CHAPTER SEVEN

OBSERVATIONS, FINDINGS AND RECOMMENDATIONS

The chapter includes hypothesis testing and presents findings of the research study. Besides presenting the profile of the respondents groups, it attempts to highlight factors that create vulnerability to HIV/AIDS for the two respondent groups of Truck drivers and Mathadi workers at two levels – factors at place of destination and personal vulnerability factors. This is followed by recommendations suggested for reducing vulnerability of these groups in the context of HIV/AIDS.

HIV/AIDS vulnerability among the bridge population has emerged as an area of growing concern in the last two decades. The focus of intervention efforts shifted to this group with the increasing prevalence rate of HIV infection among the general population. They play a crucial role in the HIV pandemic as they may be in a position to transmit infection to the general population namely their spouses who are otherwise in a monogamous relationship. These groups termed as ‘bridge population’ who through their close proximity to high risk groups are placed in a very vulnerable position in the context of HIV/AIDS. They form a crucial group because of their ‘mobility with HIV’. With increase in research studies such as KABP studies there has been a shift in perspective in understanding certain groups where the prevalence of HIV infection is high. Earlier these groups were labeled as high risk groups and carriers of infection. Currently the understanding of the epidemic has gone beyond the labeling to a contextual
understanding of ‘high risk behaviors’ that places certain groups in very vulnerable position in the context of HIV/AIDS. The patriarchal nature of society with its gender norms and behavior practices creates grounds for easier acceptance of the very risk behaviors that places these population groups at risk of HIV infection. The notions of gender present ideal grounds for engaging in risk behavior that creates susceptibility to HIV infection.

Truck drivers and migrant workers such as mathadi workers are two such major groups of bridge population. These two sub-groups form major work force at whole sale market outlet in Vashi, Navi Mumbai. These groups work in close proximity to each other in the market where the drivers transport the goods to the market and the loading, unloading and stocking activities are carried out by the mathadi workers. Both these groups are mobile groups i.e. they are engaged in process of mobility from their place of origin to place of destination i.e. Vashi for reasons of economic prosperity. There are certain similarities and dissimilarities between these groups in terms of their mobility but both these groups are placed in a vulnerable position in the context of HIV/AIDS at place of destination.

7.1 Findings of the study

This study attempts to examine the vulnerability factors at two levels – firstly, personal vulnerability factors and correlation with socioeconomic factors (age, marital status, education, and income), risk behavior practices, exposure to mass media and social interactions, and secondly, factors creating vulnerability at the place of destination. There are numerous studies on Knowledge, attitude, behavior, practices regarding HIV/AIDS of various sections of the population. Since surveillance reports the bridge population as
vulnerable groups these groups have been the focus of intervention strategies such as NACP-III. While the subgroup of truck drivers has been the foci of numerous studies and intervention programmes in Western and Asian countries, there is dearth of academic study on the subgroup of migrant workers. The literature review brought out few studies on construction workers, daily wage earners etc. but did not reveal any studies on mathadi workers who form an integral part of work force at the APMC market. The research study aims to provide a contextual comparative understanding of the vulnerability factors to HIV/AIDS of the two groups at the place of destination.

The study is based on mixed research design i.e. largely quantitative supported by a qualitative method. The first phase of the study was based on data collected from a sample of 300 truck drivers and 300 mathadi workers using interview schedule. Facility based sampling along with Time location sampling was used for truck drivers and Systematic sampling was used for mathadi workers to draw samples. The primary quantitative data was supported by data from four Focus Group Discussions conducted with both respondent groups in the second phase of the study.

7.1.1 Socio-economic profile of respondents
The socioeconomic profile of the respondents reveal that among the respondent group of truck drivers, 75.6 percent report their place of origin as being outside Maharashtra (Karnataka, Utter Pradesh, Haryana, Tamil Nadu, Delhi, Bihar and Jammu Kashmir) and 24.4 percent report their place of origin as Maharashtra. Among the mathadi workers, the data showed that 98.0 percent reported place of origin to be Maharashtra (Sangli, Satara, Mahabaleshwar, Amravati, Bhor, Karad, Pune, Alibaug, Belgaun, Kolhapur, and Wai).
The mean age of the truck drivers is 30.69 years while the mean age of the mathadi workers is 34.25 years. The minimum age of respondents among truck drivers is 18 years and the maximum age is 65 years while among the mathadi workers the minimum age is 18 years and maximum is 60 years. Among the truck drivers, a majority of respondents are in the age group of 26-35 years (44.90 percent) years followed by 18 -25 years (30.40 percent). Among the mathadi workers a majority of respondents fall in the age group of 26-35 years (43.5 percent), followed by 36-45 years (27.2 percent). Among the truck drivers, majority report their religion as Hindu (77.3 percent), followed by Muslim (19.5 percent), Buddhist (1.3 percent), Sikh (1.3 percent) and Christian (0.6 percent). Among the mathadi workers, 96.3 percent reported their religion as Hindu, 3.0 percent as Muslim and 0.7 percent as Buddhist.

