

Attitude of medical students towards AIDS and Leukemia patients

Atif Mahmood¹, Fahmida Khatoon², Mukarram Ali³,
Tooba Iqbal⁴, Qazi Muhammad Rahim Irshad⁵

ABSTRACT

Objective: To examine the attitudes of undergraduate medical students' towards patients with AIDS vs. patients with Leukemia.

Methodology: A cross sectional survey with a purposive non probability sample on 205 undergraduate medical students was conducted from July 2011 to October 2011. Prejudicial attitudes and willingness to interact were measured based on four case vignettes using the Prejudicial Evaluation Scale (PES) and Social Interaction Scale (SIS). SPSS 17 was used for the data analysis and independent sample *t* test was used to calculate the significant difference among the mean scores of the inventories and each item of the inventory. Paired *t* test was used to analyze the difference in the attitude of the medical students before and after attending the medical school.

Results: Highly significant differences were observed in the attitude of medical students determined by the overall mean scores of their responses towards patient with AIDS (44.45 ± 9.32) and (24.22 ± 11.69) versus Leukemic patient (49.65 ± 10.73) and (20.67 ± 7.84) of PES ($p < 0.001$) and SIS ($p < 0.01$) inventories respectively. Comparison of individual item on these scale revealed several items to be significantly different for patient with AIDS vs. Leukemic patient showing negative biasness towards this stigmatized group.

Conclusions: Undergraduate medical students revealed negative biases against patients with AIDS and reported much less willingness to interact with these patients than with leukemic patients.

KEY WORDS: HIV stigma, HIV/AIDS, Health care, Leukemia, Case Vignettes.

Pak J Med Sci January - March 2012 Vol. 28 No. 1 187-191

How to cite this article:

Mahmood A, Khatoon F, Ali M, Iqbal T, Irshad QMR. Attitude of medical students towards AIDS and Leukemia patients. Pak J Med Sci 2012;28(1):187-191

1. Atif Mahmood, MBBS, Department of Physiology,
2. Fahmida Khatoon, MBBS, Department of Biochemistry,
3. Mukarram Ali, MBBS, DMJ, Department of Forensic Medicine,
4. Tooba Iqbal, Student,
5. Qazi Muhammad Rahim Irshad. Student,
- 1-3: Dow International Medical College (DIMC), Dow University of Health Sciences (DUHS), Karachi, Pakistan.

Correspondence:

Dr. Atif Mahmood, MBBS,
E-mail: atif_mahmood20@yahoo.com

- * Received for Publication: December 11, 2011
- * 1st Revision Received: December 18, 2011
- * 2nd Revision Received: February 2, 2012
- * Final Revision Accepted: February 6, 2012

INTRODUCTION

Pakistan, the second most populous Muslim nation and sixth most populous country in the world has finally started to experience and confront the HIV/AIDS epidemic.¹ The first full-fledged HIV outbreak was experienced in 2004² followed by outbreaks all over the nation.³ Intravenous drug abusers (IVDAs), sex workers, homosexuals have been identified as the major stigmatized high risk populations with the greatest risk for the spread of HIV in Pakistan.^{1,4} According to UNAIDS estimates, about 97,000 people were living with HIV in Pakistan at the end of 2009. Although overall HIV prevalence is low (0.1% of adult population), HIV is

well established among IVDAs and epidemic is also spreading among transgender (6%) in a few cities. In 2008, HIV prevalence among IVDAs ranged between 10 to 300 percent across Quetta, Faisalabad, Hyderabad, Karachi and Sargodha.³

Efforts to fight the epidemic of HIV/AIDS are over shadowed by the associated stigma and discrimination within health settings and hinder the effectiveness of the response for treatment and care of the patients living with HIV/AIDS (PLWHA) worldwide. This is mainly because of the fact that health service providers are usually the first to be contacted when health care services against HIV/AIDS are concerned. The discriminatory attitudes and behaviors shown by health care professionals' towards PLWHA have direct negative consequences on their quality of life and therefore, have been documented by many studies.⁵⁻⁷

