

How do Patients Receiving Antiretroviral Therapy (ART) at A Dedicated ART Center in Bhagalpur Demonstrate Observable Patterns and Outcomes in an Observational Study?

**Raj Kamal Choudhary¹, Amrendra Kumar Singh², Shubham Ojha³, Vinay Kumar Verma⁴,
Avinash Kumar⁵, Ravi Kishan Bhagat⁶, N K Gupta⁷, Abhilesh Kumar⁸, Anjum Pervez⁹,
Sidratil Fatima¹⁰**

¹Jawaharlal Nehru medical college, Bhagalpur ,bihar, Choudhary.drrajkamal@gmail.com

²Jawaharlal Nehru medical college, Bhagalpur ,bihar, akschinku@gmail.com

³Jawaharlal Nehru medical college, Bhagalpur ,bihar , shubham19ojha96@gmail.com

⁴Jawaharlal Nehru medical college, Bhagalpur ,bihar, vkumarverma991@gmail.com

⁵Jawaharlal Nehru medical college, Bhagalpur ,bihar, ainashsingharya1@gmail.com

⁶Jawaharlal Nehru medical college, Bhagalpur ,bihar, Ravikishanbhagat@yahoo.in

⁷Assistant Project Director, Bihar State AIDS Control Society, Health & Family Welfare, Sheikh pura, Bihar, Patna
apd_bsacs@bihar.gov.in

⁸HOD, Department of Medicine, Jawaharlal Nehru Medical College, Bhagalpur, drabhilesh300@gmail.com

⁹Medical Officer, Dialysis Department, Jawaharlal Nehru Medical College, Bhagalpur, anjum5198@gmail.com

¹⁰D.Y .Patil Medical College & Research Center. Pimpri. Pune.

sidratilfatima@ Gmail.com

KEYWORDS

NACO, HIV/AIDS, India, dedicated ART of Bhagalpur , Stigma faced by patients

ABSTRACT

Ours study provides a comprehensive overview of the HIV/AIDS landscape in Bhagalpur, Bihar, focusing on patients receiving Antiretroviral Therapy (ART). Conducted over six years, involving 10,355 participants, the research explores demographic details, treatment outcomes, and treatment-seeking behaviors. Notably, 100% participation reflects the community's engagement, with detailed analyses of gender-specific registrations, treatment initiation, and outcomes. The study delves into patients' geographic origins, travel distances, and factors influencing their preferences. Insightful discussions on perceptions regarding HIV and ART underscore societal challenges. Positive aspects include family support and awareness, yet concerns like substance use and travel barriers need attention. The study concludes with recommendations for targeted interventions to enhance HIV/AIDS care effectiveness. Limitations highlight the need for broader community comparisons, emphasizing the study's contribution to shaping future research and healthcare strategies. The acknowledgment expresses gratitude for mentorship and collaborative efforts in completing the project.

1. Introduction

The National Aids Control Organization (Naco) Is A Program In India Dedicated To The Prevention, Control, And Management Of Hiv/Aids In The Country In 1992, India Took A Significant Step Forward With The Initiation Of Its Inaugural National Aids Control Programme (1992-1999). This Marked A Strategic Response To The Growing Public Health Crisis, Aiming To Curb The Transmission Of The Virus, Provide Essential Care And Support To Those Affected, And Reduce The Societal Stigma Associated With Hiv/Aids. Integral To The Implementation And Oversight Of This Ambitious Program Was The Establishment Of The National Aids Control Organization (Naco).

Naco, Created In 1992, Assumed A Central Role In Orchestrating And Executing The Multifaceted National Aids Control Programme. The Organization Played A Crucial Role In Formulating Policies, Designing Interventions, And Coordinating Efforts At Both The National And Regional Levels. Its Mandate Extended Beyond Immediate Medical Concerns To Encompass Awareness Campaigns, Education, And The Promotion Of Safe Practices To Prevent New Infections. The Formation Of Naco Not Only Signified The Indian Government's Commitment To Addressing The Challenges Posed By The Hiv/Aids Epidemic But Also Underscored The Need For A Dedicated Agency To

Spearhead The Country's Response. Over The Years, Naco Has Evolved, Adapting Its Strategies To The Changing Landscape Of Hiv/Aids In India, And Remains Instrumental In The Ongoing Efforts To Prevent, Control, And Manage The Impact Of The Disease Across The Nation

2. Materials And Methods

An Easy Way To Comply With The Conference Paper Formatting Requirements Is To Use This Document As A Template And Simply Type Your Text Into It.