Among the respondent group of truck drivers, a majority report that they have completed secondary education (42.90 percent), followed by primary education (37.8 percent) and graduation (7.1 percent). 12.2 percent state that they have not received any education. Among the mathadi workers majority state that they have completed secondary education (68.8 percent) followed by primary education (26.2 percent). Only 3.3 percent of respondents state that they have not received any education. Among the respondent group of truck drivers, a majority of the respondent report being married (60.9 percent), while 35.9 percent report being unmarried, 1.9 percent report being divorced while 1.3 percent is widowed. Among the mathadi workers majority of them are married (79.7 percent) i.e. nearly twenty percent more as compared to truck drivers. It is significant to observe that only 16.3 percent report being unmarried. A small percent report being divorced (1.6 percent) and widowed (2.7 percent).
Among the respondent group of truck drivers a majority of them report that their income per month is less than Rs.10,000 (64.2 percent), followed by respondents stating that they earn between Rs.10,001 and Rs.20,000 (33.5 percent). A small proportion has said that they earn more than Rs.20,000 (2.3 percent). Among the mathadi workers 97.7 percent report that their income is less than Rs. 10,000 and 2.3 percent as earning between Rs. 10,000 and Rs. 20,000.

The mobility indicator data show that the mean period of stay for the truck drivers is 2.71 days. The minimum period of stay is 1 day and maximum period is 8 days. For the mathadi workers the mean period of stay is 338.77 days and the minimum period of stay is 30 days and maximum is 1200 days. Among the respondent group of truck drivers, the mean number of visits to and fro from place of destination to origin in the last two years is 66.30 times and the minimum number of visit is 1 while maximum number is 196. The mean number of visits for the Mathadi workers is 20.04 times and the minimum number of visit is 1 and maximum number is 72.

7.1.2 Knowledge regarding HIV/AIDS

Among the truck drivers 99.7 percent report having heard of HIV/AIDS and 98.7 percent of mathadi workers report the same. Among the truck drivers 99.4 percent report knowledge of HIV transmission through unprotected sexual relation, 97.8 percent through sharing infected needles and 88.1 percent through infected blood products. Only 45.5 percent report knowledge about mother to child transmission. A similar trend can be seen among the mathadi workers where high proportion of respondents report knowledge on the first three modes of transmission. 100.0 percent report knowledge on transmission through unprotected sexual relation, 97.3 percent through sharing infected needles and
93.4 percent through infected blood products. 39.2 percent report knowledge regarding mother to child transmission. The data on knowledge regarding prevention of HIV transmission show that the respondent group of truck drivers report condom use (92.3 percent), being faithful (80.8 percent), safe blood and blood products (76.0 percent), using new syringes/needles (76.0 percent) and antenatal check up (35.3 percent). A little less than one third of respondents report knowledge on all the methods of prevention (24.0 percent). Among the mathadi workers, condom use is reported by majority of respondents (96.7 percent), followed by abstinence (94.7 percent) and being faithful (91.7 percent), safe blood and blood products (95.3 percent), using new syringes/needles (96.3 percent) and antenatal checkup (35.2 percent). About one third of respondents report knowledge on all the methods of HIV prevention (30.2 percent).

Among the truck drivers, respondents stating knowledge on all the six prevention methods is highest among the youngest age group 18-25 years (13.8 percent) followed by 26-35 years (13.7 percent), followed by 46-65 years (10.3) and is lowest in age group 36-45 years (7.9 percent). Among the mathadi workers, the data shows a reverse trend with highest awareness among 36-45 years (17.3 percent), followed by 46-65 years (17.2 percent), followed by 18-25 years (15.2 percent) and is lowest among 26-35 years (12.9 percent). Cross tabulation across education level shows a curvilinear relation for the group of truck drivers. It is high among the nil education level (18.8 percent), 8.1 percent among the primary educated, 10.3 percent among the secondary educated, 51.9 percent among the tertiary educated. Among the mathadi workers, knowledge is highest among the secondary educated respondents (18.2 percent) and lowest among tertiary educated (7.4 percent). Cross tabulation with marital status shows higher proportion of married truck drivers report knowledge on all six methods of prevention (20.5 percent) as against
unmarried drivers (9.5 percent). Among the mathadi workers knowledge is higher among
the married respondents (16.5 percent) as against unmarried respondents (10.6 percent).
Among the truck drivers a majority of respondents report misconception that HIV can be
transmitted by accompanying an infected person (49.4 percent), followed by mosquito
bite (46.2 percent), followed by sharing towel (20.2 percent), followed by sharing food
(14.4 percent), clothes (13.5 percent). Only a miniscule proportion of respondents report
misconception regarding hand shaking (2.9 percent). Among the mathadi workers, a
majority of respondents report misconception that HIV can be transmitted through
accompanying infected person (42.9 percent), mosquito bite (43.9 percent), sharing towel
(15.3 percent), clothes (7.3 percent), food (5.6 percent), hand shaking (1.0 percent). The
data reports that among the truck drivers 47.4 percent rejected all the three common
misconceptions i.e. transmission through hand shake, by mosquito bite and sharing food
while among the mathadi workers 53.0 percent report the same.

