

HIV HEALTHCARE FACILITY INTEGRATION. BUILDING THE CASE FOR BUSTING THE MYTHS & OPTIMIZING HIV PATIENT TREATMENT IN HOSPITALS

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ABSTRACT

AIDS and HIV positive patients require specialized healthcare facilitation due to nature of the disease and its social, cultural and contextual concerns amongst the society. As a result, the existing facilities with respect to the higher influx of patients are too short to meet the needs as well as fulfilling the medical. Mental. Psychological and social needs. Hence there was a need to explore the existing trauma of patients due to poor or negligible healthcare infrastructure to support them. The research explored the avenue with an objective to bridge the gap between the patients and the system towards enabling and developing consensus towards future needs and direction of healthcare facilities design to manage the burden of disease. Qualitative research methodology using questionnaires from three different patients with diversified sources of infection were contacted and explorative means were used to collect data from allied medical teams and later were analyzed with respect to design and spatial requirements baselining for such facilities. It was concluded that there were major gaps in design of such facilities apart from lack of mere existence as well as lack of understanding of the multifold psychological mental, physiological and social needs of the patients which require design interventions to help develop better solutions to these pivotal issues.

Keywords: Acquired Immuno Deficiency Syndrome (AIDS), Human Immunodeficiency Virus (HIV), Hospital Design, Pakistan, End-user Needs Assessment.

INTRODUCTION

AIDS stands for Acquired Immunodeficiency Syndrome and it is a chronic illness that leads to death due to opportunistic infections caused by HIV, which stands for Human Immunodeficiency Virus. HIV inflicts harm on the HIV host's T4 cells (CD4) which are important in the immune system of the body (Altaf et al., 2016). HIV over the years weakens the immune system, thus leading to a diminished quantity of CD4 cells, and this makes the body susceptible to infections. Left without medical intervention, HIV-caused infection transforms into the full-blown AIDS – the last state of HIV presence in the human organism when the immune system is considerably weakened (Hill et al., 2023).

HIV is an enveloped retrovirus that targets the essential components of the human immune system, T-helper cells, macrophages and dendritic cells. This results in a gradual breakdown of the body's immune system, and one then becomes prone to severe life-threatening opportunistic infections and other diseases such as cancers (Johnson et al., 1993). Even at present, HIV is easily transmissible through the exchange of infected

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blood, semen, vaginal fluids, and breast milk. Some of the main forms through which HIV may be transmitted include sexual contact without protection, sharing needles or syringes as well as through mother to child transmission especially through breast milk during nursing (Ebeogu et al., 2023).

AIDS is the stage of the body whereby HIV virus has impacted much of the bodies' immunity systems. Immunity at this stage is relatively low, and the body becomes vulnerable to infections and certain types of cancers (Sigel et al., 2020). AIDS is diagnosed when the CD4 cell count goes below 200 cells in a milliliter of blood or when there are signs of specific other diseases or cancers. Patients having AIDS can easily contract severe diseases together with a number of varieties of cancer, which do not usually affect any normal being (Andrulis et al., 1992).

According to the World Health Organization, the HIV/AIDS situation in Pakistan has not been severe as it is in other parts of the world, however, data shows an increase in the number of cases in the last few years (Kanu, Kanu, Tobin-West, Tobin-West, & Tobin-West, 2018). The National AIDS control Program (NACP) has revealed that there is an expansion in the Human Immunodeficiency Virus (HIV) positive population which requires efficient healthcare management (Maan et al., 2014). The low overall prevalence rate of the conditions may give a false impression of the population health where members of the public may not practice adequate measures on preventative health products, and health services. The highest number of people do not even know that they are HIV positive and thus the virus spreads on further (Palk et al., 2020).

In order to manage these challenges with respect to Pakistan, the healthcare facilities and the medical teams should be integrated in such a manner that these isolated and even socially discriminated patients could be brought together to the front end of the hospitals and respected facilities to enable them reach out for medical attention and treatment (Ahmed et al., 2019). Thus there was a need to understand the issues faced by the patients and the need for specialized spaces for their long term treatment as well as inclusion in the society to cope them with social-health and socio-economic challenges while they are still alive (M.Z. et al., 2011). The research objective was to engage the context based patients with respect to the local cultural, social and physical spatial challenges associated with AIDS / HIV positive patients and how architectural spaces could be a solution provider to these issues. The role of architecture is mostly overlooked and hence there existed a gap to be addressed through engaging the patients feedback towards their needs.

REVIEW OF LITERATURE

HIV and AIDS are defined in a somewhat different ways, and their effects on health are perceived differently as well. HIV is the virus that is in its initial stages and AIDS is the final stage of the disease, where the virus continues to multiply in the body without control. They should also note that HIV does not necessarily progress to AIDS within anyone who has the virus provided he or she takes adequate treatment (Nlooto, 2017).

The effects of HIV on an infected patient range greatly depending on the time of infection and whether the patient is on treatment. This is the period where many people show signs and symptoms resembling the common flu or flu like symptoms include fever, sore throat, and fatigue which is misleadingly referred to as acute retroviral syndrome (ARS), or primary HIV infection (M.Z. et al., 2011). These symptoms may be vague and could be looked like so many other diseases, especially ones that are non life-threatening. It builds and progresses in the body and will continue to replicate and destroy the CD4 cells, thus malfunctioning the immune system (Khanani et al., 2011).