Study Setting

It Is A Descriptive Study Conducted Over A Period Of 6 Years, From April 2008 To The Present Day, January 2024.

Participants

The Study Population Consisted Of Patients From Many Districts Of Bihar, Such As Munger, Banka, Jamui, Sahibganj, Saharsa, Madhepura, Katihar, Purnia, Araria, Deoghar, Godda, Dumka, Begusarai, Khagaria. And Nearby Districts.

Ethical Considerations

The Study Received Approval From The Scientific And Ethics Committee Of Jlnmch, Bhagalpur. Participants' Data Confidentiality Was Strictly Maintained. The Investigator Approached Potential Subjects, Providing Them With Detailed Information About The Study. Informed Consent Was Obtained From Those Willing To Participate. Subsequently, Participants Who Consented To The Study Underwent Interviews Using A Pretested Structured Questionnaire.

Data-Collection Tool

The Questionnaire Encompassed Various Sociodemographic Factors, Including Age, Gender, Education, Occupation, Socioeconomic Status, Family Composition, And Place Of Residence. Additionally, Clinical Information Such As Received Treatment, Experienced Side-Effects, Health Status, And Cd4 Count Was Collected. The Study Delved Into The Treatment-Seeking Behavior Of Participants, Investigating Reasons For The Delay In Initiating Antiretroviral Therapy (Art). Factors Explored Included Reasons For Choosing The Specific Center, Individuals Accompanying The Participants, Distance From The Residence To The Center, Mode Of Travel, And Incurred Expenses.

The Examination Extended To Assessing Family And Government Support For The Participants, Along With Their Perceptions Regarding Hiv And Art. In This Study, The Term "Delay In Initiating Art" Referred To The Extra Time Taken By Patients Between Receiving Advice For Art From The Physician And The Actual Initiation Of Treatment. Any Duration Exceeding One Month Was Considered A Delay In Commencing Treatment. Moreover, The Questionnaire Captured Details On Alcohol And Tobacco Consumption, As Well As Drug Use.

Statistical Analysis

The Sociodemographic And Other Details Were Represented As Categorical Variables, Presented In Percentages. The Statistical Analysis Was Conducted Using Spss, Version 20.0.

3. Results and Discussion

A Comprehensive Study Involved The Observation Of A Total Of 10,355 Patients Who Had Been On Antiretroviral Therapy (Art) For A Minimum Of Six Months. Remarkably, The Entire Patient Population, Constituting 100%, Willingly Agreed To Take Part In The Study. These Patients Primarily Hailed From Bhagalpur And Its Surrounding Districts, With A Few Participants Also Coming From More Distant Locations.

The Sociodemographic And Clinical Particulars Of The Study Participants Are Delineated Below, Shedding Light On Both The Demographic Characteristics And The Clinical Aspects Of The Individuals Under Scrutiny.

1. Total Registration (26/04/2008 - 31/12/2023)

- Male: 5710
- Female: 3923
- Child Male: 442
- Child Female: 280
- Total: 10355

This Section Provides The Total Number Of Individuals Registered In The Specified Time Period, Categorized By Gender And Age Group.

2. Total Deaths:

- Total Deaths: 556

Indicates The Total Number Of Individuals Who Have Died.

3. Initiated On Art:

- Initiated On Art: 8201

Represents The Total Number Of Individuals Who Have Initiated Antiretroviral Therapy (Art) During The Specified Time Period.

4. Lost To Follow-Up (Lfu):

- Lfu: 1195

Indicates The Number Of Individuals Who Have Been Lost To Follow-Up, Meaning They Have Not Continued With Their Treatment And Their Status Is Unknown.

5. Transfer Out:

- Transfer Out: 403

Represents The Number Of Individuals Who Have Transferred Out To Another Location For Continued Treatment.

6. Total Treatment Start:

- Male: 4645
- Female: 3013
- Child Male: 342
- Child Female: 201
- Total: 8201

Indicates The Total Number Of Individuals Who Have Started Treatment, Categorized By Gender And Age Group.

7. Alive On Art:

- Male (18-84): 1562
- Female (18-77): 1294
- Child Male (1-17): 134
- Child Female (1-17): 81
- Total Alive On Art: 3071

Represents The Number Of Individuals Who Are Still Alive And On Art, Categorized By Gender And Age Group.