Measuring HIV stigma has never been easy⁸ as socially desirable answer is usually met instead of the truthful one when health related professionals are asked about the stigmatizing attitudes or behavior. Kelly and colleagues⁹ used case vignettes to assess physician attitudes concerning HIV/AIDS in 1987. The predictive value of physician behavior has helped case vignettes earn substantial support and success over the years.¹⁰⁻¹² It has been reported that the responses to these cases are good reflection of what physicians' actually do in real life clinical situations. The only difference in case vignettes was the disease outcome of the patient was either AIDS or leukemia. A much less willingness to interact with AIDS patients was found by Kelly et al⁹ as compared to leukemic patients. Biasness against homosexuals and individuals with AIDS was also reported by a similar study that was conducted on post graduate trainee dentists.¹³ A Japanese study also used similar case vignettes and reported significant differences in university students' toward PLWHA.¹⁴

The objective of the present study was to evaluate the attitude of medical students towards HIV/AIDS and leukemic patients. To the best of our knowledge, this is the first study, in Pakistan, to determine the attitude of medical students' based on the prejudicial attitude and willingness to interact with PLWHA and will help in establishing the ground realities associated with HIV/AIDS stigma among medical students.

METHODOLOGY

A cross sectional survey was conducted on third year, fourth year and final year students of three

medical colleges affiliated with Dow University of Health Sciences; Dow Medical College (DMC), Sindh Medical College (SMC) and Dow International Medical College (DIMC) from July 2011 to October 2011. A purposive non probability sample of 205 undergraduate medical students was taken out of which 63 (30.7%) students were from DMC, 69 (33.7%) from SMC and 73 (35.6%) from DIMC. Out of 249 anonymously administered questionnaires, 210 were returned representing an over all response rate of 84.3%. Five questionnaires were incomplete or had multiple selections and therefore, were rejected.

Each student received a packet consisting of a 500-word vignette describing a patient named Arshad who was suffering from a chronic, debilitating illness. The vignettes read by each student were identical, except that the illness was identified as either leukemia or AIDS. And Arshad's "longstanding romantic partner" was identified as either Shahid or Shahida. Thus four possible scenarios existed: a heterosexual with leukemia, a heterosexual with AIDS, a homosexual with leukemia, or a homosexual with AIDS.

After reading the patient vignette, the respondents were asked to complete two scales designed to elicit their attitudes. The items on each of the scales were rated on a five-point Likert scale. The instruments were adapted from the original study by Kelly et al.⁹ The Prejudicial Evaluation Scale (PES) was used to assess harsh interpersonal judgment of victims and the Social Interaction Scale (SIS) was used to test a wide range of casual interaction likely with a person such as 'Arshad' and measured the respondent's willingness to interact with him. Two questions about students' attitudes and about the change in their attitudes toward homosexual men and IVDAs were also asked.

Statistical Package for Social Sciences (SPSS) (version 17) was used for the analysis of the data. Responses to both scales were subjected to independent sample *t* test that examined the mean differences associated with the patient's disease status (AIDS versus leukemia), sexual preference (heterosexual versus homosexual). Individual item differences were also explored with student's *t* tests.

The study was approved from the Institutional Review Board (IRB) of Dow University of Health Sciences (DUHS).

RESULTS

Majority of the respondents 189 (92.2%) were 16-25 years of age. Eighty seven (42.4%) were male

Table-I: Comparison of mean student responses (N=205) to four hypothetical patients.

Scale	Arshad with AIDS Mean Score \pm SD	Arshad with Leukemia Mean Score \pm SD	95% CI	p value*
PES	44.45 \pm 9.32	49.65 \pm 10.73	-7.98, -2.41	<0.001*
SIS	24.22 \pm 11.69	20.67 \pm 7.84	0.78, 6.30	<0.01*

*Students' t test significant at <0.05, p<0.01= very significant, p< 0.001 = highly significant

and 118 (57.6%) were females. Approximately half of the students (113, 55.1%) claimed to have received education focused on HIV/AIDS during their studies; of which 19 (16.8%) had done formal courses on HIV/AIDS, 71 (62.8%) as part of a related course, 12 (10.6%) through a seminar or workshop while 11 (9.7%) by other means which included TV, newspaper, magazines, internet.

