victims to open up about their underlying fears and the deep-rooted causes that give rise to addiction.

1.3 NEED AND SCOPE:

- A drug rehab where an addict can get specialize treatment and even spiritual motivation.
- Patients accommodation
- Therapy (all forms)
- Recreational centre
- Monitoring centre (support facility)

1.4 METHODOLOGY

Step 1: Setting up of object

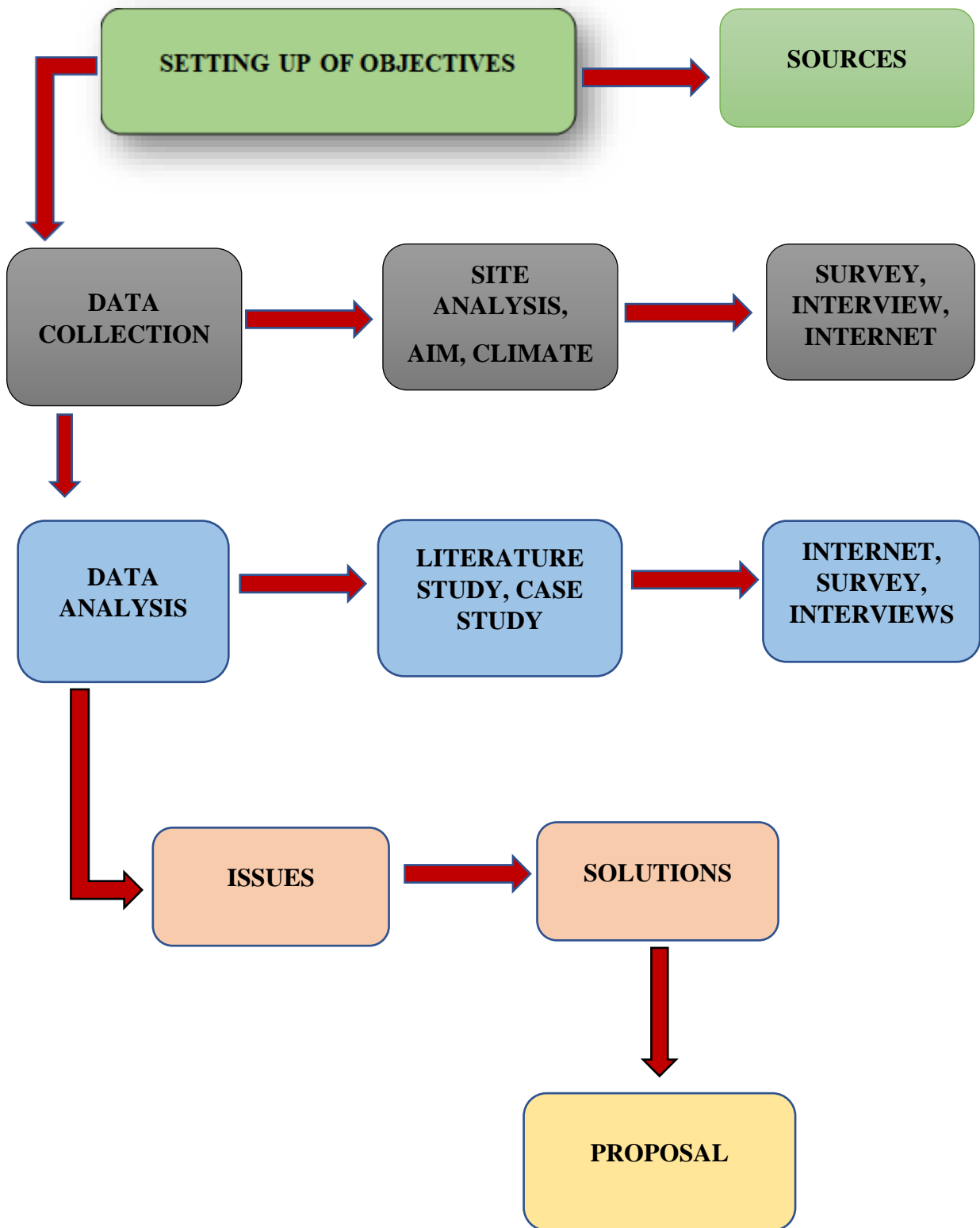
Step 2: Literature review

Step 3: Case studies

Step 4: Discussion

Step 5: Recommendations

Step 6: Summary of conclusion



2.DATA COLLECTION

2.1 INTRODUCTION

The complex design of the drug addiction rehabilitation centre goes through many layers starting from the individual to the physical structure. A solid understanding of the phenomenon of addiction and its psychological, biological, and social dimensions is essential in relating to drug addiction victims and creating a suitable environment to heal them. To succeed in the design of the rehabilitation centre, the architect should understand the mentality of drug addicts and try to walk in their shoes and get in touch with their circumstances, feelings, and agony. Moreover, the design of a drug addiction rehabilitation facility requires a deep understanding of the medical process of the treatment, and at last; the thorough study of rehabilitation centres as a building type and its architectural dissection of its functions, codes, standards, and regulations.

2.2 BACKGROUND

Drug abuse is when individuals use legal or illegal substances in ways, they shouldn't. They might take more than the regular dose of pills or use someone else's prescription. They may abuse drugs to feel good, ease stress, or avoid reality. But usually, they're able to change their unhealthy habits or stop using altogether (WebMD, 2018). Addiction is a chronic disease characterized by drug seeking and use that is compulsive, or difficult to control, despite harmful consequences. The initial decision to take drugs is voluntary for most people, but repeated drug use can lead to brain changes that challenge an addicted person's selfcontrol and interfere with their ability to resist intense urges to take drugs (NIDA, 2018 A).

2.3 DRUG ADDICTION TREATMENT