Comparison of the mean score of misconception show that the mean is higher among the
mathadi workers (4.85) as compared to truck drivers (4.54). The minimum number of
misconception among the truck driver is 1 and maximum numbers is 6 while for the
mathadi workers the minimum number of misconception is 2 and the maximum number
is 6. Comparison of the mean score of scientific knowledge of HIV/AIDS shows that the
mean score of HIV knowledge is slightly higher among the mathadi workers (12.31) as
compared to truck drivers (11.82). Among the truck drivers the minimum number of
correct answers is 2 and maximum score is 17 while for the mathadi workers, the
minimum number of correct answers is 5 and maximum is 17. Though there is minimal
variation in the HIV/AIDS misconception score of both groups, the mathadi workers
score slightly higher on this score as compared to truck drivers.
Cross tabulation with age category show that among the truck drivers, misconception level keeps increasing with age and is lowest among age group 18-25 years. It is 2.1 percent among 18-25 years, 4.3 percent among 26-35 years and is highest at 15.0 percent among the 46-65 years. Among the mathadi workers, there is not much variation of this variable among the age groups. The data shows 2.0 percent report high level of misconception among the 18-25 years and 2.6 percent among the 46-65 years. Cross tabulation with marital status shows that among the truck drivers high level of misconception level is higher among the married respondents (4.7 percent) as compared to unmarried respondents (1.8 percent). Among the mathadi workers, the trend is reversed with high level of misconception more among the unmarried respondents (2.1 percent) as compared to married respondents (0.4 percent).

Among the truck drivers, a low level of misconception is highest among the tertiary educated (77.3 percent) and keeps decreasing with education. It is 50.0 percent among secondary educated, 39.0 percent among the primary educated and 28.9 among those who have not received any education. Among the mathadi workers, it is a curvilinear relation with low level of misconception reported highest among the tertiary educated (80.0 percent), decreases among the secondary educated (57.8 percent), increases among the primary educated (63.3 percent) and is 70.0 percent among those who have not received any education. A comparison across the two respondent groups reveals that higher proportion of mathadi workers (51.0 percent) report a high level of knowledge as compared to truck drivers (46.0 percent). In keeping with the trend a higher proportion of truck drivers (4.2 percent) report low level of knowledge as compared to mathadi workers (3.8 percent).
Regarding knowledge of condom availability, among the truck drivers, a majority report that they know that condoms are available at chemist shop (97.1 percent), pan shop (64.1 percent) followed by a low proportion reporting local NGO (28.5 percent). A similar trend can be seen among the mathadi workers with a majority of respondents reporting chemists’ shops as source of condom availability (99 percent). A smaller proportion of respondents report pan shop and local NGO as outlets for condom availability (35.6 and 33.9 percent respectively).

Among the truck drivers knowledge regarding condom availability is highest in the age group of 18-25 years (66.0 percent) and keeps decreasing with increasing age group and is lowest in the age group of 45-65 years (34.5 percent). Among the mathadi workers the knowledge regarding condom availability is lowest in the youngest age group of 18-25 years (34.0 percent) and is highest among the oldest age group of 45-65 years (65.5 percent). Looking at the knowledge regarding condom availability across marital status, the data shows that among the truck drivers, the knowledge is higher among unmarried respondents (69.9 percent) as against unmarried respondents (44.5 percent). But it is the opposite among the mathadi workers. It is higher among married respondents (55.5 percent) as against unmarried respondents (30.4 percent).

Comparatively across the two respondent groups, the group of truck drivers report mass media as the main source of information. 85.5 percent report Television, 79.7 percent report newspapers while 82.3 percent report radio as major source of information. Since the drivers are always on the road, sign post at checknaka is reported by more than two third of respondents (86.5 percent). It is important to note that only about half of
respondents report NGO (59.2 percent) and street play (58.5 percent) as source of information. Only 48.6 percent report friends as source of information. Among the mathadi workers, the data is similar as far as mass media as important source of information is reported. 79.7 percent report television, 75.1 percent report newspaper and 64.8 percent report radio as major sources of information. Comparatively more than half of the respondents have reported NGO (79.1 percent) and street play (95.0 percent) as important source of information.

