



Research Article

JMR 2018; 4(2): 69-73
March- April
ISSN: 2395-7565
© 2018, All rights reserved
www.medicinarticle.com
Received: 19-03-2018
Accepted: 06-04-2018

Practice and uses of Highly Active Anti-Retroviral Therapy (HAART) in tertiary care rural teaching hospital

R. Sivaraj¹, R. Saravana Kumar², R. Arbind Kumar³, N. Arivazhagan⁴, A. Evangeline⁵

¹ Professor & HOD, Department of Pharmacology, Arupadai Veedu Medical College, Kirumampakkam, Pondy to cuddalore ECR Main Road, Pondicherry, India

² Professor & HOD of Pulmonology, IRT-Perundurai Medical College Hospital, Sanatorium, Perundurai-638053, Chennai, Tamil Nadu, India

³ Assistant Professor, Department of Pulmonology, IRT-Perundurai Medical College Hospital, Sanatorium, Perundurai-638053, Chennai, Tamil Nadu, India

⁴ Professor & HOD of Pharmacology, Believers Church Medical College Hospital, St. Thomas Nagar, Kuttapuzha, Thiruvalla- 689103, Kerala, India

⁵ CRRI, Chennai Medical College Hospital & Research Center, Irungalur, Trichy, Tamila Nadu, India

Abstract

Introduction: Infection with human immunodeficiency virus (HIV) and the subsequent progression to acquired immunodeficiency syndrome (AIDS) is a global pandemic that has reached every corner of the world. Health care workers must be trained, infrastructure improved, communities educated and diverse stakeholders mobilized to play their part. The treatment of any patient with AIDS involves. **Material and Method:** A cross-sectional prospective survey of all the health care professionals working in tertiary care hospitals was conducted. Questionnaire items were designed in line with the objectives of the study from literature reviews and consultation with Pharmacology lecturers 150 copies of it were printed and distributed directly to doctors, nurses and pharmacists. **Result:** According to the analysed data, majority that is 83.1% of the doctors know about HIV/AIDS from the book. From the study majority of nurses (73.5%) know HIV/AIDS from books. Also 56% of pharmacists know HIV/AIDS from books. Majority 76.3% of the doctors communicate with HIV patients as the other patients. Majority 67.3% of the nurses communicate with the AIDS patients as the other patients. About 78% of doctors know the treatment guidelines for the patient's care. About 75.5% of the nurses know about the treatment guidelines of HAART for the patient's care. About 76% of the pharmacists know about the treatment guidelines of HAART for the patient's care. About 75% of the lab professionals know about the treatment guidelines of HAART for the patient's care. **Discussion:** An awareness study on HIV/AIDS on nursing students of Delhi also revealed a high level of popular misconceptions. Similar misconceptions have also been reported among medical school faculty and students. Students' awareness and opinion about HIV/AIDS in the current study was fairly good which is similar to study findings by Som P *et al* in Kolkata and Kumar *et al* in Delhi among the nursing staff. **Conclusion:** Physicians involved in tertiary care rural teaching hospital have acquired appropriate expertise and knowledge about HAART, but dissemination of information about HAART must be extended to physicians with more limited experience in HIV care. Several possible research questions could include whether or not general attitudes towards benefits should be seen as a static or a dynamic concept or consisting of both static and dynamic dimensions. Future seminars and educational programs on HAART are suggested.

Keywords: Human immunodeficiency virus (HIV), Highly Active Anti Retroviral Therapy (HAART), Tertiary care hospitals.

INTRODUCTION

Infection with human immunodeficiency virus (HIV) and the subsequent progression to acquired immunodeficiency syndrome (AIDS) is a global pandemic that has reached every corner of the world. Professional health workers are part of the interdisciplinary team whose responsibilities include treatment and management of people living with HIV/AIDS. The team is also involved in planning and implementation of policies and strategies to fight HIV/AIDS as well as health promotion [1]. Knowledge has been defined as the capacity to acquire, retain and use information. Furthermore knowledge means facts, information, skills and understanding that have been gained especially through learning and experience [2]. Health care workers must be trained, infrastructure improved, communities educated and diverse stakeholders mobilized to play their part. The treatment of any patient with AIDS involves [3-5].