Figure 01 Stages of HIV infected patient (WHO, 2008)

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HIV becomes asymptomatic, then progressive since it does not cure itself on its own. Despite being called an asymptomatic stage, the symptoms include fatigue, enlarged lymph nodes, fever, weight loss, and recurrent infections. In this stage, which is also known as clinical latency, the symptoms can persist for several years or even decades. It is the period where the virus is still able to replicate though at minimal rates throughout the body. The effected individual may occasionally have no symptoms or could have even mild ones (Rabold et al., 2021).

In order to understand the transition, HIV advances to AIDS, the immune system of the affected patient is compromised. It makes them vulnerable to infections and particular forms of cancers that normally a healthy immune system would counteract. Some of the major diseases that affect HIV/AIDS patients are tuberculosis, pneumonia, and several forms of fungal diseases (Godongwana, De Wet-Billings, & Milovanovic, 2021). There are also other AIDS related diseases, which include Kaposi's sarcoma and lymphomas which are kinds of cancers. The indications of these infections and cancers may sometimes manifest in severe and even life-threatening forms that have drastic and adverse effects on the patient's wellbeing and may require prolonged and rigorous therapy (Hawkes et al., 1992).

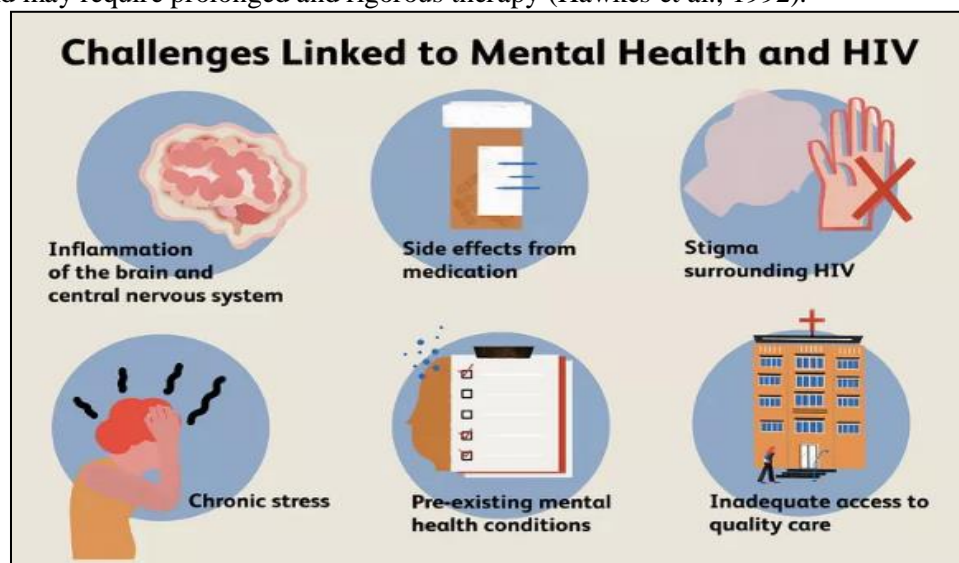


Figure 02 Mental Stresses associated with HIV (Buttignol, 2021)

Another area of this virus that cannot be overlooked is the psychological and social effects of HIV/AIDS. This can cause stress, anxiety, and depression to the individual involved mainly due to the diagnosis. HIV/AIDS causes victims to be discriminated against and stigmatized in the society, some are expelled from their workplaces, and face challenges in finding mates in the marriage (Yoshihara & Yoneoka, 2014). Undiagnosed patients present to health care facilities already in later stages of disease progression or comorbid illnesses, including HIV/AIDS, often making it difficult for patients to adhere to appropriate medical management plans (Dj et al., 2004).

There are three main aspects that form a comprehensive approach used in the management of HIV; these are medical treatment through use of ART, reviews by Physicians and alteration of ones' lifestyle. ART has a role of minimizing viral replication besides keeping an individual's immune system functional to deter the advancement to AIDS. This is pill-taking where one consumes a cocktail of HIV medicines consistently every day hence lowering ones viral load to the extent that cannot be transmitted to others. Today, the HIV virus can be managed with a proper regimen, allowing the afflicted to lead normal lives and have a life expectancy very close to the norm (Guidelines, 2015).

One of the most important tasks in combating the HIV virus is avoiding infection by the virus. While there is no known cure for HIV/AIDS, preventive measures are available such as practicing safe sex that can involve using condoms during sexual intercourse, getting tested for HIV regularly and practicing sexual abstinence or going for HIV counseling if one is not ready for a change in sexual behavior, not sharing needles or syringes because HIV can spread through contact with infected blood (Ali et al., 2017). PrEP for HIV stands

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for pre-exposure prophylaxis, which is a proven model for preventing the spread of HIV among highly at-risk patients. It involves the use of oral medication that has been found to be effective in greatly decreasing the chances of getting infected with HIV (Sharkey et al., 2014).