7.1.3 Behavior practices

Data on behavior practices show that among the respondent group of truck drivers, the mean age of first sexual encounter is 18.10 years. The minimum age of first exposure is 13 years and maximum is 25 years. Among the respondent group of mathadi workers, the mean age of first sexual encounter is comparatively higher at 22.37 years. The minimum age of sexual exposure is 15 years and maximum is 28 years. Few respondents in both the groups said they have not engaged in sexual relations till date, not being married was given as the reason. The data thus shows that the truck drivers have a higher mean age of first sexual relation as compared to Mathadi workers.

Among the truck drivers, more than half of the respondents report having sexual partners besides wife in case of married respondents (64.2 percent) while among the mathadi workers, less than half of the respondents report having sexual partners (40.5 percent). Looking at data of number of partners across the marital status, the data shows that among the truck drivers 8.0 percent of unmarried respondents report they do not any partners in the last six months. 54.5 percent report one partner, 14.3 percent report two partners while a 6.3 percent report three or more partners. Among the married
respondents, nearly half of the respondents report monogamous relation (48.4 percent), 36.3 percent report having one partner, while 11.6 percent have two partners. Only a small proportion stated having three or more partners (3.7 percent). All of the widowed respondents report no partners. Among the respondent group of unmarried mathadi workers, 36.7 percent report no partners in the last six months. 38.8 percent report on one partner, 10.2 percent report two partners. Among the married respondents, more than half of the respondents report a monogamous relation (62.5 percent), 34.2 percent report having one partner, 3.3 percent report having two partners. None of the respondents report having three or more partners. The mean number of partners for truck drivers is 1.64 and is 1.40 for the mathadi workers.

Data on type of sexual partner showed nearly equal proportion of truck drivers (35.8 percent) and mathadi workers (33.6 percent) report FSW as sexual partner. A slightly larger proportion of mathadi workers (33.6 percent) report regular partner as compared to truck drivers (32.1 percent). A larger proportion of truck drivers (45.8 percent) report friend as partner as compared to mathadi workers (36.1 percent). Same sex relation is reported higher among the truck drivers (2.6 percent) as compared to mathadi workers (1.7 percent). They report bars, red light districts near Turbe, market galas as hot spots. The truck drivers added terminus and highway roads where they meet their partners.

Data on STI and treatment reveal that higher proportion of the respondent group of truck drivers (26.1 percent) said they had STI as compared to mathadi workers (6.3 percent). This is an indication of higher risk to HIV/AIDS among truck drivers as compared to mathadi workers. On being asked about treatment for STI, among the truck drivers who reported STI, a majority of respondents said they have availed treatment (90.7 percent)
and only 9.3 percent said they have not taken treatment. Among the mathadi workers who reported STI, majority said they have taken treatment (89.5 Percent). Data on alcohol consumption reveal that the proportion of truck drivers (24.7 percent) stating alcohol consumption while 13.6 percent of mathadi workers report the same.

The mean score for GEMS for truck drivers is 24.49 and the mean score for mathadi workers is 28.76. Majority of respondents both truck drivers (95.2 percent) and mathadi workers (93 percent) report ‘moderate level’ of gender equity. 3.2 percent of truck drivers report ‘low level’ of gender equity while none of the mathadi workers report this. This trend of higher gender equity among the mathadi worker is further reflected by higher proportion of mathadi workers (7.0 percent) reporting ‘high level’ of equity as compared to truck drivers (1.6 percent). The correlation between respondent types and risk behavior shows that gender plays a major role as in influencing participation in risk behavior. The truck drivers who score less on gender equity norms than the mathadi workers are more likely to engage in high risk behavior as compared to mathadi workers.

Comparison across the two respondent groups shows that higher proportion of truck drivers (17 percent) report behavior changes as compared to mathadi workers (5.6 percent). Some behavior changes reported are consistent condom use, not having sexual relations after consuming alcohol, decrease in number of partners and STI treatment. The respondents were asked specifically about condom use in the last three sexual relations to determine consistent condom use. Comparison across the two respondent groups shows that larger proportion of truck drivers (55.8 percent) state condom use as compared to mathadi workers (26.2 percent). Among the truck drivers 78.0 percent of unmarried respondents reported condom use as against 50.5 percent of married respondents. Among
the mathadi workers 50 percent of unmarried respondents reported condom use as against 26.4 percent of married respondents.