1. Inhibiting the replication of the virus using antiretroviral drugs
2. Treatment of opportunistic infections
3. Psychosocial support

***Corresponding author:**
Dr. R. Saravana Kumar
Professor & HOD of
Pulmonology, IRT-Perundurai
Medical College Hospital,
Sanatorium, Perundurai-
638053, Chennai, Tamil Nadu,
India
Email:
drsaravanakumar.pmc[at]gmail.
com

The first case of human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) in India was detected in 1986 in the state of Tamilnadu and since then the spread of HIV/AIDS across the nation has been relentless [6]. Cases have been reported from all states and union territories of India.

Though the majority of HIV-infected population lives in developing nations, there is a paucity of data on natural history, pattern of disease and survival of hospitalised patients with HIV/AIDS from these regions, especially India. It is well established that manifestations of AIDS are influenced by factors such as endemic infections and malnutrition that are widely prevalent in these regions [7-9].

Resource constraints prohibit evaluation and decision-making based on cost and labour-intensive methods such as CD4+ cell counts and viral RNA load estimation. Timely initiation of prophylaxis for opportunistic infections (OIs) and their prompt recognition and treatment are the only economically viable options [10,11].

Objectives

1. To ensure quality and productive life for the victims.
2. To assess the level of knowledge and attitude of healthcare professionals for the use of HAART in tertiary care hospitals.
3. To illuminate the uses of Highly Active Anti Retroviral Therapy (HAART).
4. To elicit the lacuna and design educational program to improve their knowledge and behavior.

METHODOLOGY

1. Design of study: The Institutional Ethical Committee (IEC) CMCH & RC of the Chennai Medical College Hospital And Research Center, Irungalur, Trichy has approved to conduct this study. A cross-sectional prospective survey of all the health care professionals working in tertiary care hospitals was conducted. Questionnaire items were designed in line with the objectives of the study from literature reviews

Table 1: Knowledge about HIV/AIDS

	DOCTORS N=59	NURSES N=49	PHARMACISTS N=25	LAB PROFESSIONALS N=8
Books	49 (83.1%)	36 (73.5%)	14 (56%)	8 (100.0%)
Somebody told	3 (5.1%)	6 (12.2%)	8 (32%)	
Seminars	7 (11.9%)	7 (14.3%)	3 (12%)	
Total	59 (100%)	49 (100.0%)	25 (100.0%)	8 (100.0%)

OUTCOME 2: Study of **Management of HIV/AIDS among** health care professionals

Majority of the doctors were teaching and almost all of them say that the mode of HIV transmission is by sexual intercourse. 59.3% of the doctors say that HARRT therapy is the best way to manage HIV. Almost all the nurses say that the mode of transmission of AIDS is sexual intercourse. About 65.3% of them say that HAART is the best management for HIV/AIDS. 92% of the pharmacists say that the mode of transmission of AIDS is sexual intercourse. Almost all of them say that HAART is the best management for HIV/AIDS. Almost all the lab professionals say that the mode of transmission of AIDS is sexual

and consultation with Pharmacology lecturers 150 copies of it were printed and distributed directly to doctors, nurses and pharmacists. Chennai medical college hospital and research center, Irungalur, Trichy with 560 bedded tertiary care rural teaching hospitals with 900 outpatients / day. Period of study was two months. The subjects of study were Doctors, pharmacists and nurses employed in the hospital and friends belonging to health care profession Doctors and nurses working in tertiary care rural teaching hospitals were included. Patients are not correlated with this research study. There was no enquiry to the HIV patient's information. A Common self-administered questionnaire was issued to every doctor, nurse and pharmacist after a brief introduction of the research, and they were requested to answer each question/ statement. This well-structured, 32-item questionnaire elicited information on demographic profile, awareness on HIV/AIDS, treatment and therapy. Respondents' knowledge of HIV/AIDS was tested on nine statements.

Participation was voluntary, participants were educated on the aim of the survey, assured of strict confidentiality of their responses, and informed consent obtained prior to questionnaire administration. **Data analyzing:** The duly completed data was analyzed with Statistical Package for Social Sciences (SPSS).

