Economic Impact of HIV/AIDS on Women

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Savio P. Falleiro
Silvia M. Noronha

Abstract

Ever since its detection, HIV has wreaked much havoc, particularly in the developing world. In recent times, on account of increasing numbers of infected women and their heightened vulnerability to HIV, it has often been stated that there is a feminization of the epidemic. The aim of the present article was to find if there were significant gender-biases to the economic impact of HIV/AIDS; with the same being done through an intra-household (female-male) and inter-household (HH) (female-female) comparative analyses. By making use of chi-square and Mann-Whitney U-tests, the article concludes that: 1) female-headed HIV/AIDS households (HHs) are at a significant disadvantage over the control group of female-headed non-HIV/AIDS HHs; 2) though on most counts the economic impact was biased against women in the control group; unlike generally expected perception, the same were often gender-neutral in HIV/AIDS HHs; 3) gender-neutrality of impact in HIV/AIDS HHs was due to substantial, often significant, adoption of coping mechanisms by female-headed HHs; and 4) whenever gender biases occurred in HIV/AIDS HHs, they were usually to the disadvantage of women.

Keywords

HIV/AIDS, economic impact, women and HIV/AIDS

Introduction

Ever since its detection in 1981, HIV/AIDS is said to have claimed over 25 million lives worldwide; with an average of about 2 million people dying every year in recent times. According to UNAIDS (2010), there were an estimated 33.3 million HIV infected people living around the world. While over 90 per cent of all new HIV infections arise in developing countries, most of those infected are in their prime productive age, with almost half of all new infections occurring amongst those below 25 years. In the global context, India has the dubious third rank vis-à-vis the number of HIV-positive (HIV+) people, with about 2.27 million people living with HIV as of 2008; with adult HIV prevalence being about 0.29 per cent (GSACS 2010).

Savio P. Falleiro, Associate Professor; Head, Department of Economics, Rosary College of Commerce and Arts, Navelim, Goa, India. Email: falleirosavio@rediffmail.com
Silvia M. Noronha, Associate Professor, Department of Economics, Goa University, Goa, India.
Email: silvia29470@yahoo.co.in

The present study has been conducted in the state of Goa, considered by National Aids Control Organization (NACO) to be among the *moderate HIV prevalence* states of India; and incidentally bordered by the *high HIV prevalence* states of Maharashtra and Karnataka. According to Goa State AIDS Control Society (GSACS), there are an estimated 16,000 people living with HIV in Goa; with about three new HIV cases detected each day at the Integrated Counselling and Testing Centres (ICTCs) itself; with almost three-quarters of the cases being located in the world-famous coastal belt; and sexual mode of HIV transmission accounting for as high as 83–96 per cent of the cases (GSACS 2010).

Background

HIV/AIDS has adverse multi-dimensional fallouts, involving amongst others, those of economic, social, legal and psychological nature. The economic impact itself is experienced at the individual/household (HH), macro/national, and sectoral levels. With regards to the impact on individuals/HHs, literature unequivocally points at the disproportionate burden faced by poor and marginalized individuals/HHs.

Gender is presently acknowledged as an inextricable part of the HIV/AIDS equation, with there being substantial discourse on the feminization of the epidemic (Medhini et al. 2007: 449; Pradhan and Sundar 2006). Young women are disproportionately vulnerable to infection, with elderly women and young girls being disproportionately affected by the burden of care giving (Medhini et al. 2007: 449; Prasad 2008).[1] Aliber et al. (2004) record how younger widows in particular and their children, face prospects of greater burden, with ownership of lesser assets and distress sales, besides loss of or threat to tenure status.

According to UNAIDS (2010: 10), over 50 per cent of those infected with HIV globally, are women and girls. In India/Goa, though figures of infected females are rising, currently it is the males that outnumber females (GSACS 2010). Notwithstanding the same, in India, the disease relatively affects more females of younger age than males, with about 43 per cent of the infected females belonging to the 15–29 age group, as against 27 per cent for males (Ibid.). According to Canning et al. (2006: 11), the peak age at which women are most likely to report themselves HIV+, is about six years lower than men. Paradoxically, one may say, studies have shown 90 per cent of India's HIV+ women having only one partner and not involved in high-risk behaviour (as in Medhini et al. 2007: 448 and 454); with majority of the infected women having no risk factor other than just being married (as in Verma and Roy 2002: 79 and 82).

Objectives of the Study

Notwithstanding the growing feminization of the HIV/AIDS epidemic with regards to increasing numbers of infected females, heightened vulnerability and severe strains experienced by female-headed HHs, as highlighted by numerous studies, the present article attempts to find through intra-HH (male-female) and inter-HH (female-female) gender comparisons whether there is significant all-round feminization of the economic impact of HIV/AIDS. The main objectives of the study can be summed as follows: (1) to find if significant gender-based economic impact exists in HIV/AIDS HHs with reference to gender of the HH head (HHH), and (2) to make a comparative analysis of the findings with those of the control group (CGr) comprising matched non-HIV/AIDS HHs.

Research Methodology and Sample Selection

On account of the sensitive nature of the topic, involvement of hidden population, unknown universe and absence of a proper sampling frame, the sample selection of HIV/AIDS HHs has been done through a combination of non-probability sampling techniques. The data collection was carried out in 2009 via in-depth interviews and with the (in)direct assistance of NGOs. Established ethical norms were followed throughout the study.

The CGr of non-HIV/AIDS HHs, selected on a 1:1 ratio with HIV/AIDS HHs, was selected purposively to match the latter. Amongst the factors given consideration for selecting the CGr were: locale of the HIV/AIDS HH, educational qualification of the HIV/AIDS HHH and socio-cultural background of the HIV/AIDS HHs. Two different instruments were used for data collection, one for each sample; the same were adaptations of the ones prepared by NCAER (2004: Pradhan et al. 2006).

The study makes use of *chi-square tests of independence*—and *Fishers Exact Test* (FET) whenever appropriate—to understand association related matters;[2] and *Mann-Whitney U-test* (MW-U) to understand issues pertaining to differences between the two independent samples. With regards to chi-square, the procedure of redoing of cells was adopted whenever the need arose. Non-parametric tools have been used for their distinct superiority considering the peculiar nature and constraints of the present study.