Reasons for not using condoms are reported as partner being known and familiar to respondent, unplanned sexual relations, and self belief. On being asked their opinion regarding condom use, all respondents report that it is necessary on a consistent basis as protection against STI including HIV. Consistent condom use with partners was opined necessary by all respondents but less than half of the total respondents (41.3 percent) reported consistent condom use in actual practice. On being asked who suggested condom use, 29.4 percent of truck drivers report that they suggested condom use while 20.6 percent of mathadi workers report the same. 1.3 percent of drivers reported that their partners suggested condom use while none of the mathadi workers report this. 25.2 percent of drivers reported that condom use was a joint suggestion by themselves and their partners while 6.1 percent of mathadi workers report the same.

Majority of the respondents opine that it is important to avail VCTC services for HIV testing as knowledge regarding their HIV status will remove fear and tension. Some said that the type of partner is an important determinant to decide whether to get HIV testing. Few respondents opined that testing is essential to adopt safer behavior practices and maintain the negative status. There are also a few respondents who opine that on the contrary HIV testing will increase tension and they would not be comfortable undergoing the test.

Looking at the condom use across the age groups to determine any trend, the data shows that condom use is higher among the younger age groups and decreases with increase in
age groups among both the age groups. Among the truck drivers, 70.1 percent of respondents in 18-25 years state condom use, 65 percent in 26-35 years, 42.1 percent in 36-45 years and 35 percent in 46-65 years. Among the mathadi workers, 53.3 percent in 18-25 years state condom use, 27.9 percent in 26-35 years, 28 percent in 35-45 yrs and 10.5 percent in 45-65 years group. Thus it can be observed that condom use is highest among the younger age group and keeps decreasing with age. The data also show that higher proportion of unmarried respondents report condom use age as compared to married respondents, this hold true for both the respondent groups of truck drivers and mathadi workers.

Data on motivations for behavior changes reveal that majority of truck drivers report fear factor (82 percent) as compared to mathadi workers (69.6 percent). 75.8 percent of drivers state protecting family as an important motivational factor as compared to 63.9 percent of mathadi workers. When it comes to information dissemination, the data indicates a small difference as proportion of mathadi workers (69.2 percent) is higher than the truck drivers (61.1 percent).

**7.1.4 Risk perception**

Among the respondent group of truck drivers, majority of drivers report that they do not perceive risk to HIV infection (76.8 percent), while a small proportion of respondents report perception of risk (23.2 percent). Within this category, the respondents are further divided into three sub categories – low risk perception (19.3 percent) followed by moderate risk perception (3.9 percent) and none of the truck drivers report high risk perception. Among the mathadi workers a very high proportion of respondents report that they do not perceive risk to HV infection (93.7 percent). Among those respondents who
report risk perception, majority report low risk perception (5.3 percept), followed by moderate risk perception (0.7 percent) and none of respondent report high risk perception. The mean of risk perception among the truck driver is 1.29 and among mathadi workers the mean is 1.08. The data indicates that higher proportion of truck drivers perceive themselves to be at risk of HIV infection as compared to mathadi workers.

Looking at risk perception across number of partners, the data shows proportion of respondents stating risk perception increases with number of partners. Among the truck drivers, 50.0 percent of respondents reporting one partner also report moderate risk perception and among the mathadi workers, 100.0 percent of workers with one partner report the same. A high proportion of truck drivers (45.2 percent) and mathadi workers (61.5 percent) who report no sexual partners also report no risk perception to HIV infection. Thus the data shows that the risk perception increases with increase in number of partners. Risk perception is the highest among the young adults i.e. 26 – 35 years and 18-25 years. As age increases, the risk perception decreases among both the respondent groups. Among the truck drivers, 48.6 percent in age group 26-35 years report risk perception followed by 33.3 percent in the age group 18-25 years. Only 4.2 percent report risk perception in 46-65 years. Among the mathadi workers, 52.3 percent report risk perception in the age group of 26-35 years while 26.3 percent do so in age group 18-25 years. This percentage starts decreasing with age. 15.8 percent in age group 36-45 years and 5.3 percent in age group 46-65 years report the same.

Data on partner’s risk perception showed that 3.8 percent of truck drivers report that their partners perceive risk while 3.0 percent of mathadi workers report the same. Correlation
between self and partner’s risk perception shows that majority of respondents who report that their partner do not perceive risk also report no risk perception. 77.8 percent of truck drivers and 94.1 percent of mathadi workers who report no risk perception also report nil risk perception on behalf of partner. 58.3 percent of truck drivers who report low risk perception also report that their partners also perceive risk while 11.1 percent of mathadi workers also show similar trends. Looking at correlation between risk perception and STI, the data shows that majority of respondents who report ‘no STI’ also report no risk perception. 94 percent of truck drivers report this as compared to 75.2 percent of mathadi workers.