Drug rehabilitation is the process of medical or psychotherapeutic treatment for dependency on psychoactive substances such as alcohol, prescription drugs, and street drugs. The general intent is to enable the patient to confront substance dependence, if present, and cease substance abuse to avoid the psychological, legal, financial, social, and physical consequences that can be caused, especially by extreme abuse. Treatment includes medication for depression or other disorders, counseling by experts, and sharing of experience with other addicts (Schaler, 1997).

Detoxification (Detox) is a process, to rid the body of a toxic substance. Non-medical Detox refers to the fact that the body will rid itself of drugs (including alcohol). Medical Detox refers to a wide variety of detoxification techniques used by the medical professional. These techniques range from simple observation by professionals while an individual rids itself naturally to medical intervention. This may include tranquilizers or other drugs that reduce the symptoms caused by the withdrawal from the addictive drug. (Department of Veterans Affairs, 2008)

Effective treatment addresses the multiple needs of the patient rather than treating addiction alone. In addition, medically assisted drug detoxification or alcohol detoxification alone is ineffective as a treatment for addiction (NIDA, 2018 B). The National Institute on Drug Abuse (2018 B) recommends detoxification followed by both medication and behavioral therapy, followed by relapse prevention. Effective treatment must address medical and mental health

services as well as follow-up options, such as community or family-based recovery support systems. Whatever the; patient motivation is an important factor in treatment success.

Outpatient behavioral treatment includes a wide variety of programs for patients who visit a behavioral health counselor on a regular schedule. Most of the programs involve individual or group drug counseling, or both. These programs typically offer forms of behavioral therapy such as; cognitive-behavioral therapy, multidimensional family therapy, motivational interviewing, and motivational incentives. Treatment is sometimes intensive at first, where patients attend multiple outpatient sessions each week. After completing intensive treatment, patients transition to regular outpatient treatment, which meets less often and for fewer hours per week to help sustain their recovery (NIDA, 2018 B).