The sample of HIV/AIDS individuals comprise those across the state of Goa: whose HIV+ status was detected/listed at the ICTCs in Goa; who were residing in Goa; who were within 18–60 years of age; who were living in HHs; and who were able and willing to take part in the study. The HIV/AIDS HHs sample comprises 200 HIV+ respondents, representing 200 HHs. If one considers the ICTC/GSACS number of HIV+ people in Goa along with the various exclusions, it is a figure '>5 per cent' in terms of HIV/AIDS HHs in Goa. The sample size is sufficiently compatible with other similar studies involving hidden populations.

A few selected features of sample HHs and respondents are as provided in Tables 1, 2 and 3.

Table 1. Comparative Profile of Sample HHs in Terms of Age and Educational Qualifications of HH Heads (figures in percentage terms given in brackets)

	HIV/AIDS HHs #			Non-HIV/AIDS HHs ##		
	Sex of HH-head			Sex of HH-head		
	Male	Female	Total	Male	Female	Total
Age of the HH-head^@						
20–30 years	6 (3)	13 (6.5)	**19 (9.5)**	6 (3)	2 (1)	**8 (4)**
31–40 years	49 (24.5)	28 (14)	**77 (38.5)**	34 (17)	14 (7)	**48 (24)**
41–50 years	32 (16)	15 (7.5)	**47 (23.5)**	53 (26.5)	15 (7.5)	**68 (34)**
51–60 years	20 (10)	17 (8.5)	**37 (18.5)**	42 (21)	10 (5)	**52 (26)**
Above 60 years	10 (5)	10 (5)	**20 (10)**	17 (8.5)	7 (3.5)	**24 (12)**

(Table 1 continued)

(Table 1 continued)

	HIV/AIDS HHs #			Non-HIV/AIDS HHs ##		
	Sex of HH-head			Sex of HH-head		
	Male	Female	Total	Male	Female	Total
Educational qualifications of the HH-head						
Illiterate	27 (13.5)	47 (23.5)	**74 (37)**	37 (18.5)	33 (16.5)	**70 (35)**
Primary (Ist–IVth)	13 (6.5)	10 (5)	**23 (11.5)**	32 (16)	5 (2.5)	**37 (18.5)**
Fifth-SSC (Vth–Xth)	57 (28.5)	20 (10)	**77 (38.5)**	69 (34.5)	10 (5)	**79 (39.5)**
HSSC (XIth–XIIth)	**8 (4)**	2 (1)	**10 (5)**	10 (5)	0	**10 (5)**
Graduate	9 (4.5)	3 (1.5)	**12 (6)**	3 (1.5)	0	**3 (1.5)**
Post-Graduate	1 (.5)	0	**1 (.5)**	0	0	**0**
Others	2 (1)	1 (.5)	**3 (1.5)**	1 (.5)	0	**1 (.5)**
Total	**117 (58.5)**	**83 (41.5)**	**200 (100)**	**152 (76)**	**48 (24)**	**200 (100)**

Source: Authors' field work.

Notes: ^Mean age of HIV/AIDS HH-head was 44.95 years (48.42 years for CGr)
@69.5 per cent of the HIV/AIDS HH heads were themselves HIV+
#Average size of HHs: 3.77 members
##Average size of HHs: 4.48 members

Table 2. Profile of Sample HHs based on Total Annual HH Income (figures in percentage terms given in brackets)

Total Annual HH-Income	HIV/AIDS HHs			Non-HIV/AIDS HHs		
	Sex of HH-head			Sex of HH-head		
	Male	Female	Total	Male	Female	Total
Up to ₹25,000	25 (12.5)	32 (16)	**57 (28.5)**	1 (.5)	2 (1)	**3 (1.5)**
₹25,001–50,000	35 (17.5)	36 (18)	**71 (35.5)**	**18 (9)**	20 (10)	**38 (19)**
₹50,001–1,00,000	33 (16.5)	9 (4.5)	**42 (21)**	60 (30)	12 (6)	**72 (36)**
₹1,00,001–1,50,000	11 (5.5)	3 (1.5)	**14 (7)**	35 (17.5)	**8 (4)**	**43 (21.5)**
₹1,50,001–2,00,000	**6 (3)**	1 (.5)	**7 (3.5)**	26 (13)	2 (1)	**28 (14)**
₹2,00,001–2,50,000	1 (.5)	1 (.5)	**2 (1)**	5 (2.5)	2 (1)	**7 (3.5)**
₹2,50,001–3,00,000	0	0	**0**	2 (1)	0	**2 (1)**
₹3,00,001–5,00,000	5 (2.5)	1 (.5)	**6 (3)**	5 (2.5)	2 (1)	**7 (3.5)**
Above ₹5,00,000	1 (.5)	0	**1 (.5)**	0	0	**0**
Total	**117 (58.5)**	**83 (41.5)**	**200 (100)**	**152 (76)**	**48 (24)**	**200 (100)**

Source: Authors' field work.

Table 3. Profile of Sample HIV+ Respondents (figures in brackets are percentage figures in terms of total sample)

	Male	Female	Total
Age-group of HIV+ respondents^			
≤ 30 years	12 (6)	46 (23)	**58 (29)**
31–40 years	41 (20.5)	46 (23)	**87 (43.5)**
41–50 years	26 (13)	16 (8)	**42 (21)**
51–60 years	11 (5.5)	2 (1)	**13 (6.5)**
Present marital status of HIV+ respondents			
Currently married	53 (26.5)	37 (18.5)	**90 (45)**
Separated/divorced/abandoned	8 (4)	11 (5.5)	**19 (9.5)**
Widowed	8 (4)	59 (29.5)	**67 (33.5)**
Unmarried	21 (10.5)	3 (1.5)	**24 (12)**
Number of years back HIV+ status detected			
≤1 year	21 (10.5)	22 (11)	**43 (21.5)**
1–5 years	52 (26)	66 (33)	**118 (59)**
>5 years	17 (8.5)	22 (11)	**39 (19.5)**
Total	**90 (45)**	**110 (55)**	**200 (100)**

Source: Authors' field work.
Note: ^Mean age of HIV+ respondents: 36.5 years

Limitations of the Study

- Though selection of CGr with appropriate procedures have been followed by other studies as well,[3] perfect matching of samples cannot be assured.
- Though findings are indicative for others, on account of sampling and testing techniques adopted, there can be no generalizations drawn for the entire population.
- Though in line with (inter)national literature on the concentration of HIV amongst poorer and marginalized sections, there is the possibility for studies like the present, to appear tilted more towards those from the lower income brackets.