Social network is indicated by three variables – knowing a PLWHA, talking about HIV/AIDS in peer groups and having seen a HIV/AIDS awareness programme. Cross tabulation of risk perception and PLWHA shows that among the truck drivers, 45.0 percent respondents who report having met a positive person report low risk perception and 33.3 percent report moderate risk perception. Among the mathadi workers 50.0 percent respondents who have met a positive person report ‘low risk perception’ and 42.2 percent report no risk perception. It can be observed that among the truck drivers there is a slightly higher proportion of respondents who report risk perception and knowing a positive person while among the mathadi workers nearly similar trend is not seen as the respondents are divided in terms of reporting no risk and low risk. None of the truck drivers who have known a PLWHA report high risk perception while none among the Mathadi worker report either moderate or high risk perception. On being asked if HIV/AIDS is a topic of communication with peer group, a majority of respondents report that they talk about HIV/AIDS at the place of destination. Among the truck drivers, 62.8 percent report that they talk about HIV/AIDS in the peer group at the A.P.M.C market.
Out of that proportion, 61.9 percent report ‘no risk perception’ to HIV/AIDS while 73.4 percent report low risk and 25 percent report moderate risk perception. Among the mathadi workers, 73.4 percent report talking about HIV/AIDS in their peer group. Out of that proportion of respondents, a major proportion reports no risk perception (74.1 percent). The data shows that for the group of truck drivers, there is a correlation between talking about HIV/AIDS in peer group and risk perception. For the group of mathadi workers, the data does not show any correlation between the two variables. On being asked if the respondents talk about HIV/AIDS at the place of origin, they report that the topic is taboo subject at home. There is feeling that the disease belongs to urban areas and people living in the rural parts will not be infected. They also report that they do not talk about HIV/AIDS in their family. At work place it may be a topic of discussion among peers but not with elders or Mukadhamas.

Among the respondent group of truck drivers, 13.8 percent of drivers who have seen awareness programme in last six months also report low risk perception while 86.2 percent report no risk perception. Among the mathadi workers, 93.3 percent of workers who report seeing a HIV awareness programme report no risk while a small proportion of 5.0 percent report low risk perception and 1.7 percent report moderate risk perception. The data for this group does not show statistical correlation between the two variables.

7.1.5 Other factors creating vulnerability at place of destination

Easy availability of partner (87.5 percent), alcohol consumption (83.4 percent), separation from regular partner (82.1 percent), peer pressure (38.0 percent) and limited access to health services (36.9 percent) are listed as major factors creating vulnerability at place of destination. There are some respondents who did not agree that there are
vulnerability factors at the place of destination. They opine that with increasing awareness, there are changes in behavior patterns of people working at A.P.M.C. market and terminus.

Among the truck drivers, the proportion of respondents stating separation from regular partners across age as a vulnerability factor remain nearly same while in group of mathadi workers the proportion of respondents reporting this factor increases with increase in age group. In the age group 18-25 years 62 percent report this factor, 90 percent respondents in age group 26 – 35 years, 89.5 percent in 46-65 years. A similar trend can be observed among mathadi workers across marital status. The proportion of married mathadi workers stating separation from regular partner as a major factor creating vulnerability is higher (88.7 percent) as compared to unmarried mathadi workers (65.3 percent). A majority of truck drivers report consumption of alcohol as main factor for creating vulnerability (85.3 percent) while nearly equal proportion of mathadi workers report the same (81.5 percent). Among the group of truck drivers, there is a significant relationship between consumption of alcohol and income. As the income level increases, proportion of respondents reporting this factor also increases. Such a trend is not seen among the mathadi workers. 88.9 percent of respondents in less than Rs. 10,000 report this factor as important factor creating vulnerability while 78.8 percent in Rs. 10,001 – 20,000 report the same.

A large proportion of truck drivers report easy accessibility to sexual network as a factor creating vulnerability (84.9 percent) while a similar large proportion of mathadi workers report the same (90.3 percent). Besides limited access to health services as a factor creating vulnerability has been reported by 40.1 percent of truck drivers and 33.6 percent of mathadi workers. The Mathadi Board has provided Mathadi Hospital in Kalamboli,
Navi Mumbai where services are made available to workers. Many cite inability to leave work for the day to visit the hospital as a major barrier for accessing the health services provided. For minor illness, they visit the local health facility near Vashi. Among the truck drivers, the data shows that as income increases, the proportion of respondents stating limited access to health services decreases. While 48.7 percent of respondents in income category of Less than Rs.10,000 report this factor, 23.1 percent in Rs. 10,001-20,000. Among the mathadi workers, the data does not show such a trend. 33.0 percent of respondents in Less than Rs. 10,000 reports this factor as creating vulnerability while 57.1 percent in Rs. 10,001-20,000 report the same.