8. Deaths:

- Male (18-84): 1020
- Female (18-77): 375
- Child Male (1-17): 43
- Child Female (1-17): 36
- Total Deaths: 1474

Breaks Down The Number Of Deaths By Gender And Age Group.

9. Lost To Follow-Up (Lfu):

- Male (18-84): 456
- Female (18-77): 282
- Child Male (1-17): 32
- Child Female (1-17): 20
- Total Lfu: 790

Breaks Down The Number Of Individuals Lost To Follow-Up By Gender And Age Group.

10. **Transfer Out:**

- Male (18-84): 1607
- Female (18-77): 1062
- Child Male (1-17): 133
- Child Female (1-17): 64
- Total Transfer Out: 2866

Breaks Down The Number Of Individuals Transferred Out By Gender And Age Group.

11. **Marriage Status:**

- Marriage Status: 5000

Indicates The Total Number Of Individuals And Their Marriage Status.

12. **Cd4 Count:**

- Minimum Cd4 Count: 100
- Maximum Cd4 Count: 2727

Provides Information On The Cd4 Count, With The Minimum And Maximum Values Recorded.

These Lines Collectively Present A Detailed Overview Of The Hiv/Aids-Related Data, Including Registrations, Treatment Outcomes, And Additional Demographic Information.

Table 1. Patients Are From Following Places And Its Distance From Art Center

No	District Name	Number Of Patient	Distance (Km)
1	Araria	20	130
2	Banka	658	50
3	Begusarai	18	120
4	Bhagalpur	1335	0
5	Darbhanga	3	198
6	Dumka	2	120
7	Godda	69	73
8	Jamui	13	108
9	Kaimur	2	470
10	Katihar	57	85
11	Khagaria	76	85
12	Kishanganj	7	154
13	Lakhisara-I	34	130
14	Madhepura	234	95
015	Munger	336	103
16	Patna	4	250
17	Purnea	90	80
18	Saharsha	61	110
19	Sahebganj	25	75
20	Supaul	13	130

Title And Author Details

Title Must Be In 24 Pt Regular Font. Author Name Must Be In 11 Pt Regular Font. Author Affiliation Must Be In 10 Pt Italic. Email Address Must Be In 9 Pt Courier Regular Font.

Table 2. Registered Patients In The Art Centre Of Bhagalpur Jlnmch

Total Registration (26/04/2008 - 31/12/2023):	
Males	55.15%
Female:	37.86%
Child Male	4.27%
Child Female	2.71%
Total Treatment Start	
Male:	56.64%
Female:	36.73%
Child Male:	4.17%
Child Female:	2.45%
Alive On Art:	
Male (18-84):	50.85%
Female(18-77):	42.10%
Child Male	4.36%
Child Female	2.63%
Deaths:	
Female (18-77):	25.46%
Male (18-84):	69.25%
Child Male (1-17):	2.92%
Child Female (1-17):	2.44%
Lost To Follow-Up (Lfu):	
Male (18-84):	57.72%
Female (18-77):	35.82%
Child Male (1-17)	4.05%
Child Female (1-17)	2.53%
Transfer Out:	
Male (18-84)	56.02%
Female (18-77):	37.07%
Child Male (1-17):	4.64%
Child Female (1-17)	2.23%
Total Deaths: 5.37% Lost To Follow-Up (Lfu): 11.54%	Transfer Out: 3.89% Initiated On Art: 79.18%

Treatment Seeking Behaviors

The Research Delved Into The Treatment-Seeking Behavior Of The Participants, As Detailed In Table 2. The Exploration Encompassed An Investigation Into The Factors Contributing To Delays In Initiating Antiretroviral Therapy (Art). The Study Examined The Reasons Behind The Choice Of The Treatment Center, The Individuals Accompanying The Subjects, The Distance Traveled, The Mode Of Transportation, And The Financial Expenditure Per Visit. Additionally, The Study Evaluated The Role Of Family Support During Follow-Up Visits And The Process Of Drug Collection.

Remarkably, Approximately One-Fifth Of The Subjects Experienced A Delay In Commencing Art Despite Receiving Advice To Do So. The Primary Reasons For This Delay Were Identified As Follows: Depression (33%), Fear Of Stigma (33%), Apprehension Regarding Disclosure To Family Members (25%), And Concerns About Potential Side Effects (8%).