Results and Discussions

This section has been presented in four broad sections: I – Income, employment and coping mechanisms; II – Inflow and outflow of HH income; III – Health and medical expenditure; and IV – Miscellaneous.

I. **Income, Employment and Coping Mechanisms:** One immediate impact of HIV/AIDS, is its adverse fall-out on income/employment of individuals/HHs due to reasons like death, absenteeism,

'un-employability' etc. HIV/AIDS affects income/employment not only of HIV+ members, but also of other HH members who act as care givers. Given below are findings related (in)directly to income/employment, and how HHs cope with the strains.

Death of an AIDS HH Member: *Chi-square tests showed significant association at the 0.01 level between gender of the HHH and whether there was death of an earning AIDS member ($\chi^2 = 73.379$, $df = 1$, $p = .000$). MW-U also showed significant difference in income (lost) of dead earning AIDS members in HIV/AIDS HHs based on gender of the HHH at the 0.01 level ($U = 273.5$; $p = .007$).*

The study showed that death of AIDS members occurred primarily in female-headed (FH) HHs, with 61 of the 77 HHs which experienced death being FH.[4] FH-HHs face significantly greater hardships since the dead members were usually male, often the head and spouse of the current female head. The statement that FH-HHs face significant hardships on account of death of earning AIDS members has been made since death leads to loss of income. MW-U results show *significant difference in total annual HH income in HIV/AIDS HHs based on gender (where death of AIDS members took place) at the 0.05 level ($U = 309.5$; $p = .025$).* While mean earnings lost in FH-HHs (where earning AIDS members died) were at least[5] ₹5,474 per month, with the maximum amount lost being ₹80,000 per month;[6] the mean amount lost on account of death of earning AIDS members in male-headed (MH) HHs was only ₹3,355 per month.[7]

The actual earnings lost (particularly by FH-HIV/AIDS HHs considering the study findings) are larger than what they appear, since they build up for years *post*-death (see also Dixit 2005: 142; Mahal and Rao 2005: 584). The present study showed that while mean age of the dead AIDS persons was only 33.56 years; these sources of income have ceased for years, with almost 30 and 9 per cent having died between '5–10 years' and '>10 years' (earlier), respectively.[8]

Coping Mechanisms (CMs): *Despite substantial dependence on CMs by FH-HIV/AIDS HHs, there was no significant association at even the 0.1 level between CMs used and gender of the HIV/AIDS HHH ($\chi^2 = 1.521$, $df = 1$, $p = .217$).*

HIV/AIDS HHs adopt numerous mechanisms to cope with their precarious situation of rising expenses and falling incomes. Amongst these, four modes directly associated with income/employment were: 1) wife of HHH or female HIV+ respondent taking up remunerative job for the first time; 2) minor children taking up remunerative job; 3) those '>60 years' taking up remunerative job; and 4) the HIV+ respondent taking up additional job (see Table 4). The total number of HHs using the mentioned CMs, either singly or in a combination, was 65 (32.5 per cent) HHs from the total sample.[9]

That the wife has to take up employment is a common occurrence in HIV/AIDS HHs, irrespective of gender of the HHH, with the wife having to seek employment due to absenteeism, unemployment or 'un-employability' of the husband and/or due to increasing requirement of extra income to tide over rising expenses contributed by HIV/AIDS. In FH-HHs, a woman takes up employment usually on account of the death of her spouse; death which is often caused by AIDS. With regards to children (≤ 16 years) taking up remunerative activity, it is an occurrence particularly witnessed in FH-HHs, where the woman, usually the mother, is unable to support the HH with her meagre income. Often, children have to work in FH-HHs because the head herself is often HIV+, and hence unable to work much. The CMs mentioned are not

Table 4. Coping Mechanisms Related to Income/Employment Made Use of in HIV/AIDS HHs

	No. of HHs based on Sex of the HH-head			Percentage of Total HHs
	Male	Female	Total	
Wife/HIV+ female respondent had to take up job	24	20	44	22
Children had to take up job to support HH*	2	11	13	6.5
Those above 60 years had to take up job	7	3	10	5
HIV+ respondent had to take additional job	8	4	12	6

Source: Authors' field work.
Note: *These include boys and girls (≤ 16 years) who were themselves HIV+.

usual happenings of HHs in general; that they are relatively peculiar to HIV/AIDS HHs, can be seen by the fact that all were absent in the CGr. Incidentally, on a related issue pertaining to children, the present study showed that 21 (10.5 per cent) HIV/AIDS HHs, of which 17 (81 per cent) were FH, withdrew their minor children from educational institutions due to reasons like 'un-affordability', taking care of HIV+ members, and taking up of remunerative activity. The corresponding figure was nil for the CGr.

Notwithstanding the absence of significant gender-based association pertaining to CMs, it is nevertheless females in general that are at a comparative disadvantage. This becomes obvious if one considers that, while in 24 MH-HHs itself, it was a woman, i.e., the wife or HIV+ respondent who had to take up remunerative employment for the first time as a (in)direct consequence of HIV; there were more children from FH-HHs that were into paid employment, with adverse fallouts on HHs to be felt in years to come, due to poor development of skills contributed by insufficient formal education.

> ***Loss of Employment/income of HIV+ Members or Care givers during the year**: There was no significant association found at the 0.1 level between gender of HIV+ members/caregivers and whether lost job during the year ($\chi^2 = .594$, $df = 2$, $p = .743$).*

The loss of income/employment which imposes a substantial burden[10] on HHs is gender-independent.