Peer pressure has been reported by 37.5 percent of truck drivers and 38.6 percent of mathadi workers. Among the two respondent groups there seems to be a correlation between increase in education level and the proportion of respondents stating peer pressure as an important factor creating vulnerability. There seems to be a curvilinear relation between education and peer pressure. Among the truck drivers, the data shows that peer pressure is 47.4 among those who have not received any education, decreases to 28.8 among those having received primary education, increases to 38.8 percent among secondary education and is highest among those having received tertiary education (59.1 percent). For mathadi workers, peer pressure is 60.0 percent among those who have not received any education, decreases to 43.0 percent among those received primary education, 34.0 percent among secondary educated and is highest among those who have received tertiary education (100.0 percent).
7.1.6 Hypotheses

The study has four hypotheses. The first hypothesis “The HIV/AIDS knowledge is likely to be higher for the group of mathadi workers as compare to truck drivers” is found to be true and valid. The data shows mathadi workers report higher knowledge of HIV/AIDS as compared to truck drivers. The second hypothesis “Higher levels of HIV/AIDS knowledge is likely to result in increased risk perception” is found to be null and void. The alternative hypothesis is that higher level of HIV/AIDS knowledge need not result in risk perception to HIV/AIDS. The third hypothesis “Gender equity norms are likely to influence risk behavior among the two respondent types namely the truck drivers and mathadi workers” is found to be true and valid. Truck drivers who score less on Gender equity scale (GEMS) are more likely than mathadi workers to engage in high risk behavior. The fourth hypothesis “Having seen awareness programme on HIV/AIDS is likely to result in increased risk perception” is found to be true and valid for the group of truck drivers while a similar statistical correlation could not be found for the group of mathadi workers.

7.2 A brief summary of the findings

The findings show that a nearly equal proportion of truck drivers and mathadi workers have heard of HIV/AIDS. In terms of information on first three modes of transmission i.e. unprotected sexual relation, infected blood and blood products and infected syringes higher proportion of mathadi workers report knowledge as compared to truck drivers. But a slightly higher proportion of drivers report knowledge regarding mother to child transmission as compared to mathadi workers. Data on knowledge on HIV/AIDS prevention methods show that a higher proportion of mathadi workers report knowledge
of prevention as compared to truck drivers. The mathadi workers score higher on the HIV Scientific knowledge scale as compared to truck drivers. Overall the mathadi workers report higher levels of knowledge as compared to truck drivers.

The mean score of misconception is higher among truck drivers as compared to mathadi workers. Correlation with age, marital status and education reveal interesting trends. An important finding of the study is that the data shows that high knowledge level can coexist with misconceptions regarding HIV/AIDS. There appears to be coexistence of high and moderate level of knowledge of HIV/AIDS with moderate level of misconceptions regarding the disease. Thus intervention activities providing knowledge and awareness are not enough to initiate behavior changes. The existing belief system of people regarding epidemic plays an important role in shaping the attitudes and perceptions regarding the epidemic.

Both the respondent groups report mass media as a major source of information on HIV/AIDS. The truck drivers report signs on check naka as a major source of providing information while the mathadi workers report NGOs and street plays. Both mathadi workers and truck drivers have been beneficiaries of HIV/AIDS intervention programmes and the awareness level has increased drastically over the last ten years. These groups report a change in the way the awareness programmes are received by the people working at APMC. The feeling of shame and embarrassment at being wrongly perceived to be engaged in risk behavior by their colleagues is slowly undergoing a change and this feeling of shame to be a part of awareness programme is being replaced by a need to equip self with correct information and knowledge.
Among the unmarried respondents, the proportion of truck drivers having partners in all the three categories is consistently higher than the mathadi group i.e. either one or two or three partners. The proportion of mathadi workers reporting abstinence in the last six months is also higher as compared to drivers. Among the married respondents, the same trend can be observed among the two groups. The proportion of mathadi workers reporting monogamous relation is higher as compared to truck drivers. The group of truck drivers report higher percentage in all the three categories i.e. one, two and three or more partners. It is interesting to note that none of the married mathadi workers report having three or more partners. In terms of type of sexual partners, a nearly equal proportion of truck drivers and mathadi workers report FSWs as partners. Truck drivers report high on friends as partners and also report higher same sex partners. A higher proportion of truck drivers report STI in the last six months and an encouraging finding is that a large proportion of drivers also report getting treated for the same in the last six months. Alcohol consumption prior to relation is higher among the truck drivers as compared to mathadi workers. Overall findings indicate that truck drivers are engaged in higher risk behavior as compared to mathadi workers.

The mathadi workers score higher as compared to truck drivers on the gender Equitable Masculinity scale. In other words, the mathadi workers report more gender friendly norms as compared to truck drivers. The data shows that gender equity norms influence risk behavior and the truck drivers are more likely to engaged in high risk behavior as compared to mathadi workers.