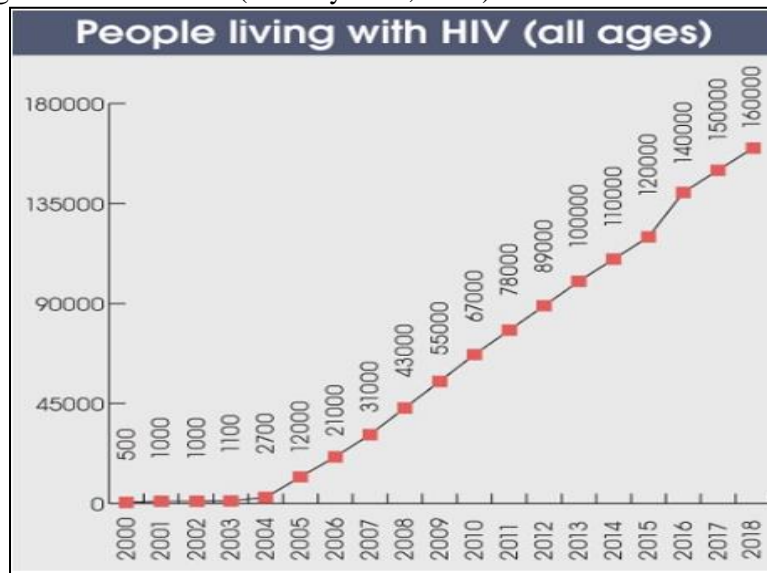


Figure 03 People living with HIV in Pakistan (Dawn News, 2024)

According to the World Health Organization, the HIV/AIDS situation in Pakistan has not been severe as it is in other parts of the world, however, data shows an increase in the number of cases in the last few years. The National AIDS control Program (NACP) has revealed that there is an expansion in the Human Immunodeficiency Virus (HIV) positive population which requires efficient healthcare management (Doka, Danjin, & Dongs, 2017). The low overall prevalence rate of the conditions may give a false impression of the population health where members of the public may not practice adequate measures on preventative health products, and health services. The highest number of people do not even know that they are HIV positive and thus the virus spreads on further (Kayigamba et al., 2012).

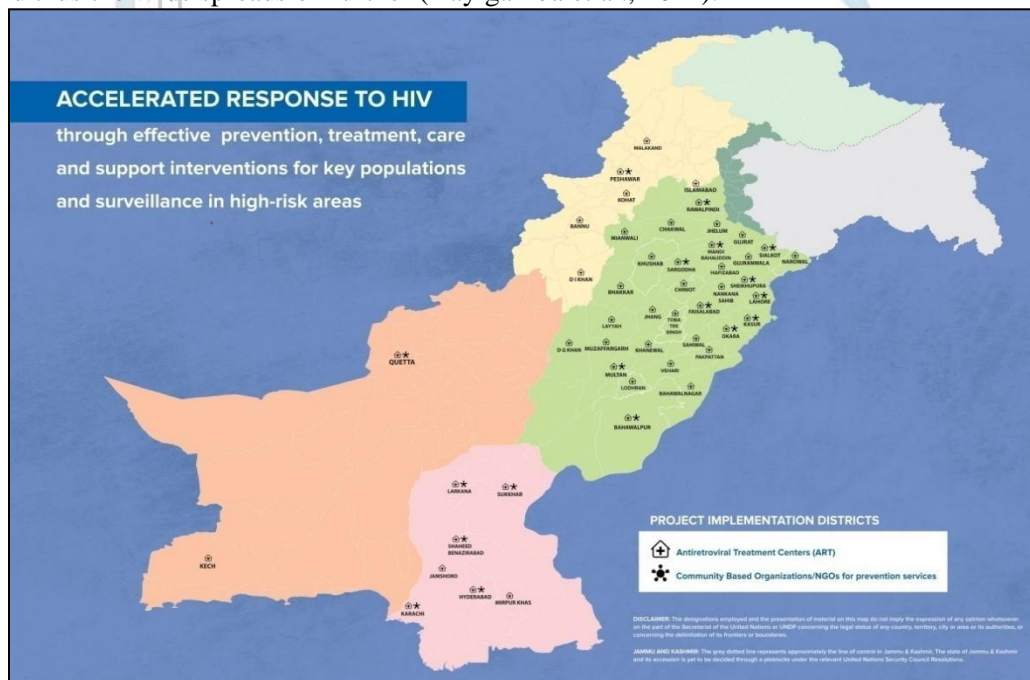


Figure 04 Accelerated Response (UNDP, 2023)

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The accessibility to proper treatment of HIV/AIDS in Pakistan is comprised due to several challenges in the healthcare sector. Lack of funding and sufficient facilities to expand service delivery remains a major challenge towards ensuring that all those in need of essential social services receive the necessary support and care. Currently, healthcare centers are not capable of providing adequate treatment for HIV/AIDS resulting from lack of proper drug stocks, skilled health workers, and functional diagnostic equipment. This leads to the following problems: unequal treatment and medical attention paid to the relatives/wards leading to poor outcome (Aizaz et al., 2023).

Apart from allied medical facilities, availability of specialists trained in the management of these patients is still lacking in the health sector. A lack of treatment for this specific disease equates to inadequate specialized and proper care that patients require; this results in the continued development of the disease and possible complications. Unlinking service provision of HIV to overall health care systems also challenges patient centered care because the patients have to seek services from different formal health care entities (Iliyasu et al., 2021).

Many cultures and religions harbors hatred for people infected and hence the rejected, looked down on an isolated. Besides, patients experience social prejudice to their psycho-emotional health as people avoid requesting tests and receiving treatment at clinics due to stigma. Discriminatory practices are therefore a real issue that cuts across almost all spheres of life including the healthcare domain. Patient embarrassment from doctors has been express by many that most of them receive poor treatment or flat out refused service. This is not only wrong but also unprofessional since it makes minority patients be reluctant to deal with their physicians, thereby complicating the disease's management (Rukhsana Khan, Arshia Bilal, 2019).