> ***Loss of Double Employment/Sources of Income**: Related to, and in continuation with the significant association found between death of an AIDS earning member and gender, FH-HIV/AIDS HHs face a comparatively greater adverse impact of loss of double employment/sources of income.*

In 19 (9.5 per cent) of the total sample HIV/AIDS HHs, economic burden experienced due to loss of income was more, due to loss of income/employment of two earning members, which often, was directly on account of HIV/AIDS.[11] That FH-HHs experienced the greater burden can be seen by the fact that while 16 (>84 per cent) of the said HHs were FH, MH-HHs were only 3 (<16 per cent).

II. **Inflow and Outflow of HH Income**: This section pertains to analyzing gender perspectives by studying from where the HH rupee comes from and where it goes. While the major heads considered vis-à-vis the latter include food, regular monthly consumption expenditure,[12] other

annual HH consumption expenditure,[13] remittances[14] and savings/investments; with regards to the former they include total annual HH income, dissavings[15] and borrowings, besides unrequited and/or unrevealed income (UUI).[16]

***Food**: 1) While there was no significant association between gender of the HIV/AIDS HHH and monthly food expense slabs at the 0.1 level ($\chi^2 = 2.416$, $df = 3$, $p = .491$); in case of the CGr there was significant association at the 0.01 level ($\chi^2 = 15.775$, $df = 3$, $p = .001$).[17] Likewise, while in case of HIV/AIDS HHs, there was no significant difference at the 0.1 level in monthly food expenses based on gender ($U = 4264.5$; $p = .142$), there was at the 0.01 level in case of the CGr ($U = 2472$; $p = .001$).*

2) A significant association was found at the 0.05 level between gender and whether: a) there was a drop in food consumption since HIV detection due to financial inadequacies ($\chi^2 = 5.846$, $df = 1$, $p = .016$); and b) extra amount was spent on buying additional food as medically recommended ($\chi^2 = 4.073$, $df = 1$, $p = .044$).

3) There was significant difference in food expenses at the 0.05 level between FH-HHs of the two samples' ($U = 1507.5$; $p = .020$).

1) That there is no association/difference between gender and monthly food expenses in case of HIV/AIDS HHs is an important finding, for this is despite FH-HHs having significantly lower total annual HH incomes unlike MH-HHs (see sub-section on *total annual HH income*). Absence of gender-based association is a pointer of FH-HIV/AIDS HHs 'compensating' their lower annual HH income by depending *significantly on 'sponsored' food*[18] ($\chi^2 = 14.572$, $df = 1$, $p = .000$) *and UUI* (see sub-section with similar title); and substantially on CMs and borrowings. Consequently, while in HIV/AIDS HHs death to the male-head does not cause significant changes to monthly food expenses; in case of non-HIV/AIDS HHs since CMs and UUI do not play any substantial role there is significant association to the disadvantage of FH-HHs.
2) With regards to both, though the majority of the sample HHs admitted financial-inadequacy-driven drop in food consumption, with the majority not spending extra on purchase of proper nutrition, in both cases it was FH-HIV/AIDS HHs which were at significant disadvantage over their male counterparts.[19]
3) It was to the disadvantage of FH-HIV/AIDS HHs.

***Regular Monthly HH Consumption Expenditure**: The study found significant association at the 0.05 level between gender of the HIV/AIDS HHH and total regular monthly HH consumption expenditure slabs ($\chi^2 = 12.781$, $df = 5$, $p = .026$), with FH-HHs spending comparatively lesser sums; and significant difference at the 0.01 level in total regular monthly HH consumption expenditures based on gender ($U = 3290$; $p = .000$). In case of non-HIV/AIDS HHs also, similar differences were found at the 0.01 level ($U = 2612.5$; $p = .003$).*

Death of the male-head obviously has an adverse bearing on both samples. While mean regular monthly HH consumption expenses in MH-HIV/AIDS HHs standing at ₹2,653 per month, were only ₹1,831 per month in FH-HIV/AIDS HHs; in case of the CGr, the same were ₹2,226 and ₹1,768, respectively.[20]

***Other Annual HH Consumption Expenditure**: 1) While in case of HIV/AIDS HHs no significant association was found at the 0.05 level between gender and other annual HH consumption expenditure slabs (χ = 7.576; df = 5, p = .181), in case of the CGr there was a significant association (χ = 11.776; df = 5, p = .038). Likewise, while there was no significant difference in expenses based on gender (U = 4136; p = .074); there was in case of the CGr (U = 2710; p = .007); and*

2) *There was significant difference at the 0.05 level in the said expenses amongst FH-HHs from both samples (U = 1497.5; p = .018).*

1) The findings are indicators that while in non-HIV/AIDS HHs, on account of death to the male-head, the female-head experiences significant cut in HH expenses; in HIV/AIDS HHs, though annual expenses are comparatively lower in FH-HHs, they are by and large gender-independent. The latter is primarily/partly on account of: a) adoption of different CMs (including dependence on UUI) by FH-HHs; b) the general prevalence of significantly high medical expenses, irrespective of gender of the HHH; and c) due to assistance received through external sources like NGOs.
2) The significant difference observed was such that mean total expenses which were ₹25,355 per annum for FH-HIV/AIDS HHs, were lower at ₹19,834 per annum for FH-CGr HHs. The difference in figures is not a reflection of relatively better well-being of the former attained through higher consumption; on the contrary higher expenses prevailing in HIV/AIDS HHs (despite otherwise substantial/significant superior figures for the CGr on other consumption-heads) are primarily on account of the larger medical expenditure component. With findings at hand pertaining to spending on non-medical HH items, one can affirm that well-being of CGr HHs was comparatively superior despite lower total mean expenses.