The Study Further Probed Into The Factors Influencing Patients' Preference For The Specific Art Center. Approximately 55% Of Participants Cited Comfort As A Significant Factor, While 41% Emphasized The Importance Of Confidentiality And Privacy. For An Additional 4%, The Center's Proximity To Their Location Played A Pivotal Role In Their Choice. Notably, All Participants Adhered To A Monthly Schedule For Drug Collection, With 96% Expressing Satisfaction With The Convenience Of Monthly Visits.

This Comprehensive Analysis Sheds Light On The Nuanced Aspects Of Patients' Decision-Making Processes And The Factors Influencing Their Adherence To Art, Providing Valuable Insights Into The Dynamics Of Treatment-Seeking Behavior In The Context Of Hiv/Aids Care.

Variable	Reason	Percentage
Reason For Delay In Treatment Are Mostly	Depression	33
	Advice Stigma	33
	Fear Of Side-Effects	8
	Fear Of Disclosure	25
Distance Of Art Centre (Km)	<30	25
	31-70	36
	71-110	35.4
	>110	3.6
Reason For Preferring This Art Of Bhagalpur	Comfortable	57
	Nearest Health Facility	4
	Confidential (Far From Ome)	13
	Comfortable And Onfidential	26
Accompanying Person To The Art Centre	Yes	48
	No	52
Person Collecting Art Drugs	Self	70
	Others	30

Perceptions Regarding Hiv And Art In Bhagalpur

Perceptions Regarding Hiv And Antiretroviral Therapy (Art) In Bihar Reveal A Complex Landscape Shaped By Diverse Factors. Stigma And Discrimination Associated With Hiv/Aids Persist As Significant Challenges, Impacting The Willingness Of Individuals To Seek Testing And Treatment. Misconceptions And Lack Of Awareness Contribute To The Perpetuation Of Stigma, Hindering Open Discussions About The Virus. Moreover, There May Be Cultural And Societal Barriers That Affect The Acceptance Of Art. Addressing These Challenges Requires Targeted Educational Campaigns, Community Engagement, And Healthcare Interventions Aimed At Dispelling Myths, Reducing Stigma, And Fostering A Supportive Environment. Additionally, Improving Accessibility To Testing And Treatment Facilities, Ensuring Confidentiality, And Enhancing The Overall Understanding Of Hiv/Aids Can Contribute To Transforming Perceptions And Enhancing The Effectiveness Of Art Programs In Bihar. Ongoing Efforts Should Focus Not Only On Medical Aspects But Also On Addressing The Broader Socio-Cultural Context To Promote A More Inclusive

And Informed Approach To Hiv And Art.

Limitations

While This Study Achieved A Commendable Response Rate Among Patients Seeking Care For Hiv In A Tertiary-Care Center, The Insights Into Treatment-Seeking Behavior Are Constrained To Those Individuals Currently Undergoing Treatment. The Study Does Not Provide A Comparative Analysis With Other People Living With Hiv/Aids (Plha) In The Community Who Are Not Receiving Care. Furthermore, The Absence Of Data On Measures Of Disease Progression And Immune System Response, Such As Viral Load, In The Studied Patients Limits The Examination Of Their Relationship With Other Factors. Consequently, The Scope Of Understanding The Broader Context Of Hiv Care-Seeking Behavior Is Restricted, Emphasizing The Need For Future Research That Encompasses A More Comprehensive And Diverse Patient Population.

The Comprehensive Study Conducted On The Registered Patients In The Art Center Of Bhagalpur Jlnmch, Involving A Total Of 10,355 Individuals On Antiretroviral Therapy (Art) For At Least Six Months, Provides An In-Depth Analysis Of Various Aspects Related To Hiv/Aids Care. The Remarkable Participation Rate Of 100% Underscores The Willingness Of The Patient Population To Engage In The Study, With A Majority Hailing From Bhagalpur And Its Neighboring Districts. Additionally, The Inclusion Of Participants From Distant Locations Enhances The Study's Representativeness. The Sociodemographic And Clinical Details Presented In The Study Offer A Nuanced Understanding Of The Individuals Under Scrutiny. The Data Encompasses Gender-Specific Registration, Treatment Outcomes, And Demographic Characteristics, Providing Valuable Insights Into The Diverse Dynamics Of Hiv/Aids Care. The Detailed Breakdown Of Registration, Treatment Initiation, And Outcomes By Gender And Age Group Sheds Light On The Distribution Of The Patient Population. Notably, The Analysis Of Treatment Outcomes, Including Deaths, Individuals Lost To Follow-Up, And Those Transferred Out, Offers A Comprehensive Perspective On The Challenges And Successes Of Art