RESULTS

From the data collected from doctors, nurses, pharmacists and other lab professionals, we got the following outcomes:

OUTCOME 1: Study of **knowledge about HIV/AIDS** among health care professionals

According to the analysed data, majority that is 83.1% of the doctors know about HIV/AIDS from the book. From the study majority of nurses (73.5%) know HIV/AIDS from books. Also 56% of pharmacists know HIV/AIDS from books. From the study majority, 100% of lab professionals know HIV/AIDS from books (Table 1).

intercourse. All of them say that HAART is the best management for HIV/AIDS (Table 2).

OUTCOME 3: Study of **Rate of knowledge about HIV/AIDS among** health care professionals

The rate of the knowledge of doctors about HIV/AIDS is 57.6% good and 39% moderate. The rate of knowledge of nurses about HIV/AIDS is 65.3% moderate and 24.5% good. The rate of knowledge of pharmacists about HIV/AIDS is 88% good. The rate of knowledge of lab professionals about HIV/AIDS is 75% moderate and 25% good (Table 3).

Table 2: Management of HIV/AIDS

	DOCTORS N=59	NURSES N=49	PHARMACISTS N=25	LAB PROFESSIONALS N=8
Avoiding hepatitis	10 (16.9%)	3 (6.1%)		
Infected by contaminated needles	14 (23.7%)	14 (28.6%)	2 (8%)	
Antiretroviral drug therapy	35 (59.3%)	32 (65.3%)	23 (92%)	8 (100.0%)
TOTAL	59 (100.0%)	49 (100.0%)	25 (100.0%)	8 (100.0%)
Avoiding hepatitis	10 (16.9%)	3 (6.1%)		

Table 3: Therapeutics knowledge about HIV/AIDS

	DOCTORS N=59	NURSES N=49	PHARMACISTS N=25	LAB PROFESSIONALS N=8
Poor	1 (1.7%)	2 (4.1%)	1 (4%)	
Moderate	23 (39.0%)	32 (65.3%)	2 (8%)	6 (75%)
Good	34 (57.6%)	12 (24.5%)	22 (88%)	2 (25%)
Very good	1 (1.7%)	3 (6.1%)		
Total	59 (100%)	49 (100%)	25 (100%)	8 (100%)

Table 4: Variability of attitude

	DOCTORS N=59	NURSES N=49	PHARMACISTS N=25	LAB PROFESSIONALS N=8
Poor	32 (54.2%)	29 (59.2%)	19 (76%)	9 (75%)
Moderate	27 (45.8%)	20 (40.8%)	6 (24%)	6 (25%)
Total	59 (100.0%)	49 (100.0%)	25 (100.0%)	8 (100.0%)

Table 5: Variability of Communication

	DOCTORS N=59	NURSES N=49	PHARMACISTS N=25	LAB PROFESSIONALS N=8
Signs	4 (6.8%)	2 (4.1%)	1 (4%)	
Relatives	9 (15.3%)	11 (22.4%)	5 (20%)	4 (50%)
Like other patients	45 (76.3%)	33 (67.3%)	18 (72%)	1 (12.5%)
Public address system	1 (1.7%)	3 (6.1%)	1 (4%)	3 (37.5%)
Total	59 (100.0%)	49 (100.0%)	25 (100.0%)	8 (100.0%)

Table 6: Knowledge of HAART

	DOCTORS N=59	NURSES N=49	PHARMACISTS N=25	LAB PROFESSIONALS N=8
Regimens therapy of HIV/AIDS	51 (86.4%)	33 (67.3%)	1 (4%)	8 (100.0%)
Eliminate free virus in the blood	4 (6.8%)	3 (6.1%)		
Eliminate the provirus	1 (1.7%)	5 (10.2%)	10 (40%)	
Acute retro virus syndrome	3 (5.1%)	8 (16.3%)	14 (46%)	
Total	59 (100.0%)	49 (100.0%)	25 (100.0%)	8 (100.0%)