In continuation to the well-being of HHs vis-à-vis other annual HH consumption expenses, approximately 47 per cent HIV/AIDS HHs having children of school-going age, reported drop in HH expenses on education due to HIV. Pertaining to the same, *a significant association was found at the 0.1 level between the said drop and gender (χ^2 = 3.413; df = 1; p= .065), to the disadvantage of FH-HHs.* Likewise, with regards to annual expenditure on clothing/footwear where over 80 per cent HHs reported a drop due to HIV, there was *a significant association found at the 0.01 level between the drop and gender (χ^2 = 10.065; df = 1; p = .002), with FH-HHs experiencing the fall more.*

***Remittances:** The study found significant association at the 0.05 level (χ^2 = 4.169; df = 1; p = .041) between gender of the HIV/AIDS HHH and whether made remittances during the year; with figures indicating MH-HHs making more remittances than FH-HHs.[21] Likewise, the study also found significant difference in mean amount of remittances based on gender of the HIV/AIDS HHH (U = 4273.5; p = 0.045). In case of the CGr, though there was a significant association between gender and remittances at the 0.01 level (χ^2 = 11.076; df = 1; p = .001), in contrast to HIV/AIDS HHs, remittances were more in FH-HHs;[22] with MW-U also confirming the significant difference in mean remittances at the 0.01 level (U = 3026.5; p = .002).*

The study found MH-HIV/AIDS HHs making relatively greater remittances on account of higher borrowings, as compared to FH-HHs, who had *significantly* higher dependence on UUI. While mean

remittances for MH-HIV/AIDS HHs were ₹3,995 per annum, that of FH-HHs were ₹1,194. In case of the CGr, FH-HHs had higher remittances since dependence on borrowings was relatively more compared to that on UUI, and since MH-HHs do not have much borrowing due to financial adequacy, unlike their HIV/AIDS counterparts. While mean amounts remitted by MH-CGr HHs was ₹655; it was higher at ₹777 in FH-HHs.

Pertaining to the female-female inter-HH differences, though they are *not significant at the 0.1 level (U = 1780; p = .140)*, the same are nevertheless substantial; (in)directly signifying relatively greater burden borne by FH-HIV/AIDS HHs. This is on account of two reasons: a) FH-HIV/AIDS HHs depend significantly more on the dubious, uncertain and even risky UUI; and b) most of the remittances taking place in majority of the HIV/AIDS HHs are primarily or exclusively on account of unproductive borrowings, particularly to meet increased medical requirements, unlike the CGr, where borrowings are overwhelmingly for productive purposes, including education, business and purchase of durable goods/ assets.

> ***Savings and Investments***: *While there was no significant association found at even the 0.1 level between whether savings/investment took place during the year and gender of the HIV/AIDS HHHs ($\chi^2 = 1.545$, $df = 1$, $p = .214$), there was a significant association at the 0.01 level in case of the CGr ($\chi^2 = 20.906$, $df = 1$, $p = .000$) to the disadvantage of FH-HHs. Likewise, while there was no significant difference in amounts saved/invested at the 0.1 level with regards to the HIV/ AIDS HHHs (U = 4423.5; p = .159), in case of the CGr there was at the 0.01 level (U = 2366; p = .000).*

The study findings reveal that, while savings/investment are adversely affected in FH-CGr HHs due to death of the male-head; in HIV/AIDS HHs, savings/investments are gender-independent, with the same being significantly lower as compared that in the CGr.

> ***Total Annual HH Income***: *There was significant difference at the 0.01 level in total annual HH income based on gender in HIV/AIDS HHs (U = 3223, p = .000), as well as in non-HIV/AIDS HHs (U = 2139, p = .000), to the disadvantage of FH-HHs. Significant association was also found at the 0.01 level between gender and total annual HH income slabs ($\chi^2 = 20.192$; $df = 3$; $p = .000$), wherein it was primarily the FH-HHs which constituted the lower income slabs. The association was also significant at the 0.01 level for the CGr.*[23]

HIV/AIDS has a *significantly* adverse bearing on the total annual HH income comprising wage and non-wage income on account of reasons like absenteeism due to sickness and/or care giving, frequent changes in jobs, inability to work full time etc. While mean total annual HH income for male- and FH-HIV/AIDS HHs was ₹76,982 and ₹43,593, respectively; the corresponding figures were ₹1,14,310 and ₹85,031 respectively, in case of the CGr. While significant intra-HH gender based differences exist in both samples' to the disadvantage of FH-HHs, *significant female-female inter-HH differences exist at the 0.01 level, to the disadvantage of FH-HIV/AIDS HHs (U = 877.5; p = .000).*

Incidentally, with regards to total non-wage income per HH (excluding interest), where *the figures were significantly higher and better at the 0.01 level for HIV/AIDS HHs* as compared to the CGr *(U = 15445.5; p = .000)*,[24] there was a *significant difference at the 0.1 level in total annual non-wage income*

(excluding interest) for the entire HIV/AIDS sample based on gender of the HHH (U = 4161.5; p = .057), with the mean annual non-wage income being about ₹7,867 for FH-HHs and ₹3,156 for MH-HHs.

***Dissavings**: 1) There was no significant association found at the 0.1 level between gender of the HHH and whether resorted to dissavings during the year in HIV/AIDS HHs (χ^2 = 2.129; df = 1; p = .145), as well as in the CGr (χ^2 =.251; df = 1; p = .617). Likewise no significant difference was found in total dissavings based on gender for HIV/AIDS (U = 4805; p = .900) and CGr HHs (U = 3533; p = .567).*

2) *There was significant difference at the 0.1 level in amounts dissaved during the year among FH-HHs of the two samples' (U = 1701; p = .065).*

1) The study findings reveal that dissavings are gender-independent. As a mode of generation of resources they occur generally across HHs *post*-exhaustion of wage/non-wage income and *ante*-borrowings and UUI. Incidentally, *in case of HIV/AIDS HHs, no significant association was found at even the 0.1 level between gender and amount of resources raised via dissavings (excluding liquidation of bank deposits) since detection of HIV (χ^2 = 5.079; df = 6; p = .534); with no significant difference in amounts dissaved also existing based on gender (U = 4805; p = .900).*

2) Notwithstanding that the significance was only at the 0.1 level, FH-HIV/AIDS HHs are nevertheless are at a relative disadvantage over FH-CGr by having greater dissavings during the year at ₹4,874 as compared to only ₹2,802 for the latter; despite most HHs having already sold/liquidated much of the assets/property earlier ever since detection of HIV. In case of the CGr, despite having access to assets/property, dissavings are lower because of lesser needs (particularly due to significantly lower medical expenses) on account of absence of HIV.