Those who receive inpatient treatment typically struggle with cravings and should be monitored around the clock to prevent relapse. This is especially important for individuals who are dependent on a particular substance and can't go more than a few hours without it. While enrolled in this program, the nursing staff monitors clients 24/7. Inpatient residential rehab involves an extended time period for treatment, regardless of the substance. Programs typically last 30–45 days, or longer, depending on each client's needs. Clients are required to stay at the facility for the entirety of the program, including overnight. Although there is no single treatment that's right for everyone, inpatient rehab is one of the most effective forms of care for drug and alcohol addiction (The Recovery Village, 2018).

Detoxification has been thought of as appropriate "treatment". When the patient relapses, as most do sooner or later, the treatment is regarded as a failure. However, contrary to commonly held beliefs, addiction does not end when the drug is removed from the body (detoxification) or when the acute post drug taking illness dissipates (withdrawal). Rather, the underlying addictive disorder persists, and this persistence produces a tendency to relapse to active drug-taking. Thus, although detoxification can be successful in cleansing the person of drugs and withdrawal symptoms, detoxification does not address the underlying disorder, and thus is not adequate treatment (O'Brien & McLellan, 1996).

Addictive disorders should be considered in the category with other disorders that require long-term or life-long treatment. Treatment of addiction is about as successful as treatment of disorders such as hypertension, diabetes, and asthma, and it is clearly cost-effective. As with treatments for these other chronic medical conditions, there is no cure for addiction. At the same time, there are a range of pharmacological and behavioral treatments that are effective in reducing drug use, improving patient function, reducing crime and legal system costs, and preventing the development of other expensive medical disorders (O'Brien & McLellan, 1996).

2.4 FUNCTIONS & DESIGN FEATURES FOR STRESS REDUCTION

The drug rehabilitation center should also address the issue of violence and safety within its environment. Drug addicts as mental illness inpatients can behave in aggressive and antisocial behaviors. Studies revealed that 32.4% of psychiatric inpatients engaged in aggressive behavior or violence, and 50% of all aggressive incidents in psychiatric units involve physical violence (Bowers, et al., 2011). This means that creating a comforting and stress relieving environment is essential in this case to reduce incidents of violence, and even self-harm and suicide.

The concept of therapeutic architecture does not suggest that the architecture by itself has the capacity to heal patients, but rather, architectural manipulation of structures and space can

allow for other environmental factors such as sound, color, views, smell and light all of which contribute to a therapeutic environment to be prominent for healing purpose. For instance, drug patients who are suffering from mental stress and fatigue can feel better if they occupy spaces that have favorable colors, wide windows that allow them to view outside, and spaces that restrict noise that would be considered loud (Morgenthaler, 2015).

The physical and symbolic environment has a significant impact on the patients. There is a high correlation between life satisfaction and overall health. Satisfaction creates happiness conditions in people and resulting in the patient's interest to continue to be treated (Sapmaz, et al.). On the contrary, some studies confirm that the traditional way in which some rehabilitation centers are designed contribute to increasing stress and pose a danger to the well-being of both patients and staff such as exceeding noise due to high population of patients and staff, small rooms especially for inpatient facilities, poor lighting, and small spaces (Seaward, 2011) (Edge, 2003) (Unwin, 2003).

Researchers studying how factors such as time passed admission can influence suicide rates reported that almost half of suicides take place within the first 3 days of admission. Their research suggests improvements to the ward environment to increase staff supervision and decrease patient distress especially during admission and the first days of hospitalization. (Hunt, et al., 2013) It was also found that the design of a newer hospital with environmental features in the stress-reducing design bundle decreased the use of chemical (compulsory injections) and physical restraints substantially (21%) compared to the old hospital it replaced (Ulrich, et al., 2012).

2.4.1 Home-like characteristics

Providing home-like characteristics is widely recommended as best practice design for psychiatric hospitals and long term care facilities. A study in a Norwegian psychiatric ward found that decorating a seclusion area in a home-like increased the satisfaction and reported well-being of patients, especially women (Vaaler et al., 2005). Another study of a renovated club, hospital wing, and facility built for drug and alcohol treatment. Found that satisfaction declined with all three facilities progressively during the 4-week treatment period due to absence of familiar features such as posters, paints photographs, and collectibles. The patients indicated they missed their beds, chairs, and pets from home. Spaciousness, views to the outside, and privacy were the most positively received elements of the new space. Least-liked were lack of carpeting, color scheme, lack of comfort, and particularly the quality of the bed. Lack of recreational equipment was also mentioned as problematic (Potthoff, 1995). Unfortunately, most facilities are denied of minimum amenities. Because of that addicts residing for long periods of time in these facilities are often in sleep or suffer from boredom, depression and fatigue (Mirzaei, et al., 2010).