The specific differences between mean responses for individual items in the PES were determined (Table-I). Kelly et al⁹ created two groups, "AIDS" and "leukemia," in his analysis of the data. We matched this in our data analysis. The overall mean of all the items in the two inventories were summed together and the difference was observed for statistical difference by independent sample *t* test which was found highly significant for both the instruments. (Table-I)

Students' *t* test was used to determine the statistical significance of the mean difference of individual items within the PES and SIS-R. Some of the items showed statistically significant differences of means within both the inventories. (Table II and III)

DISCUSSION

The attitude of public towards AIDS patients is primarily a social issue. However, attitude of the future doctors concerning AIDS patients may carry important health care implications. It has been reported that even health care providers carry emotional charge and elicits judgmental, negative evaluations about the patient with AIDS diagno-

sis. Attitude of this kind indicate that many physicians experience discomfort interacting with AIDS patients which can interfere with the development of a positive, constructive, and open doctor/AIDS patient relationship.

This study supports the findings of other studies that have reported case vignettes to be a useful tool for measuring attitudes of professionals belonging to different professions and cultural backgrounds towards patients with different diseases. Significant differences reported in the attitude of medical students propose that specific fears that are directly related to disease and death may be responsible for the HIV/AIDS-related stigma. Furthermore, socially marginalized groups, such as homosexual men, IVDA's and prostitutes are more prone to be a victim of the stigma related to HIV/AIDS. This 'double stigma' influences the attitudes of medical students and affects all AIDS patients, irrespective of their cause of disease.

In majority of the questions, medical students have shown negative biases and attributions related to AIDS patients when the case vignettes were compared. They believed that AIDS patients were more responsible and deserving of illness and less deserving of sympathy than Leukemic patients and that Leukemic patients deserved better treatment as compared to AIDS patients. It was unsettling to note that students' believed that Arshad is not only dangerous to other people but deserves to die and that the world would be better off without him. These results are in accordance with McGrory et al¹⁵

Table-II: PES item comparison using t test.

	AIDS Mean Score \pm SD	Leukemia Mean Score \pm SD	95% CI	p value*
1. Arshad is responsible for his illness.	2.54 \pm 1.61	3.78 \pm 2.18	-1.77, -0.71	<0.001
2. Arshad deserves sympathy and understanding.	3.07 \pm 2.16	2.47 \pm 1.53	0.09, 1.12	<0.01
3. Arshad deserves what has happened to him.	3.74 \pm 1.96	4.51 \pm 2.02	-1.32, -0.23	<0.001
4. Arshad is dangerous to other people.	2.59 \pm 1.60	4.59 \pm 1.85	-2.48, -1.52	<0.001
5. Arshad deserves the best medical care possible.	2.28 \pm 1.75	1.69 \pm 1.34	0.17, 1.02	0.007
6. Deserves to die	5.06 \pm 2.22	5.94 \pm 1.59	-1.14, -0.35	<0.001
7. The World would be better off without Arshad	4.61 \pm 2.40	5.71 \pm 1.62	-1.67, -0.54	<0.001
8. Suicide might be the best solution for Arshad	5.72 \pm 2.03	5.91 \pm 1.72	-0.71, 0.32	0.460
9. Arshad Should be quarantined so he doesn't expose others	4.27 \pm 2.20	4.67 \pm 2.28	-1.01, 0.22	0.207
10. Arshad deserves to loose his job	5.44 \pm 2.04	5.46 \pm 1.98	-0.57, 0.54	0.951

*Students' t test significant at <0.05, p<0.01= very significant, p< 0.001 = highly significant

Table-III: SIS item comparison using t test.