***Borrowings** 1) There was no significant association found at the 0.1 level between gender of the HIV/AIDS HHH and whether resorted to borrowings during the year (χ^2 = .358; df = 1; p = .550); with there being also no significant difference in amounts borrowed (U = 4391.5; p = .243). However, in case of the CGr, there was a significant association (χ^2 = 15.609; df = 1; p = .000) as well as significant difference at the 0.01 level (U = 2624; p = .000).*

2) *There were significant differences at the 0.01 level in borrowings pertaining to FH-HHs of the two samples (U = 1127.5; p = .000), to the disadvantage of FH-HIV/AIDS HHs.*

1) The results are indicators that while in case of HIV/AIDS HHs the need for borrowings takes place irrespective of the gender of the HH head; in case of non-HIV/AIDS HHs borrowings are gender-dependent, with FH-HHs being mainly those resorting to borrowings.

2) Borrowings of FH-HIV/AIDS HHs were ₹10,673 per annum as compared to only ₹3,636 for those of the CGr. As mentioned earlier, while borrowings of the former besides being high, are mostly medical-needs-driven unproductive in nature; amounts borrowed by the latter besides being lesser, are meant more for more productive purposes.

***Unrequited and/or Unrevealed Income* (UUI)**: *There was significant association found at the 0.01 level between gender and whether resorted to UUI during the year in case of the HIV/AIDS*

HHs (χ^2 = 9.255; df = 1; p = .002). The study also showed significant difference in mean amounts of UUI based on gender of the HIV/AIDS HHH at the 0.01 level (U = 3852; p = .010). The significant association/differences found, are also true for non-HIV/AIDS HHs (χ^2 = 10.026; df = 1; p = .002; FET: p = .005) / (U = 3213; p = 002).

The study reveals that it is FH-HHs that are more dependent on UUI. Though similar association was found in both samples', female-female inter-HH comparison reveals dominating dependence on UUI on the part of FH-HIV/AIDS HHs; while about 71 per cent of these HHs depended on UUI (about 49.5 per cent for MH-HHs), the corresponding figures for FH-non-HIV/AIDS HHs was only 14.5 per cent (about 2.5 per cent for men).

III. Health and Medical Expenditure:[25] Besides fall in employment/income, rising medical expenses on account of ill-health is another common fall-out of HIV/AIDS on individuals and HHs. The following section analyzes gender-biases/neutrality pertaining to issues like total annual HH medical expenditures, regular monthly treatment, hospitalized and non-hospitalized treatment.

Total Annual HH Medical Expenditure:[26] *No significant association (χ^2 = 7.162; df = 7; p = .412) nor difference (U = 4147; p = .079) was found at the 0.5 level between gender and total annual HH medical expenses in case of HIV/AIDS HHs. Likewise, no significant difference in total annual HH medical expenditures was found for the CGr (U = 3112.5; p = .120).*

By and large total annual HH medical expenses are gender-independent, with expenses being significantly higher in HIV/AIDS HHs. However, *in case of HIV/AIDS HHs, burden on FH-HHs is significantly higher than that faced by FH-CGr HHs (U = 811; p = .000),* with the figures being ₹7,673 per HH per annum in case of the former, and only ₹1,630 per annum in case of the latter.

Non-hospitalized Illness Episodes/Treatment **(NHIE/NHIT)**:[27] *1) Pertaining to those sick with NHIEs last month, there was no significant association found at even the 0.1 level between whether took treatment and gender of the HHH in case of HIV/AIDS HHs (χ^2 = 2.415; df = 1; p = .120) as well as non-HIV/AIDS HHs (FET: p = 1).*

2) There was significant association found at the 0.1 level between whether those continuously/frequently ill[28] *last month took treatment and gender of the HHH (χ^2 = 2.998; df = 1; p = .083).*

3) There was neither significant association (χ^2 = 6.573; df = 6; p = .362) nor difference (U = 4497.5; p = .330) at the 0.1 level between total NHIT expenses and gender of the HIV/AIDS HHHs. Likewise there was no significant difference found in case of the CGr (U = 3584; p = .741).

4) Significant difference in total NHIT expenses of last one month were found at the 0.01 level amongst FH-HHs of both samples' (U = 1196; p = .000) to the disadvantage of FH-HIV/AIDS HHs.

1) Seeking treatment or not for NHIEs is largely independent of gender. While not seeking treatment in case of the CGr takes place only if the illness is not considered serious, in case of HIV/AIDS HHs it is on account of other reasons, the primary one being financial constraints.

2) Interestingly, if not the only case, at least one of the rarest, the significant association was to the advantage of FH-HIV/AIDS HHs, with more HHs opting for treatment.[29] Notwithstanding that further in-depth analysis is needed to confirm the said association, especially since the significance was at the 0.1 level, field-observations revealed that FH-HHs often seek treatment, since it is the female-heads themselves who are often HIV+, and it is they who have to take care of the HHs despite the infection.
3) A common implication is that HIV/AIDS has adverse bearing on HHs vis-à-vis NHIT expenses irrespective of gender.
4) While mean total NHIT expenses for FH-HIV/AIDS HHs were ₹657 per month, the figures for FH-CGr HHs were only ₹53, despite the latter including illness episodes of *all* HH members, unlike the former which considered details of only the HIV+ respondents.