Implementation. The Examination Of Patients' Geographical Origin And Travel Distances To The Art Center Further Enriches The Study. This Data Not Only Highlights The Catchment Area Of The Art Center But Also Underscores The Dedication Of Individuals Who Travel Varying Distances For Their Treatment. The Discussion On Treatment-Seeking Behaviors, Encompassing Reasons For Delays In Art Initiation, Preferences For Specific Art Centers, And Factors Influencing Drug Collection, Provides A Qualitative Dimension To The Study. Understanding Patients' Perspectives, Concerns, And Preferences Is Crucial For Designing Targeted Interventions That Enhance Adherence And Overall Care. The Additional Focus On Perceptions Regarding Hiv And Art In Bihar Adds A Broader Societal Context To The Study. Stigma And Misconceptions Emerge As Significant Challenges, Emphasizing The Need For Multifaceted Approaches That Address Not Only Medical Aspects But Also Sociocultural Factors. The Study Calls For Ongoing Efforts, Including Educational Campaigns And Community Engagement, To Transform Perceptions And Create A More Supportive Environment For Individuals Living With Hiv/Aids. In Conclusion, This Comprehensive Study Offers A Detailed And Insightful Exploration Of The Hiv/Aids Landscape In Bhagalpur, Bihar. The Findings Contribute Valuable Knowledge For Both Healthcare Practitioners And Policymakers, Facilitating The Development Of Targeted Strategies To Enhance The Effectiveness Of Art Programs And Improve The Overall Well-Being Of Individuals Affected By Hiv/Aids.

4. Conclusion

The Findings From This Study Involving Individuals Receiving Antiretroviral Therapy (Art) Underscore Several Positive Aspects Within The Context Of Hiv/Aids Care. Noteworthy Among These Are The Presence Of Strong Family Support, Heightened Awareness Regarding Their Disease Status, A Comprehensive Understanding Of Treatment Effects, And The Existence Of High Levels Of Support And Trust In The Healthcare Providers, Including Doctors And Staff. Despite These Positive Dimensions, The Study Also Brings To Light Certain Issues That Warrant Attention And Intervention. Among These Concerns Are The Prevalent Use Of Alcohol And Tobacco Among The Art Recipients. Additionally, The Challenges Of Traveling Long Distances For Drug Collection Emerge As A Noteworthy Issue That May Impact Treatment Adherence. The Study Also Highlights The Persistent Fear Of Stigma And Death, As Well As Concerns Regarding The Future Among The Individuals Under Scrutiny. In Order To Enhance The Overall Effectiveness Of Hiv/Aids Care, Addressing These Identified Issues Is Imperative. Interventions And Support Programs Should Be Designed To Tackle Challenges Related To Substance Use, Mitigate The Burden Of Traveling For Treatment, And Provide Psychological And Emotional Support To Alleviate Fears And Concerns About Stigma, Death, And The Future. By Addressing These Specific Issues, Healthcare Providers And Policymakers Can Contribute To A More Comprehensive And Patient-Centered Approach To Hiv/Aids Care, Fosterin

Reference

- [1] F Balasundaram, Abyramy, et al. "Socioepidemiologic profile and treatment-seeking behaviour of HIV/AIDS patients in a tertiary-care hospital in South India." *Journal of health, population, and nutrition* 32.4 (2014): 587. J. Breckling, Ed., *The Analysis of Directional Time Series: Applications to Wind Speed and Direction*, ser. *Lecture Notes in Statistics*. Berlin, Germany: Springer, 1989, vol. 61.
- [2] Meena, Sadhana, et al. "Epidemiological profile of HIV patients attending ARTC of a tertiary care hospital in Jaipur, India." *MGM Journal of Medical Sciences* 7.4 (2020): 209212. M. Wegmuller, J. P. von der Weid, P. Oberson, and N. Gisin, "High resolution fiber distributed measurements with coherent OFDR," in *Proc. ECOC'00*, 2000, paper 11.3.4, p. 109.
- [3] Halli, Shiva S., and Rajeshwari A. Biradar. "Sexual health and treatment seeking behaviour among currently married women living with HIV/AIDS in Karnataka, India." *Journal of HIV/AIDS & Social Services* 19.2 (2020): 192-203. (2002) The IEEE website. [Online]. Available: <http://www.ieee.org/>
- [4] Rathore, Mommana Ali, et al. "Health Care Seeking Behavior among Newly Diagnosed Human Immunodeficiency Virus Cases in Rawalpindi." *Pakistan Armed Forces Medical Journal* 70.5 (2020): 1522-27
- [5] Aung, Hsu Nwe Yee, et al. "Health seeking behavior and experiences related to HIV treatment of people living with HIV (PLHIV) in Yangon, Myanmar." *Pharmaceutical Sciences Asia* 48.4 (2021).
- [6] Caliri, Juliano de Souza, et al. "Factors related to the perceived stigmatization of people living with HIV." *Revista da Escola de Enfermagem da USP* 51 (2017): e03248.
- [7] Kalan, Mohammad Ebrahimi. "in People Living With HIV/AIDS (PLWHA) in Iran."
- [8] Piegas, E. M., et al. "Factors associated with adherence to antiretroviral therapy in HIVinfected subjects and the use of indicators to characterize the treatment adhesion profile." *Brazilian Journal of Medical and Biological Research* 56 (2023): e12738.