Most of the prevention measures as well as control strategies that have been implemented in Pakistan in relation to HIV/AIDS have been aimed at creating awareness, raising knowledge as well as enhancing access to the HIV/AIDS tests besides improving the HIV/AIDS treatment. These efforts have been spearheaded by the National AIDS Control Program (NACP) that has been charged with the responsibility of coordinating the process of integrating the strategies and measures for cutting on the transmission rates and enhancing the status of people living with the virus. Education is another strategy of the public health that entails campaigning various formal protective measures like use of condoms among the people or abstinence from use of drugs in a wrong way among the IV drug users. These measures are meant to prevent the key ways of disease spread, which concern unprotected intercourse and injections with contaminated needles (Dooley et al., 1992).

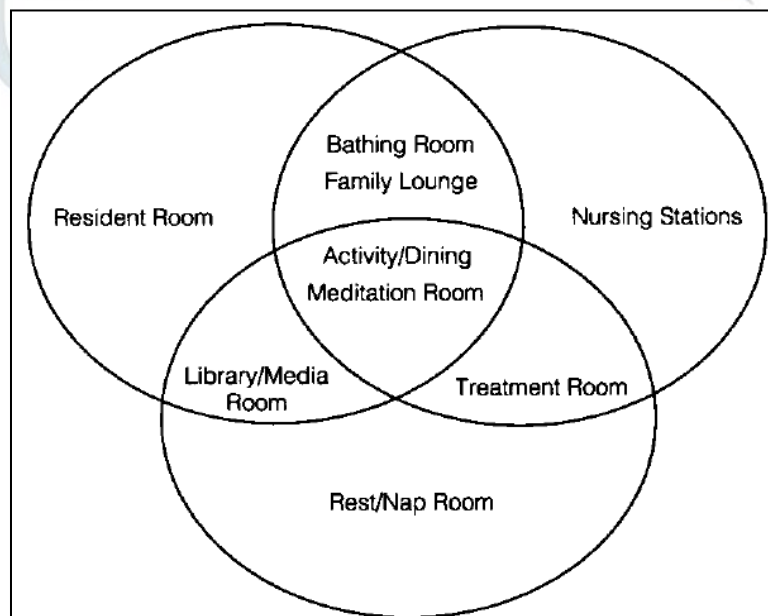


Figure 05 Major critical spaces to the Patients & functions (Chambers, 1993)

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Disease reduction through medication is another critical area of the response and so is the scale up of antiretroviral therapy (ART). ART makes the viral load to drop, boosts the immune system and eventually there will be a reduction in the transmission rates. Nevertheless, the Tariff of ART in Pakistan is not fixed, and many patients cannot start ART due to financial issues or lack of access to ART centers, or stock-out issues (Ayele et al., 2015). People infected with this disease and communities in Pakistan especially those with low income are affected in extraordinary ways. There are many unpleasant consequences for the infected people as far as they often face physical, emotional, and economical losses (Sekandi et al., 2011). This makes the progression of the disease a slow and painful way, characterized by the worsening of the symptoms and the appearance of various opportunistic infections, so the quality of life is greatly impaired. Employment issues also becomes a concern to patients as many get into some financial struggle with the ability to pay the costs of treatment and loss of income (Howard et al., 2016).

HIV/AIDS also affects families and communities in terms of several ways or rather burdens. Several factors such as the illness of a family member impacts on families' ability to finance and the level of 'found' energy they possess to cope with other hassles. The challenge that most affected children who lost parents to AIDS experience includes social amenities, stigmatization, and poverty. People from such communities may end up being affected in terms of productivity or job opportunities because the disease is likely to target those in the most productive ages (Carey & Dodson, 2001).

It becomes important to understand that tackling HIV/AIDS related issues in Pakistan cannot be overemphasized and that it needs to be done comprehensively. This has highlighted the need to provide proper public health promotion and education to reign in prejudice and encourage people to go for tests and treatment. The target for the public health campaigns for HIV/AIDS should therefore entail de-stigmatization, created through depicting factual information regarding the illness, correct practices regarding HIV/AIDS and the necessity of early diagnosis and treatment (Ahmed et al., 2019).

Other key areas that can help reduce the disease burden include the enhancement of the availability of healthcare services. This involves increasing the coverage of ART, increasing the ratio of human resource for health, and others: • capacity building and system strengthening of HIV services. Looking at the reach strategy applied at this level it is evident that mobile clinics and outreach programs will assist in taking health facilities to more individuals to increase the coverage. Such efforts require policy interventions that would help bridge the existing gaps and also spur change. The government should provide adequate funding towards HIV/AIDS programs, make essential drugs available, and ensure that gray HIV/AIDS related laws are effective in protecting the rights of AIDS patients. Partnerships and financial aid from international organizations are also specific for these initiatives (Maan et al., 2014).

HIV and architecture have correlation, for there is global study which shows that HIV/AIDS can recover from their sickness if they stay in quiet structures. This is because HIV replication can be managed then as explained under chronic HIV infection and therefore the life of a patient is elongated and the individual can be expected to live a normal average span. The individual affected with HIV who undergone early screening and undergone through the antiretroviral treatment might attain a normal life span. Consequently, changes in the parameters that define building will affect the associated life cycle of the patient. These are chiefly flexibility of spaces likely change in scene, adequacy for more facilities for care, homecare possibilities and life incidences with nature and easy access to halls. Architecture alone can presume a serene setting; nonetheless, the feeling of the patient to the setting is thought to engender it be deemed successful (Alemu & Alemu, 2014).