Hospitalized Illness Episodes/Treatment **(HIE/HIT)**:[30] *1) There was no significant association found at the 0.1 level between gender of the HHHs and whether ever hospitalised after HIV detection ($\chi^2 = .363$; $df = 1$; $p = .547$).*
2) *There was absence of significant association ($\chi^2 = 1.700$; $df = 5$; $p = .889$) and difference ($U = 4532.5$; $p = .410$) at the 0.1 level with regards to gender of the HHH and total HIT expenses of all sample HIV/AIDS HHs.*
3) *There were significant differences at the 0.01 level in total HIT expenses amongst FH-HHs of both samples ($U = 815.5$; $p = .000$).*

1-2) Though significant inter-sample differences were found pertaining to HIT, by and large issues pertaining HIT in HIV/AIDS HHs were gender-independent.
3) FH-HIV/AIDS HHs are at a significant disadvantage vis-à-vis total HIT expenses of HIV+ respondents of last one year, with the same being ₹2,106 per annum as compared to only ₹42 per annum for FH-CGr HHs comprising *all* members within 18–60 years age-group.

Regular Monthly Medical Treatment **(RMMT)**:[31] *1) There was significant association found between gender of the HHH and taking of anti-retroviral treatment (ART) at the 0.05 level ($\chi^2 = 6.377$; $df = 1$; $p = .012$), with the same being to the disadvantage of FH-HHs;*
2) *There was no significant association at the 0.1 level between whether taking 'other' RMMT (i.e., excluding ART) and gender ($\chi^2 = .006$; $df = 1$; $p = .936$).*
3) *Significant differences were found to exist in total RMMT expenses among FH-HHs of both samples ($U = 962.5$; $p = .000$).*

1) That FH-HHs are to a disadvantage vis-à-vis ART is a matter of concern. As field-interactions revealed it was not that the health parameters in terms of *CD-4* and/or *viral load* count were always good for ART not to be taken; it was instead because the respondents either did not take initiative to start/continue with the treatment, on account of reasons like high out-of-pocket expenses, long distances from the ART centre, or on account of maintaining 'anonymity'.
2) Taking (not taking) of 'other' RMMT is largely gender-independent.
3) That FH-HIV/AIDS HHs bear significantly greater burden vis-à-vis total RMMT can be gauged by the fact that despite considering expense details of only one member per HH, i.e., the HIV+ respondent, and despite majority availing of free treatment provided by government/NGOs/

C&S Homes, the mean expense figures were ₹210 per month for FH-HIV/AIDS HHs, as compared to only ₹87 per month for FH-CGr HHs, comprising all members, and despite majority availing private treatment.

IV. **Miscellaneous**: This section highlights two issues: gender-perspectives vis-à-vis provisions for children's future and an outline of adversities facing married women.

Provision for Children's Future: *While no significant association was found at the 0.1 level between gender of the HIV/AIDS HHH and whether made provision for children's future (χ^2 = 1.763; df = 1; p = .184); there was a significant association at the 0.01 level vis-à-vis the CGr (χ^2 = 16.153; df = 1; p = .000; FET: p= .001), to the disadvantage of FH-HHs.*

The study highlighted that while just about 23.5 per cent of the HIV/AIDS HHs managed to make some provisions for the children's future, the corresponding figures were much healthier at 95 per cent for the CGr. While in case of the CGr it is the MH-HHs which usually make the provisions, with FH-HHs facing a problem due to financial difficulties *post*-death of the male-head; in case of HIV/AIDS HHs, difficulties are gender-independent, experienced by all, due to the immense strain imposed by HIV/AIDS.

Adversities Facing Married Women: An overview of the situation facing the 107 married HIV+ respondents[32] (irrespective of their present marital status) is indicative that the situation for women can only worsen. While the majority at almost 57 per cent were not staying with their husband's/his family,[33] only about 13 per cent got financial support from him/his family, with the majority (72 per cent) being denied right to husbands property.

Conclusion

From the study we can draw the following conclusions:

- Whenever significant differences/association were found based on gender in HIV/AIDS HHs, the same were always to the disadvantage of FH-HHs, barring a single case pertaining to treatment for continuously/frequently experienced NHIEs.
- There were relatively more instances of gender-based differences in non-HIV/AIDS HHs, all to the disadvantage of FH-HHs; death to the male-head has a significant impact on the economic functioning of non-HIV/AIDS HHs. In case of HIV/AIDS HHs, there were fewer gender-based associations/differences, with hardships often being gender-neutral.
- Absence of significant gender-based differences in HIV/AIDS HHs is not indicative of women being subject to equal amounts of hardships as men. Though it certainly shows that crises spreads across HHs irrespective of gender, as field-observations revealed, FH-HIV/AIDS HHs indeed had a relatively larger burden to face considering that they made up for the 'equal position' with men, despite having significantly lower annual HH income; by depending significantly more on the uncertain, dubious and even risky UUI, and by depending substantially/comparatively more on CMs. Both though help generate resources, carry adverse burdens on HHs: physical, mental, emotional, present and future.

- There were significant fall-outs faced by FH-HIV/AIDS HHs as compared to the FH-CGr HHs; even in situations where there were no intra-HH male-female/gender-based associations/differences (in HIV/AIDS HHs).

Notwithstanding the quite unanticipated gender-neutral nature of a few economic fall-outs of HIV/AIDS on affected HHs (compared to the anticipated bias against women as supported by findings for the CGr); women nevertheless invariably face relatively and absolutely more hardships than men. With stigma and discrimination ever shadowing HIV+ individuals in general, the economic status of women, particularly in the Indian socio-cultural context, becomes all the more inferior. In India, when families do economically support members with HIV, such support tends to be discriminatory and usually in favour of male HIV+ members (Mahal and Rao 2005: 586). Gender inequality thus gets further accentuated by HIV/AIDS. With very little support coming from the husband's side, as the present study revealed, adversities haunting women could have only got more serious, had it not been for the support that a large number of HHs received from their kith and kin, with the support for 64 per cent of such HHs coming exclusively from the wife's relations, including parents and siblings. Field observations revealed that the need for survival often made women adopt unacceptable, risky, uncertain and unreliable modes of income generation. During the course of study, it was not uncommon to find married women from affected HHs even selling their 'precious' *mangalsutras*.[34]

Paradoxically, one may say, women face more trying conditions despite often being monogamous and not being the cause of HIV in the HH. This is not a wholesome indictment of men; there indeed were HIV-negative male HHHs in the study, though their wives were HIV+. However, it is important to note that even in such scenarios, leaving aside those women who contracted the infection through non-sexual modes of transmission, of those who got it through the sexual route not involving their husbands, the infection often was because of lack of sufficient economic support of the husbands. In one case, a HIV+ married woman claimed to have contracted the virus through a single incident of paid sex which circumstances forced her into, to raise ₹700 which she urgently needed to treat her ailing son; an amount which her abusive husband refused to provide her.