2.4.2 Private Patient Rooms

Providing single bedrooms may be the most important design intervention for reducing stress and thereby aggression in inpatient psychiatric wards. The number of persons sharing a bedroom, bathroom, or cell strongly correlates with higher crowding stress and lower privacy, perceived control, more disagreements with roommates, more illness complaints, and social withdrawal (Ulrich, et al., 2012). When it comes to infectious diseases, a study showed that

single bed rooms and good air quality substantially reduce infection incidence and reduce mortality (McManus, et al., 1992).

Situations whereby, two patients are sharing the same room may be uncomfortable for some individuals depending on their personalities. It is also worth noting that drug addicts are susceptible to high stress levels and low moods (Seaward, 2011). Moreover, researchers comparing patient rooms ranging from singles to 12-bed dormitories, concluded that the higher the number of occupants per bedroom, the higher the percentage of isolated passive behaviors (Ittelson, et al., 1970).

A two-bed room forces a social intimacy that may be intimidating and detrimental to interaction. researchers and concluded that, activity type rather than mathematical density should dictate room size, private rooms will be used most frequently, the use of the room and interactive behaviors decreases as the number of beds per room increases, and that two-person rooms require more than double the space required for a one-person room (Wolfe, 1975). Patients' rooms should be well equipped to receive visitors. Approximately half of all visits (49%) took place in the patient room. family members spent considerable time at their relative's bedside, most of them up to several hours a day. Family members, who saw themselves as —close to the patient, had the most positive effects on patients' mental status (Astedt-Kurki, et al., 1997).

2.4.3 Sports and recreational facilities

Addiction treatment is a multidisciplinary process, therefore successful treatment about addiction requires paying attention to the architecture and design environment of addiction treatment centers on side the medical and psychological interventions.

Studies showed that providing high quality sports and leisure facilities such as; gym hall, swimming pools, living spaces, green spaces, etc. have high positive correlation with variables such as addicts' satisfaction, happiness, self-esteem and anxiety plus shorter treatment period (Hajlooa, et al., 2016) (Huisman, et al., 2012). Suitable environment is also a sign of respect to the addicts and to encourage them to quit drug addiction (Parvizi, et al., 2004).

2.4.4 Smaller Ward Patient Group Size

Researchers suggest limiting the number of large shared spaces to reduce the chance of violence (Shepley & Pasha, 2013). A research on nonpsychiatric residential settings such as student dormitories and apartment buildings has found that smaller population sizes on floors, corridors, or units (approximately 12-18 persons at full occupancy) are associated with lower perceived crowding and more interpersonal contacts and helping behavior, than floors or units of comparable spatial density but large populations. (Baum & Davis, 1980)

When spatial density is controlled for, students living on longer corridors with larger floor populations tend to report having fewer friends and acquaintances than those living on short corridors with smaller populations. Also, smaller ward population sizes in psychiatric hospitals foster control and help prevent crowding stress by enabling patients to more easily regulate their personal spacing and relationships with others in shared spaces such as dayrooms and eating areas (Ulrich, et al., 2012)

2.4.5 Furniture arrangement

Providing movable seating in dayrooms, lounges, and other shared spaces in psychiatric wards enhances the patient's capability to regulate personal space and interactions with others, achieve control, and reduce stress (Sommer, 1969). Seating patterns exerted a powerful control over the amount of social interaction among patients in a dayroom setting. Arrangements with chairs positioned shoulder-to-shoulder along the dayroom walls strongly suppressed social interaction. By contrast, arranging chairs around small tables in the middle of the room increased interaction, especially among socially inclined patients (Holahan, 1972).