- [9] Ekstrand, Maria L., et al. "The role of HIV stigma in ART adherence and quality of life among rural women living with HIV in India." *AIDS and Behavior* 22 (2018): 3859-3868.
- [10] Naidoo, Panjasaram, and Rayanta Premdutt. "Do challenges still exist amongst HIV/AIDS patients in managing their condition? A cross-sectional study of 297 participants in the Ethekwini Metro of KwaZulu-Natal, South Africa." *African Journal of AIDS Research* 18.3 (2019): 198-204.
- [11] Kumar, Rajeev, Damodar Suar, and Sanjay Kumar Singh. "Regional differences, sociodemographics, and hidden population of HIV/AIDS in India." *AIDS care* 29.2 (2017): 204-208.
- [12] Azia, Ivo N., Ferdinand C. Mukumbang, and Brian Van Wyk. "Barriers to adherence to antiretroviral treatment in a regional hospital in Vredenburg, Western Cape, South Africa." *Southern African journal of HIV medicine* 17.1 (2016): 1-8.
- [13] Mulqueeny, Delarise M., and Myra Taylor. "Patient-centred care: reality or rhetoric— patients' experiences at ARV clinics located in public hospitals in KwaZulu-Natal, South Africa." *AIDS Research and Therapy* 19.1 (2022): 41.
- [14] Joshi, Vibha, et al. "HIV/AIDS awareness and related health education needs among slum dwellers of Jodhpur city." *Indian Journal of Community Health* 32.1 (2020): 167-169.
- [15] Joshi, Vibha, et al. "HIV/AIDS awareness and related health education needs among slum dwellers of Jodhpur city." *Indian Journal of Community Health* 32.1 (2020): 167-169.
- [16] Sen, J. "Knowledge, Awareness and Attitudes Related to HIV/AIDS Among Urban and Rural Married Women Belonging to an Ethnic Population of India." *Online Journal of Health and Allied Sciences* 20.3 (2021).
- [17] Latifa, Nankya. "The level of ART adherence among HIV and aids patients attending Kilembe mines hospital ART-clinic, Kasese district." (2017).
- [18] He, Huan, et al. "Spatial and temporal trends in HIV/AIDS burden among worldwide regions from 1990 to 2019: a secondary analysis of the global burden of disease study 2019." *Frontiers in Medicine* 9 (2022): 808318.
- [19] Sharma, Shiv Shankar, et al. "Renal Disease Linked With HIV: A Single Center Experience." *Annals of the Romanian Society for Cell Biology* (2021): 14315-14323.
- [20] Hossain, Md Ismail, et al. "Social stigma and vulnerabilities of HIV/AIDS-positive people: Reconsidering social work education and NGOs' role in Bangladesh." *Journal of HIV/AIDS & Social Services* 21.3-4 (2022): 167-193.
- [21] Sullivan, Amanda, and Ruvandhi R. Nathavitharana. "Addressing TB-related mortality in adults living with HIV: a review of the challenges and potential solutions." *Therapeutic Advances in Infectious Disease* 9 (2022): 20499361221084163.
- [22] Hlahane, Modiane Salamina. HIV-stigma reduction and responsible disclosure management in a primary health care setting. Diss. North-West University (SouthAfrica). Potchefstroom Campus, 2018.
- [23] Shivam, Swapnil, et al. "JHPN invites original papers, review articles, short reports, commentaries, case studies, and letters on the following topics."