In fine, with broad indications provided by the study findings with regards to women and the economic impact of HIV/AIDS, it can be unequivocally stated that FH-HHs and female HIV+ individuals need (in a way) more serious attention in terms of care, support and economic rehabilitation. This becomes all the more imperative, not just due to the often witnessed marginalized status of Indian women and the undesirable options chosen by them vis-à-vis income generation, but also on account of women needing to take care of their HHs (besides themselves), which often comprise minor children and dependents.

Notes

1. While references to severe/disproportionate adversities faced by women can be found extensively in Prasad and Somayajulu (2008); concerns are also available in Dixit (2005: 73–76); ILO (2003); Mahal and Rao (2005); Pradhan et al. (2006); UNAIDS (2008), etc.
2. Data in hand has then been used to find the direction of association.
3. See Canning et al. (2006) and NCAER (Pradhan et al. 2006).
4. Of the 77 dead, 70 used to be earning members. It needs to be noted that the study considers only one dead AIDS member per HH. If >1 members are dead, the earning member is considered; if both were earning, the one who died last has been considered.

5. 'At least' because in case of two HHs, since details were unavailable, earnings lost have been considered as ₹1 only.
6. Trimming the extreme element still leaves a significant difference (0.01 level) in mean amount lost ($U = 273.5$; $p = .008$).
7. Figures pertain to 59 and 11 FH- and MH-HHs respectively, having dead earning AIDS members. Two and five FH- and MH-HHs respectively had dead non-earning AIDS members.
8. 15.5 and 45.5 per cent died '<2' and 'between 2–5 years' (earlier) respectively.
9. Results mentioned vis-à-vis absence of significant association between CMs and gender pertain to these HHs.
10. Mean amount lost is ₹15,460 per annum in HHs where loss of income/employment took place; with the mean income lost being ₹3,324 for all sample HHs taken together.
11. While in 16 HHs the double loss pertained to that of dead earning AIDS or non-HIV members and of those who lost income/employment during the course of last one year; in three HHs, while earnings lost of dead AIDS members was one source, death to non-HIV earning members was the second. The mean amount lost by the first category of 16 HHs itself was around ₹5,248 per month; a substantial sum considering the poorer economic backgrounds of the sample HHs.
12. Excluding food, and inclusive of expenses on items like house-rent, water/fuel, entertainment, cable/TV, alcohol/tobacco products, toiletries, electricity and telephone.
13. These exclude food and regular monthly HH consumption expenditures; and include items like medical expenses, purchase of durable/electronic/electrical goods, clothing/footwear, expenses on ceremonies, house/vehicle repairs/maintenance and education.
14. For the purpose of this study remittances include any monetary outflow in the form of loan repayments, donations, unilateral payments etc., wherein at the time of outflow there is no *quid pro quo*.
15. For the purpose of this study, refers to generation of resources by selling/liquidating HH assets/property/bank deposits etc.
16. A term coined for the present study to represent resources generated via unrequited income and/or from unrevealed sources including from dubious activities like gambling, prostitution and even petty crime.
17. The latter is not entirely unreliable despite '25 per cent cells' having expected count '<5', since by redoing slabs a similar significant association was also found ($\chi^2 = 11.465$, $df = 2$, $p = .003$).
18. Food, over and above what is purchased at ones own cost and obtained free regularly, through NGOs; at the work place (house-maids and hotels/restaurant workers); getting somebody to pay for part of the food expenses etc. Unlike FH-HHs, MH-HHs relied more on food purchased through personal/HH income, with figures being 14 and 39 per cent respectively.
19. A study in Zambia showed FH-HHs with HIV+ members being 'food-insufficient' for an average 3.4 months per year (FAO 2004: 6).
20. Though non-HIV/AIDS HHs had higher expenses on most heads signifying superior consumption levels, one primary reason for the lower total expenses in the CGr was the significantly lower house-rent component due to better ownership of self-owned premises.
21. Thirty-one MH- and 12 FH-HHs made remittances during the year.
22. Of the MH- and FH-non-HIV/AIDS HHs, 13 each resorted to remittances.
23. Found by keeping the same slabs as done for HIV/AIDS HHs and also by redoing slabs to adjust for high percentage of cells with expected count of '<5' *($\chi^2 = 24.878$; $df = 2$; $p = .000$)*.
24. There were relatively more widows, many receiving government provided pension post-death of husbands, majority of who died of AIDS.
25. Pertaining to the comparative analysis, the primary aim was to see if significant differences exist despite taking details of *all* members in the 18–60 years age group from the CGr, as compared to details of *only the* HIV+ respondents from the other sample. Figures mentioned are accordingly to be viewed in light of the above.

26. Total annual HH medical expenditure refers to sum of medical expenses of all HH members.
27. For the purpose of this study, NHIEs include those which did not necessitate an overnight stay, or stay of 24 hours in a hospital/Care and Support Home (C&S Home), but which required medical attention, irrespective of whether available/provided/taken or not.
28. For the purpose of this study: frequently refers to a member being ill 4–5 times a month or more, with such a member falling sick about once a week; continuously refers to a member being regularly ill, with such a member falling sick almost every single/alternate day.
29. While 30 FH-HHs opted for treatment, only seven did not. Figures for MH-HHs were 26 and 15 respectively.
30. For the purpose of this paper/study HIE/HIT means illness episodes/treatment that required an overnight or 24 hours stay in a public/private hospital or C&S Home.
31. That which has to be taken on a regular basis; includes ART in case of HIV/AIDS HHs.
32. Of these 64.5 per cent belonged to FH-HHs; majority were HHHs themselves.
33. While most stopped *post*-death of the husband, some stopped ever since husband or self was detected HIV+.
34. Necklace made of gold and black beads, worn by a large number of married Indian women to symbolize their marital status.

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