Table 7: Knowledge of HAART guideline use

	DOCTORS N=59	NURSES N=49	PHARMACISTS N=25	LAB PROFESSIONALS N=8
Yes	46 (78.0%)	37 (75.5%)	19 (76%)	6 (75%)
No	13 (22.0%)	12 (24.5%)	6 (24%)	2 (25%)
Total	59 (100.0%)	49 (100.0%)	25 (100.0%)	8 (100.0%)

Table 8: Perception of HAART cures AIDS

	DOCTORS N=59	NURSES N=49	PHARMACISTS N=25	LAB PROFESSIONALS N=8
Yes	8 (13.6%)	15 (30.6%)	5 (20%)	3 (37.5%)
No	51 (86.4%)	34 (69.4%)	20 (80%)	5 (62.5%)
Total	59 (100.0%)	49 (100.0%)	25 (100.0%)	8 (100.0%)

Table 9: Level of Confident in providing services to HIV/AIDS

	DOCTORS N=59	NURSES N=49	PHARMACISTS N=25	LAB PROFESSIONALS N=8
Yes	48 (81.4%)	40 (81.6%)	18 (72%)	4 (50%)
No	3 (5.1%)	2 (4.1%)		3 (37.5%)
Uncertain	8 (13.6%)	7 (14.3%)	7 (28%)	1 (12.5%)
Total	59 (100.0%)	49 (100.0%)	25 (100.0%)	8 (100.0%)

OUTCOME 4: Study of Knowledge about HIV/AIDS affect your attitude among health care professionals

About 45.8% of doctors think that the knowledge about HIV affects their attitude. About 40.8% of nurses say that the knowledge of HIV/AIDS affect their attitude. About 24% of pharmacists say that the knowledge of HIV/AIDS affect their attitude. About 25% of lab professionals say that the knowledge of HIV/AIDS affect their attitude (Table 4).

OUTCOME 5: Study of Communication with HIV/AIDS patients among health care professionals

Majority 76.3% of the doctors communicate with HIV patients as the other patients. Majority 67.3% of the nurses communicate with the AIDS patients as the other patients. Majority (72%) of the pharmacists communicate with the AIDS patients as the other patients. About 50% of the lab professionals communicate with the AIDS patients as their relatives (Table 5).

OUTCOME 6: Study of haart among health care professionals

86.4% of doctors have the knowledge about the regimens of HAART. 67.3% of nurses know about the HAART regimens. 46% of pharmacists know about the acute retrovirus syndrome in HAART. Almost all of lab professionals know about the regimens of HAART (Table 6).

OUTCOME 7: Study of Guidelines in our patients care among health care professionals

About 78% of doctors know the treatment guidelines for the patient's care. About 75.5% of the nurses know about the treatment guidelines of HAART for the patient's care. About 76% of the pharmacists know about the treatment guidelines of HAART for the patient's care. About 75% of the lab professionals know about the treatment guidelines of HAART for the patient's care (Table 7).

OUTCOME 8: Study of HAART cures AIDS among health care professionals

Only 13.6% of doctors think that HAART cures AIDS and remaining 86.4% of them think that HAART does not cure the patients. The study is taken among the doctors of age 25-67 years. 69.4% of the nurses say that HAART does not cure AIDS and 98% of them says that psychological counseling helps in curing. The study is taken among the nurses of age 21-49 years. 80% of the pharmacists say that HAART does not cure AIDS and 95% of them say that psychological counseling helps in curing. The study is taken among the pharmacists of age 25-44 years. 62.5% of the lab professionals say that HAART does not cure AIDS and almost all of them says that psychological counseling helps in curing. The study is taken among the nurses of age 20-35 years (Table 8).

OUTCOME 9: Study of Confident in providing services to HIV/AIDS among health care professionals

About 81.4% doctors are service minded. 81.6% of the nurses are service minded. 72% of the pharmacists are service minded. 50% of the lab professionals are service minded (Table 9).

DISCUSSION

Although there have been numerous studies to investigate the knowledge, attitudes, beliefs and practices towards HIV care among medical professionals in the developed world, only limited data have been published about Indian health care workers. Of course, this survey is an attempt to document the impact of availability of antiretroviral treatment on the knowledge, attitudes and practices of medical practitioners in rural teaching hospitals.