Understanding the parts of the interaction of the environment and the patient: An environment that positively acts on the behavioral pattern of the patient can be realized. However, the patient is also able to alter the environment and is therefore able to make him/her self comfortable and create a feeling that is not so overly formal and taxing on the patient. The atmosphere is perceived to be friendly and recommended from all angles and provides a comprehensive ambiance to the HIV/AIDS patients. They make the patient comfortable and do away with some social issues that are associate with the disease. Logically, color and light can open wide and immense and complicated influences on people and the feeling and behavior of

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people to the environment. Apart from this they can also be used in raising the rate of the recovery of the patients including HIV infected ones and in improving understandable spatial quality (Bulakh et al., 2020).

With reference to all therapy setting and all weights they engage search of the relations, connections and new meanings in the safe environment that provides transcendental perspective towards life and relations with others for space users. Hence, therapies like aromas therapy, physical therapy, agro therapy massage therapy should to be made within the building that can interest the person in many ways and also it covers perceptual, cognitive, emotional, physical, social and psychological domains. There should be provisions for gyms or abrest yoga sessions, libraries or reading rooms and so that they become happy to fight the disease and time. This paper will argue as to how the environment and particularly architectural structures and the landscape are vital in the healing process of a patient. By this we come to realize that when a doctor says a aids patient needs to be healed, it simply means that the man or woman needs to go on enjoying his or her life without thinking of death. The person stated that he feels stronger when he has an opportunity to enjoy nature in the space he treats patients (Rabold et al., 2021). A more stimulating environment outside the facility would in a way encourage the patient in the reduction of the HIV replication process. In as much as every human being have this natural instinct of wanting find nature and other forms of life (plants, animals, landscape etc), there is a certain natural feeling any HIV/AIDS patient who is facing a life threatening disease feels more alive in a more relaxed environment. There is a benefit if there are greener spaces within the design where one should ensure that it is done (Marawan et al., 2022). Overlapping spaces are required for educational purposes and people's assembly, group therapy, and contact with fellow travelers and relatives. Hence, developing multiple outdoor and indoor social areas for the patients with HIV/AIDS to attend according to their respective treatment can be rather beneficial for patients' good life. It is possible to combine various design elements for spatial configuration, such as the applications of different materials with different textures, color and space that appeals to people's five basic senses. These may include special tracks such as the reflexology track, healing gardens, water bodies and all these have an aspect of benefiting different sensory actions.

RESEARCH METHODOLOGY

With reference to the research objectives, following below research methodology was followed as shown below in the figure 05:

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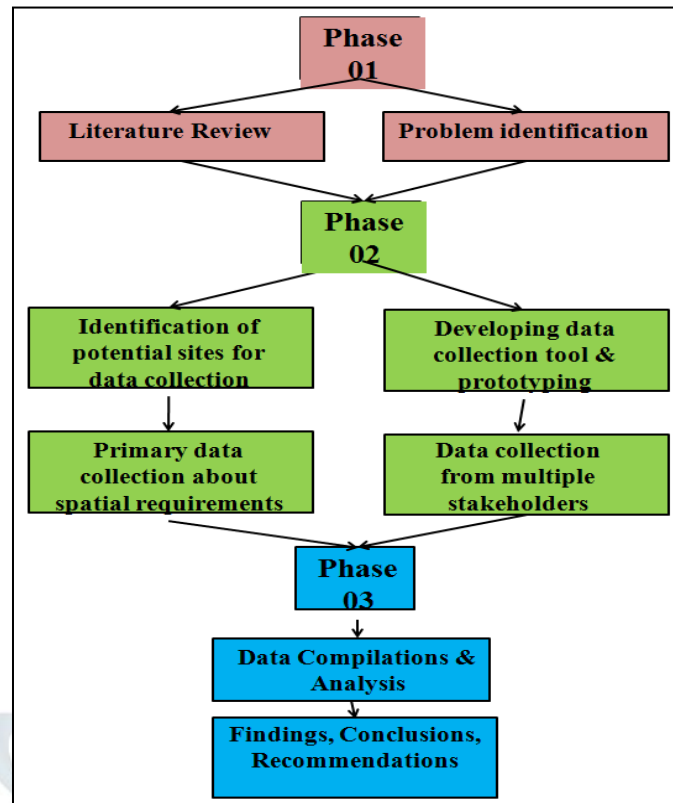


Figure 06 Phase-wise research program and major steps

In order to take the research exploration ahead, research methodology was devised as shown above in the figure 06. Since HIV patients or AIDS patients are not easy to access and have challenges related to social integration and communication so qualitative method of interview was followed where some common questions lead to the major aspect associated with exploration and optimization of healthcare facilities for medical teams and HIV patients was developed. Three initial HIV patients were interviewed that lead to communication with further more who have enlighten the research and needs of the patient with respect to local context and cultural barriers. Purposive sampling was adopted and later medical teams were also engaged. The data was collected on multiple days and true representation from all major end users were ensured.

DATA COLLECTION & ANALYSIS

In order to carry out the data collection and interviewing of patients was done using unstructured questionnaire and interview methodology was used. The data is shared below in Table 01:

Table 01 HIV patients data

S.No	Source of Infection	Response
01	Drug addiction	The first patient who was asked to take the interview was from Gulbahar Peshawar who was at the time at a healthcare charity office to collect drugs. Patient was using drugs at an early age, he had the drugs when he was young. He added that he was taken to Islamabad for normal treatment within two months of the diagnosis and then he was taken home. Despite the fact that he still has to be brought in frequently for booster shots of the medications for the sickness, he admitted that he is primarily, all right now and rarely uses narcotics again which has enabled him to secure a daily wage job for his