Through behavior observation, researchers investigated how the physical environment impacted social organization and behavior, whether there were variations in staff and patient use of space, and whether room designation or furniture arrangement impacted behavior. They found that, patients heavily used the dayroom and TV room in addition to the hallway adjacent to the nurses' station or window, patients frequently used areas with furniture, and that staff often sequestered themselves in the nurses' station or the adjacent hallway (Fairbanks, et al., 1977).

2.4.6 Daylight Exposure

Designing buildings to provide higher exposure to natural light, compared to low exposure, reduces depression and fosters shorter inpatient stays for depressed patients. Assigning psychiatric patients with serious depression to rooms having higher daylight shortens stays compared to placing similar patients in rooms that receive less daylight or are always in shade (Ulrich, et al., 2012).

A study in 2017 found that patients exposed to an increased intensity of sunlight experienced less perceived stress, marginally less pain, took 22% less analgesic medication per hour, and had 21% less pain medication costs (Dhingra, 2017). Another study found that patients had shorter hospital stays when staying in sunny rooms compared with dimly lit rooms (Beauchemin & Hays, 1996).

Patients treated in sunny rooms had an average stay of 16.6 days compared with 19.5 days for those in dim rooms. Moreover, there was significant difference between women and men. Mortality in both sexes was consistently higher in dim rooms (Beauchemin & Hays, 1998).

2.4.7 Nature views & accessibility

Viewing nature fosters rapid reduction of stress. Physiological restoration from stress is evident, for instance, in reduced blood pressure and changes in cardiac activity. These and other beneficial physiological changes are accompanied by increased positive emotions and reduced levels of negatively-toned feelings such as anxiety and anger (Ulrich, 1991) (Ulrich, et al., 1991). Moreover, patients assigned to rooms with a window view of nature (trees), compared to matched patients with windows overlooking a brick wall, had better emotional well-being, endured fewer stress-related minor complications such as persistent headache, suffered less pain, and had shorter stays (Ulrich, 1984).

Studies in general hospitals indicates that patients and visitors who use gardens report reduced stress, improved emotional well-being, and higher satisfaction with care quality. Gardens in

hospitals not only provide stress-reducing nature views, but if well designed reduce stress through other established mechanisms. For example, a garden that is accessible to patients improves emotional well-being by increasing exposure to daylight, and promotes control and stress reduction by providing a calming and enticing getaway from familiar interior ward spaces. A garden designed with seating choices additionally provides patients with attractive places either to seek privacy or socialize (Ulrich, et al., 1999).

2.4.8 Noise Reduction

Reducing noise levels lowers stress in non-psychiatric inpatients as evidenced, for example, by reduced blood pressure. Other research on nurses in non-psychiatric facilities has found that noise-reducing design measures lower staff stress, annoyance, perceived work demands and pressure, and may help reduce burnout (Ulrich, et al., 2012). For healthcare facility design, consideration should be given to providing sound-absorbent ceilings and other measures that shorten RT and reduce noise propagation, thereby increasing speech discrimination among older patients and possibly older staff (Huisman, et al., 2012).

2.4.9 Art

Art has been proven to have an impact on the reduction of stress in psychiatric patients. One group of researchers studied the relationship between art displays and patient anxiety in an acute-care psychiatric unit, found a significant positive correlation between presence of realistic art displays and anxiety reduction (Nanda, et al., 2010).

Other studies in general hospitals have consistently found that the great majority prefer and respond with positive emotions to representational nature art, but dislike abstract artwork and images displaying emotionally negative or challenging subject matter. Patients have positive feelings and reactions with respect to nature art and prints, but have negative reactions to ward artwork that was abstract or could be interpreted in multiple ways. There were many incidents where psychiatric patients had physically attacked several ward artworks, all of which displayed abstract subject matter and styles (Ulrich, 1991). A study of elderly psychiatric patients found that placing a large realistic nature print in a ward lounge substantially reduced the number of injections given for aggressive behaviors (kicking, hitting, biting) and agitation (Nanda, et al., 2010).