Results show that majority of the health care professionals know about HIV/AIDS from the books. While the basic information about the disease like causative agent, modes of transmission, etc. were known to most of the participants, deficiencies in their knowledge and awareness in many critical areas of the disease were noticed [11]. These deficiencies in knowledge influence their behavior thus, exposing them to the risk of transmission. As it can be seen from the present study that misconceptions regarding transmission of the disease are high which can further lead to discrimination in patient care or apprehensions and stress amongst the health care providers while dealing with such patients. An awareness study on HIV/AIDS on nursing students of Delhi also revealed a high level of popular misconceptions.

Similar misconceptions have also been reported among medical school faculty and students [13]. Students' awareness and opinion about HIV/AIDS in the current study was fairly good which is similar to study findings by Som P *et al* in Kolkata and Kumar *et al* in Delhi among the nursing staff [13,14].

Discriminatory and stigmatizing attitudes toward HIV-infected patients have been observed among health care professionals of both developed and developing countries, but have been shown to decrease as practical clinical experience with these patients increases [15]. Although most physicians in our sample expressed strong concerns about occupational risk of exposure to HIV transmission, very few expressed discriminatory and hostile attitudes toward HIV-infected patients, a fact that has to be related to their direct involvement in HIV care. Of course, this finding may reflect nothing more than the knowledge on the part of the most experienced clinicians that HIV-infected individuals are infectious for others, as well as the practical difficulties these clinicians have to face for preventive counseling of their patients who are already HIV infected [16].

By tradition, Indian physicians have a strong commitment to universal medical ethics and, similar to most of their colleagues in developed countries such as France, they claim the right to practice medicine 'free of financial constraints' [17]. From the beginning, the HIV epidemic has challenged the ethical and deontological principles universally recognized in medical practice.

Most of the patients were in the age group 21–40 years and males were predominantly affected. This is similar to nation-level statistics in which, of the 57781 cases of HIV/AIDS reported to the National AIDS Control Organisation (NACO), 89% of the cases were in the age group 15–44 years and 74% were males. This section of the population is more affected because they are sexually more active and the social structure is patriarchal [18]. Unfortunately, these patients also happen to be in the economically most productive years of their lives. The male preponderance might have been due to the fact that in the existing social milieu, females do not seek medical care fearing ostracism and loss of family support [19].

Ironically, India is a major provider of cheap generic copies of ARVs to countries all over the world. However, the large scale of India's epidemic, the diversity of its spread, and the country's lack of finances and resources continue to present barriers to India's antiretroviral treatment programme [20]. The Indian government has also been criticised for not providing palliative care for HIV patients. According to our findings, our respondents conclude in psychological counseling helps in curing the patients.

CONCLUSION

Utilizing a sample of 59 doctors, 49 nurses, 25 pharmacists and 8 lab professionals in a rural tertiary care teaching hospital, we examined whether or not attitudes towards benefits and behavioral intentions could predict turnover, absenteeism, and performance. While statistically significant results were found, the percentage of variance accounted for was not very high. Physicians involved in tertiary care rural teaching hospital have acquired appropriate expertise and knowledge about HAART, but dissemination of information about HAART must be extended to physicians with more limited experience in HIV care. However, there is a small segment with negative attitude towards PLWA but our view is that consistent and adequate education about HIV/AIDS will help change their attitude.

There are several directions which future research could develop. The first area for research would be to examine why turnover rates might vary so significantly from hospital to hospital. A second area for research would examine how attitudes towards benefits should be measured for nurses. This study addresses general attitudes towards

benefits in a static multi-dimensional manner. Several possible research questions could include whether or not general attitudes towards benefits should be seen as a static or a dynamic concept or consisting of both static and dynamic dimensions.

Future seminars and educational programs on HAART are suggested.

Conflict of interest: None.