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		family of two girls and a son. He is one of the hundreds of IDUs in Pakistan alive with HIV/AIDS. However, based on the estimations of the NIAC Program, it arose that over 99% of them are male.
02	Infected through contaminated syringe	The second patient was a 42-year-old-Female HIV positive. Regarding her stance on her diagnosis, she was abruptly reduce when asked what she thought of the disease by responding that “it sounded like the end of the world”. She did not know how she contracted that disease and in the course of the trial she was surprised to realize that it had been transmitted through a contaminated syringe during her surgery. They pointed out that such social repercussions that come with the condition caused her more fear than the disease itself. She stated that she has received sounds looks and condemnation from society due to her diagnosis. She also added that in order not to have more cases like this, where a nurse perceives the patient’s perspective through culture-related biases, there is a need for people to be well-informed to eliminate prejudices, and for physicians to be adequately trained to manage such cases that require sensitivity.
03	HIV infected through uncontaminated needle	3rd patient was a teacher in Lahore, an average male who was diagnosed with AIDS. As I mentioned earlier, one year ago I was diagnosed with TB. I took the prescribed drugs and I finished them as prescribed by the health practitioner. A few days later, I caught a flu and went to see a doctor in CMH Lahore. Prescribed me with some drugs and said that this is caused by the weather and claimte. I resumed my duties but quickly developed severe symptoms. I moved from the work I was engaged in. He was admitted for next 2 weeks to undergo several tests. It came to pass me one evening, a nurse walked to my bed and placed a board above me. When I turn the page, HIV positive was written on it. This was removed the next day when a senior doctor came along and noticed the sign. It elicited a reaction from him whereby he wanted to know why the nurse had written that particular message on the board and then proceeded to order the nurse to place a red board instead. Later after discussion with a senior doctor, He said that one of your tests indicates that you are infected with the HIV virus. They said that the medications that are used for HIV are not found in local pharmacies and in common public hospitals. They introduced me to Pakistan Institute of Medical Sciences PIMS, Islamabad for my treatment. They informed me that I have HIV and that the virus is in my system and that I should be aware that ‘HIV stands for human immunodeficiency virus.’ It was to be converted to AIDS only when the virus would triumph over my body. They said that these drugs will enable one to stop virus from reproducing. The doctor who was attending me showed me that we have attended to many patients who came in almost lifeless, some even having to be carried on stretcher. They were treated and given a calm environment after that is now they are living the life full of activities and health. Although people interacting most frequently with doctors are sick, doctors can be defined as very kind and sympathetic people. They check me daily. Main reason for such condition was caused by a bad needle I was given when I was being tattooed on my arm. In my opinion, more doctors should know about AIDS among patients. It is assumed that instead of doing so many tests they should diagnose it promptly. Proper diagnosis which should have been used is as under: medicine must be prepared in Pakistan and must be made available so its cost effective and easy to access and purchase.

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As shared above in table 01, it was concluded that awareness and care is the first key to fight with HIV/AIDS in Pakistan. Then comes our health system which needs to be improved to a large extent. Hence later discussion was done with medical team members engaged with the treatment of these patients and inquired about our current healthcare system and facilities with focus on the HIV patients and treatment of AIDS.

In order to opt for that, one local case study was also visited and explored. Although there are 33 AIDS/HIV centers in Pakistan but these are not up to the mark as they refer their patients to wards of other hospitals. Only there is one AIDS center in Punjab that has proper facilities. Analysis of this center is as follow:

Department of AIDS Patients, AMEER UD DIN COLLEGE

This building is being made under PACP. It serves as a testing department for the verification and awareness OF HIV/AIDS. It is mainly located in Lahore with an area of 16000 SQFT and was established in 2016. This department only takes samples of patients and if they get HIV/AIDS, it refers them to any aids ward in any hospital. So, only users come here for testing and then collecting their reports. Otherwise, staff of the building uses the building more.



Figure 07 AIDS Department, AMEER UD DIN COLLEGE (Researcher, 2022)

The PACP was then launched in 1998 with an aim of teaching an epidemic and avoid spread of HIV among bridging and the rest of the population. This paper was intended to achieving the goals and objectives of PACP in order to provide medical and social services for the individuals with HIV/AIDS, as well as to keep them free from stigma and discrimination following the UNAIDS, WHO and UNICEF guidelines. The Punjab AIDS Control Program is on the forefront of the provincial tier assistance towards the HIV/AIDS epidemic in Punjab. It is an activity programme in operation under the Primary & Secondary Healthcare Department, Government of Punjab. This can be such a daunting task as the ultimate goal is to avoid new transmissions in the general population through educating and communicating and to ensure that more and more people embrace the HIV tests, let alone removing the embarrassment that comes along with the disease.

It's through these professions that the program provides a comfortable screen for screening placed with an aim of enhancing the mental health of people seeking the screening services and confidentiality is strictly maintained. This building consist of four stories and exterior parts are constructed by using local material and the interior parts are constructed by using modern material such as rope lightning, glass tiles etc This department is the only best department which is available for HIV/AIDS treatment in Punjab but unfortunately this treatment is only restricted for testing and medicines as there is no ward for treatment But it is a small project as compared to L.W.H. But concerning the architecture of this department is very relaxing and quite alluring.