	<i>AIDS</i> Mean Score \pm SD	<i>Leukemia</i> Mean Score \pm SD	95% CI	<i>p value*</i>
1. Would you be willing to take on Arshad as a psychotherapy client?	3.50 \pm 2.00	2.25 \pm 1.40	0.78, 1.73	<0.001
2. If you met Arshad would you be willing to strike up a conversation with him?	2.93 \pm 1.98	2.43 \pm 1.30	0.04, 0.96	<0.01
3. Would you be willing to work in the same office as Arshad?	2.78 \pm 1.80	2.60 \pm 1.41	-0.26, 0.62	0.426
4. Would you attend a party where Arshad was preparing food?	3.31 \pm 1.94	3.13 \pm 1.56	-0.31, 0.66	0.473
5. Would you attend a party where Arshad was present?	2.44 \pm 1.60	2.44 \pm 1.23	-0.39, 0.39	0.992
6. Would you allow your children to visit Arshad in his home?	3.76 \pm 2.10	3.36 \pm 1.66	-0.12, 0.92	0.134
7. If you were a friend of Arshad's, would you be willing to continue the friendship at this time?	2.42 \pm 1.77	2.06 \pm 1.21	-0.05, 0.78	<0.01
8. Arshad's lease is up in two months. If you were his landlord, would you renew his lease?	3.08 \pm 1.91	2.41 \pm 1.49	0.20, 1.14	<0.001

*Students' t test significant at <0.05, p<0.01= very significant, p< 0.001 = highly significant

who found the similar expressions in medical students of Columbian University in New York. Li L et al¹⁶ reported similar results with Chinese health professionals. Kelly et al^{9,17} and Crawford I et al¹⁸ found similar attitudes of physicians and medical students while using the similar case vignettes.

The stigma associated with HIV/AIDS is so powerful that a much less willingness to interact with PLWHA was reported by medical students than with a leukemic patient, even in highly casual contexts with no risk for HIV transmission. Some health professionals associate HIV more closely with marginalized groups (e.g. intravenous drug users, sex workers), and their responses to the case vignettes are likely to reflect what they would actually do in clinical settings.

The absence of definitive attitude differences related to the patient's portrayed sexual preference would seem to indicate that homosexuality itself was not a strong contributor to AIDS stigmatization among students in this sample. Further, while students indicated markedly less willingness to socially interact with AIDS patients and exhibited harsh attitude judgments about them, the results did not demonstrate clear, distinctive evaluations concerning the personality characteristics of either AIDS or homosexual patients. Taken together, these data suggest that students reacted with negative emotion simply to an AIDS diagnosis or reacted harshly to the patient based on presumptions about the patient's past homosexual promiscuity rather than his sexual preference per se. The findings concerning attitudes toward homosexuals are consistent with other reports that have found that dental hygiene students did not display a bias toward homosexuals.^{19,20}

It requires immediate attention and special consideration of policy-makers and administrators in health care setting to address potential biases in the attitudes of health care providers. As the study was only performed on the medical students and that of only one university, therefore, the findings cannot be generalized. Broader studies across the countries involving healthcare professionals are required to get the ground realities related to HIV/AIDS stigma in healthcare professionals. Formal sex education and awareness lectures regarding AIDS should be the part of all curriculums. Print as well as electronic media should play their role in making the masses aware of the mode of spread and prevention of these diseases.

ACKNOWLEDGEMENT

The principal investigator would like to thank Dr. Masood Jawaid and Ali Hajeer for their time and effort in critically reviewing this manuscript. Furthermore, the authors would like to extend their gratitude towards Mr. Syed Arif Ali for helping in the analysis of the data and Muhammad Ali, Urooj Aslam and Nauman Shaikh, students of 4th year MBBS, DIMC, for facilitating in the data collection process.

REFERENCES

- Rai M, Warraich H, Ali S, Nerurkar V. HIV/AIDS in Pakistan: the battle begins. *Retrovirology* 2007;4(1):22-24.
- Shah SA, Altaf A, Mujeeb SA, Memon A. An outbreak of HIV infection among injection drug users in a small town in Pakistan: potential for national implications. *Int JSTD & AIDS* 2004;15(3):209.
- World Bank Report Available at: [<http://siteresources.worldbank.org/SOUTHASIAEXT/Resources/223546-1192413140459/4281804-1231540815570/5730961-1235157256443/5849910-1278963700621/PakistanHIVJuly2010.pdf>] Updated: July 2010, Accessed on November 29, 2011.