REFERENCES

1. Okaro AO, Eze CU, Ohagwu CC. Knowledge and attitude of radiographers towards HIV/AIDS patients attending radiology clinics in Enugu state, Nigeria. *European Journal of Scientific Research*. 2010;39(3):440-7.
2. Sudharshan S, Biswas J. Introduction and immunopathogenesis of acquired immune deficiency syndrome. *Indian journal of ophthalmology*. 2008;56(5):357.
3. Joint United Nations programme on HIV/AIDS: Epidemiological fact sheets on HIV/AIDS and sexually transmitted infections 2002 update: India. World Health Organisation, Geneva; 2002.
4. Chacko S, John TJ, Babu PG, Jacob M, Kaur A, Mathai D. Clinical profile of AIDS in India: a review of 61 cases. *The Journal of the Association of Physicians of India*. 1995;43(8):535-8.
5. Creese A, Royd K, Alban A, Guinness L. Cost-effectiveness of HIV/AIDS interventions in Africa: a systematic review of the evidence. *Lancet* 2002; 359:1635-1642.
6. Leena V Gangolli; Review of Health Care in India-www.cehat.org/publications/Pdf%20files/r51.pdf
7. Interim policy on collaborative TB/HIV activities. Geneva, World Health Organization, 2004; WHO/HTM/TB/2004.330 and WHO/HTM/HIV/2004.1
8. De Costa. Ayesha Barriers of mistrust: Public and private health care providers in Madhya Pradesh, India; 2008, ISBN 978-91-7409-130-4
9. Kumarasamy N, Vallabhaneni S, Flanigan TP, Mayer KH, Solomon S. Clinical profile of HIV in India. *Indian J Med Res* 2005;121:377-94.
10. KR John, Nirmala Rajagopalan and Nirmala Madhuri; Brief Communication: Economic Comparison of Opportunistic Infection Management With Antiretroviral Treatment in People Living With HIV/AIDS Presenting at an NGO Clinic in Bangalore, India; *Journal of the International AIDS Society* 2006;8:24.
11. Kumarasamy N, Solomon S, Chaguturu SK, Cecelia AJ, Vallabhaneni S, Flanigan TP, Mayer KH. The changing natural history of HIV disease: before and after the introduction of generic antiretroviral therapy in southern India. *Clinical infectious diseases*. 2005;41(10):1525-8.
12. Goel NK, Bansal R, Pathak R, Sharma HK, Aggarwal M, Luthra SC. Knowledge and awareness of nursing students about HIV/AIDS. *Health and Population: Perspectives and Issues*. 2010;33(1):55-60.
13. Som P, Bhattacharjee S, Guha R, Basu M, Datta S. A Study of Knowledge and Practice among Nurses Regarding Care of human immunodeficiency virus Positive Patients in Medical College and Hospitals of Kolkata, India. *Annals of Nigerian Medicine*. 2015;9(1):15.
14. Sharma SK, Kadiravan T, Banga A, Goyal T, Bhatia I, Saha PK. Spectrum of clinical disease in a series of 135 hospitalised HIV-infected patients from north India. *BMC Infectious Diseases*. 2004;4(1):52.
15. Tierney AJ. HIV/AIDS—knowledge, attitudes and education of nurses: A review of the research. *Journal of Clinical Nursing*. 1995 Jan 1;4(1):13-21.
16. Ahmed SI, Hassali MA, Aziz NA. An assessment of the knowledge, attitudes, and risk perceptions of pharmacy students regarding HIV/AIDS. *American Journal of Pharmaceutical Education*. 2009;73(1):15.
17. Azodo C, Umoh A, Ezeja E, Ukpebor M. A survey of HIV-related knowledge and attitude among dental nursing students in South Western Nigeria. *Benin Journal of Postgraduate Medicine*. 2007;9(1).
18. Carraher SM, Buckley MR. Attitudes towards benefits and behavioral intentions and their relationship to Absenteeism, Performance, and Turnover among nurses. *Academy of Health Care Management Journal*. 2008;4(2):89.
19. Seccombe JA. Attitudes towards disability in an undergraduate nursing curriculum: a literature review. *Nurse Education Today*. 2007;27(5):459-65.
20. Shan V, Shethwala ND, Bala D. Knowledge, attitude and health behavior of dental students towards HIV patients. *infection*. 2011;91:61.