It was evident based on the discussion with the patients as well as the healthcare facility and medical teams that the existing facilities lack integration for design of HIV considerations with respect to the spaces required for patients and their treatment. Considering review of literature and the set forth objective of the study, some major aspects based design options were shared and shown to the respondents as shown below and their feedback with respect to these spaces were taken forward. These are as follows:

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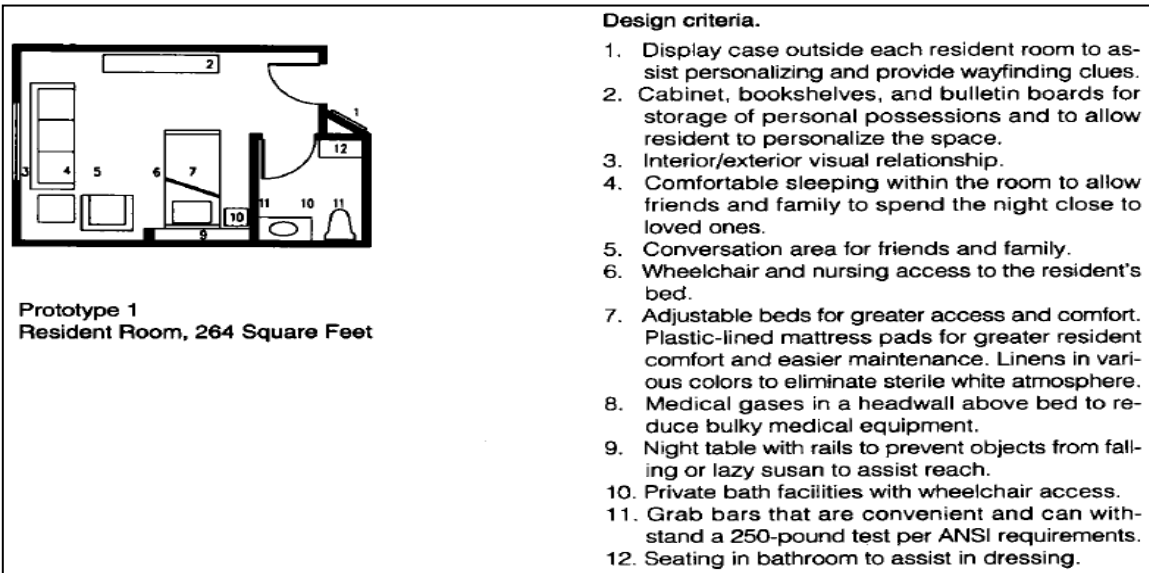


Figure 08 Resident Room Proposal (Chambers, 1993)

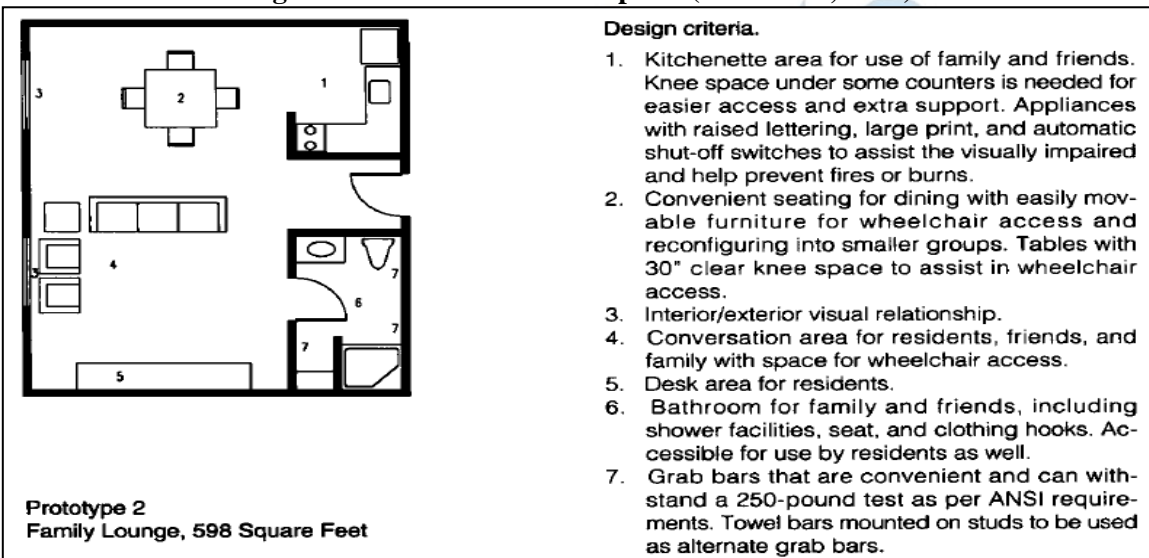


Figure 09 Family Lounge for attendants & patient Proposal (Chambers, 1993)

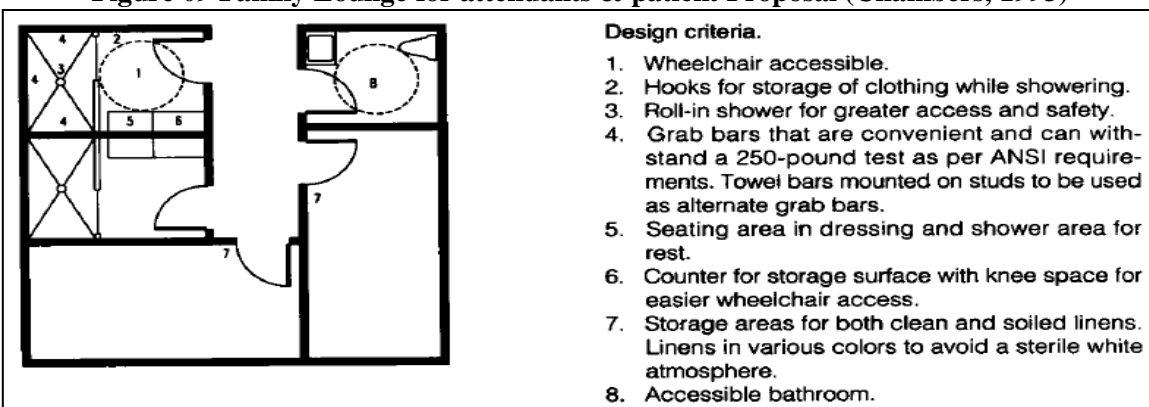


Figure 10 Bathing Room Facility (Chambers, 1993)