4. Platt L, Vickerman P, Collumbien M, Hasan S, Lalji N, Mayhew S, et al. Prevalence of HIV, HCV and sexually transmitted infections among injecting drug users in Rawalpindi and Abbottabad, Pakistan: evidence for an emerging injection-related HIV epidemic. *Sexually Transmitted Infections* 2009;85(Suppl 2):ii17-ii22.
5. Wen YF, Wang HD, Zhao CX, Yao YS, Ye DQ, Jiang ZJ. Association of HIV transmissions and non-transmission knowledge with negative attitudes to HIV/AIDS. *Chin Med J (Engl)* 2011;124(4):537-40.
6. Andrianasolo RL, Rakotoarivelo RA, Randriarimanana D, Angjjiro PG, Randria MJ. Discrimination of HIV infected persons in medical settings in Madagascar. *Med Mal Infect*. 2011;41(1):2-6.
7. Maswanya ES, Brown G, Merriman G. Services and attitudes to people living with HIV/AIDS among college students in Dar-es-Salaam, Tanzania. *East Afr J Public Health* 2009;6(3):244-7.
8. Emler CA. Measuring stigma in older and younger adults with HIV/AIDS: an analysis of an HIV stigma scale and initial exploration of subscales. *Res Social Work Pract* 2005;15:291-300.
9. Kelly JA, St Lawrence JS, Smith S, Hood HV, Cook DJ. Stigmatization of AIDS patients by physicians. *Am J Public Health* 1987;77:789-91.
10. Rosenquist PB, Colenda CC, Briggs J, Kramer SI, Lancaster M. Using case vignettes to train clinicians and utilization reviewers to make level-of-care decisions. *Psych Services* 2000;51:1363-65.
11. Peabody JW, Luck J, Glassman P, Dresselhaus TR, Lee M. Comparison of vignettes, standardized patients, and chart abstraction: A prospective validation study of 3 methods for measuring quality. *JAMA* 2000;283:1715-22.
12. Peabody JW, Luck J, Glassman P, Jain S, Hansen J, Spell M, et al. Measuring the quality of physician practice by using clinical vignettes: a prospective validation study. *Annals of Internal Medicine* 2004;141(10):771-80.
13. Cohen LA, Romberg E, Grace EG, Barnes DM. Attitudes of advanced dental education students toward individuals with AIDS. *J Dent Educ* 2005;69:896-900.
14. Arakawa O. A study on disclosure by HIV positives by use of simulation using case vignettes. [Nippon kÅ«shÅ« eisei zasshi] *Japanese J Public Health* 1997;44(10):749-59.
15. McGrory BJ, McDowell DM, Muskin PR. Medical Students' Attitudes Toward AIDS, Homosexual, and Intravenous Drug-Abusing Patients: A Re-evaluation in New York City. *Psychosomatics* 1990;31(4):426-33.
16. Li L, Wu Z, Zhao Y, Lin C, Detels R, Wu S. Using case vignettes to measure HIV-related stigma among health professionals in China. *IntJ Epidemiology* 2007;36(1):178-84.
17. Kelly JA, St Lawrence JS, Smith S, Hood HV. Medical students' attitudes toward AIDS and homosexual patients. *J Med Educ* 1987;62:549-56.
18. Crawford I, Humfleet G, Ribordy SC, Ho FC, Vickers VL. Stigmatization of AIDS patients by mental health professionals. *Professional Psychology: Research and Practice* 1991;22(5):357-61.
19. Seacat JP, Inglehart MR. Education about treating patients with HIV infections/AIDS: the student perspective. *J Dent Educ* 2003;67:630-40.
20. Haring JI, Linda LJ. Attitudes of dental hygiene students toward individuals with AIDS. *J Dent Educ* 1992;56:128-30.

Authors Contribution:

AM, FK conceived, designed and did statistical analysis & editing of manuscript.

MA, TI and QMRI did data collection and manuscript writing.

AM, FK did review and final approval of manuscript.