2.4.10 Color as a Therapy

From ancient times, color has always been believed to be influential on the human psyche. Many researchers have studied the impact of colors and their combinations on the people. Some claim that colors closely related on color wheel, shall be used together to create a feeling of harmony. Yellows, Oranges and Red-oranges, Blues and violets are some of the suitable combinations (Dhingra, 2017).

Complementary Colors are the ones on the opposite sides of the color wheel. These colors offer the greatest contrasts, so their effects are bold and dramatic- Violet and yellow, Blue and Orange, Red and Green. Specific qualities have been linked to specific colors. For example, Violet, blue, and green stress reduction, pink's soothing effect, yellow's nervousness, orange increasing appetite and well-being, and red stimulating power (Dhingra, 2017).

Studies on various colors divulge that bright colors increase blood pressure, autonomic functions and pulse rate directing outward attention. In contrast, dark and softer colors create

calm effect directing inward attention (Chryssikou, 2014). However, there were no significant findings to determine that anxiety levels, lengths of stay, or medication requests were dependent upon the color of the patient's room (Edge, 2003).

2.4.11 Smoking rooms

Smoking bans may lead to challenges in psychiatric wards, more specifically because of higher prevalence of disruptive behavior as well as higher rates of smoking among psychiatric inpatients. (Lasser et al., 2000) Evidence is also available that assumes a direct link between assaultive behavior and smoking bans. Setting limits, such as denying off-site privileges or restrictions on cigarettes, were found to provoke aggression (Chou, et al., 2002).

Researchers recommend the smoking room to be, embedded in a psychiatric unit, ventilated to the outside air, and only available to psychiatric inpatients for a maximum of one cigarette per hour (Crockford, Kerfoot, & Currie, 2009).

2.4.12 Dayrooms

Dayrooms and common areas encourage social interaction and promote sense of community. Staff observation of the dayrooms should be facilitated and spaces used by patients should be close to the nursing station. A mix of seating arrangements that support social interaction should be located between different groups of patients. Smaller activity spaces including the dayroom create stronger sense of community (Shepley & Pasha, 2013).

2.4.13 Way-finding

Studies in general hospitals of patients and visitors have found that difficult way finding elicits stress (Carpman & Grant, 1993). Therefore, design approaches that promote easy way finding in psychiatric hospitals may lessen stress (Ulrich, et al., 2008).

2.4.14 Safety & Staff Surveillance

Staff visual access to patients is recommended at all times, especially individuals at risk of suicide, self-harm, or aggressive behavior. Physical objects and design features that can be exploited by aggressive or suicidal patients should be eliminated or safeguarded (Bowers, et al., 2012)

Locating stations in front of day rooms and providing large observation windows encourage staff to leave stations more frequently and spend increased time with patients in day rooms (Gross, et al., 1998). Skillful design and siting of staff stations, in addition to enhancing observation of day rooms, also can enable good visibility of other ward locations found to be frequent sites of assaults, including corridors and dining rooms (Chou, et al., 2002).

Safety measures in landscaping recommend; trees are to be located away from the buildings to prevent access to building roofs, landscape or decorative rocks that can be thrown and injure staff or other patients should not be used, and outdoor furniture should be deliberately integrated with hard landscape; such that they cannot be tampered as well as cannot be moved to create barricades or stacked upon to allow climbing over into windows or onto buildings (Dhingra, 2017).

2.4 SPACE STANDARDS & ERGONOMICS

Rehabilitation centers are types of specialized hospitals. The number of specialist hospitals is growing fast because of the increasing focus on individual types of treatment or medical fields: casualty, rehabilitation, allergies, orthopedics, gynecology, etc. Also included in this category are special clinics dealing with, for example, cancers, skin problems, lung conditions, psychiatric disorders, and the like. In turn, these feed residential rehabilitation centers, nursing homes, special schools and old people's homes (Neufert, et al., 2012).