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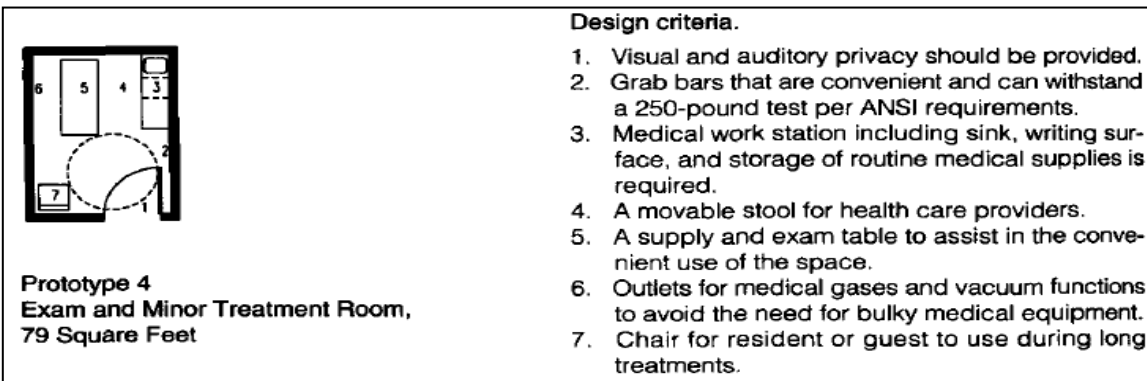


Figure 11 Examination & Minor treatment facility (Chambers, 1993)

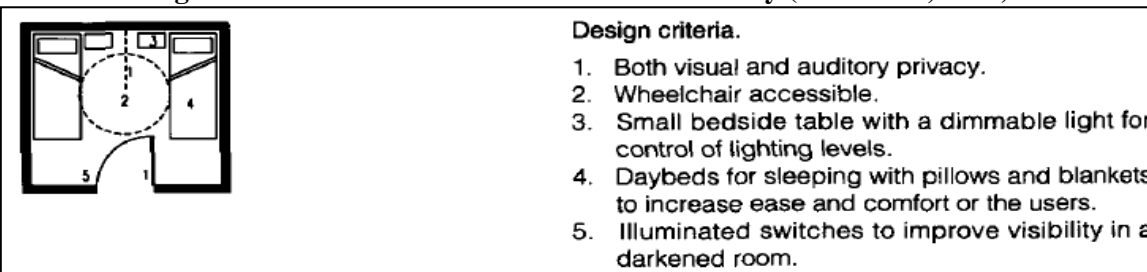


Figure 12 Rest / Nap Room (Chambers, 1993)

Based on the above shared pre-designed proposals highlighted the basic design need of the spaces as per perceived earlier. Respondents agreed to these spatial configurations with focus on integration of the local cultural and climatic needs and conditions to enable better design configurations with the special needs of the facility design.

DISCUSSION & ANALYSIS

Based on the discussion and the design exploration based needs of the patients, it was evident that integration of the design requirements must be explored and engagement of the end users should be developed in the design process of the facilities and their future expansion as well as upgradation. The major conclusions and the research findings along with future recommendations are shared below.

RESEARCH FINDINGS & CONCLUSIONS

Some of the major findings of the research exploration are shared below:

1. The HIV epidemic in Pakistan is a major threat to existing healthcare system due to its lack of integration and sensitization for HIV patient needs.
2. There is also a need to consider training of the HIV medical teams to be better prepared for engagement, communication, diagnosis, treatment and guidance of the patients.
3. Since Pakistan has a diversified culture and social settings, hospitals and HIV patient centers or departments must consider these social challenges inclusion in the design of these spaces.
4. Green spaces and landscape along with serene environments are an integral part of the facility.
5. Social guidance and mentoring is also a must for the patients and their attendants.
6. Medical teams must be inclusive to these aspects and try to resolve these issues.
7. Existing spaces to be used for such diseases and patients must be evaluated first and then through design interventions and modern day design technologies to review and improve design must be engaged like Virtual reality or animation methods to be deployed.
8. Specialized facilities must focus on how these critical concerns to be addressed prior to developing needs for the spaces and then their later integration.

RECOMMENDATIONS

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Following were the major recommendations from the research exploration:

1. Design for HIV / AIDS patient must configure nature and environment in it.
2. Enhance the design future requirements and keep design flexible for future needs and requirements.
3. Isolation and allied aspects must be considered.
4. Provide proper seating and furniture based on the designed spaces for attendants along with visitors and patients for waiting in the central corridor.
5. Buffer zoning to be introduced as per needs of the patients as well as the attendants.
6. Natural lighting, cross ventilation, fresh air inclusion, social inclusion and communication enhancement along with religious corner and isolation spaces be integrated to fulfill diversified needs of the patients.
7. Introduce indoor color arrangements and enhancements through design and aesthetic elements like paintings, calligraphy, etc.
8. Harness solar energy for energy optimization for the improved artificial lighting and HVAC load.
9. Design must correlate with existing building and future expansion must be kept in mind while planning for such expansions and additions.

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