The data on behavior changes in the last six months show that a higher proportion of truck drivers report behavior changes as compared to mathadi workers. Condom use has
emerged as one of the major safer behavior practices and higher proportion of truck drivers report this practice as compared to mathadi workers. Other safer behavior practices reported are decreasing the number of partners, not consuming alcohol prior to relation and STI treatment. Reasons for behavior changes in terms of safe behavior practices place fear factor as the primary reason followed by need to protect family from infection. Some respondents state information dissemination as a motivating reason for behavior changes.

A comparison across the two respondent groups shows a higher proportion of truck drivers report risk perception as compared to Mathadi workers. A larger proportion of mathadi workers report ‘no risk perception’ as compared to truck drivers. None of the respondents in either group report high risk perception to HIV/AIDS. Risk proportion increases with increase in number of partners for both the groups. Partner’s risk perception is reported higher among the group of truck drivers as compared to mathadi workers. As partner’s risk perception increases, the respondent’s perception also increases. Nearly equal proportion of truck drivers and mathadi workers report knowing a person living with HIV/AIDS (PLWHA). A higher proportion of Mathadi workers as compared to truck drivers report talking about HIV/AIDS with peer groups. Both the groups report that they do not talk about this issue at their place of origin. A larger proportion of truck drivers report having seen a HIV/AIDS awareness program in the last six months as compared to mathadi workers.

Other factors that have emerged as creating vulnerability at the place of destination are easy availability of partners, alcohol consumption, and separation from regular partner, peer pressure and limited access to health services. There are some respondents in both
groups who do not agree that these factors create grounds for vulnerability. They opine that with increasing awareness programmes there is a change among these groups which is a decrease in engagement in risk behaviors.

7.3 Some Recommendation suggested for reducing vulnerability to HIV/AIDS

Conducting a study on knowledge, behavior practices and risk perception among the bridge population remains limited unless and until some concrete action can be taken to equip these vulnerable groups to reduce their susceptibility to HIV/AIDS. The data shows that these groups of truck drivers and mathadi workers are vulnerable groups in terms of personal vulnerability factors. In the light of the findings of the study it is suggested specific ways and means should be formulated to reduce the vulnerability of these groups and equip them to deal with HIV/AIDS vulnerability.

7.3.1 Government Initiatives at National level

Efforts by National AIDS Control Organization

Acting as a nodal agency for HIV/AIDS intervention initiatives at the national level, NACO through its programmes such as National AIDS Prevention Programmes has progressively worked towards initiating awareness through mass campaigns, integrated counseling and testing services and care and support programmes. With the focus shifting to infection prevalence among general population, the bridge population has come into the focus of attention of the intervention efforts. Increasing intervention programmes aimed at behavior change communications for the vulnerable groups, particularly for the Mathadi workers, is very essential. Though awareness level regarding HIV/AIDS may be high, the component of behavior change requires in-depth counseling and testing
services. Trained staff such as trained counselors, technicians and field workers would contribute effectively in effecting behavior changes among these groups. Having said that, it is also important for regular capacity building programmes and initiatives for the workforce to combat with burn out syndrome and maintain their motivation level while working on this epidemic. Some of the major health issues are Care and support programmes for the HIV positive people. Timely access to counseling and medical care can prevent transmission of infection to partners. Post exposure prophylaxis for people who are exposed to HIV such as injecting drug users or unsafe sexual relation can contribute to reducing the risk to HIV infection. Since the mobile population may return to their place of origin for treatment, it is important to liaison with medical facilities at place of origin and provide patients with referral networks. Targeted interventions aimed at vulnerable section of population will ensure that maximum health care resources become available to them and interventions can be built into the employment policy at the site of work.

**Enactment of HIV/AIDS Bill**

The HIV/AIDS Act 2005 (pending with the government) which recognizes specific access to risk reduction strategies and right to access to treatment including diagnostics, ARVs and nutritional supplement should be passed and made into an Act by the Ministry of Law. This would be a progressive step towards fighting discrimination against HIV/AIDS and human rights of individual.

Legislative support in the form of modification of Section 399 has been a land mark piece of legislation whereby non penetrative sexual relation is no longer punishable by law. Such legal support goes a long way in encouraging safer behavior practices among high
risk groups such as homosexuals, transgender etc. These measures also work at reducing stigma and discrimination associated with these sexual minority groups. Continuing efforts through acts such as The Indian Patents Act to ensure safeguard frivolous patent applications at the cost of public health. Such efforts are required to keep down the cost of medications required for treatment.

**Efforts by National Human Rights Commission** (NHRC) should tie up with citizens groups to advocate proper monitoring and implementation of intervention activities. Networking among various advocacy groups is essential for transparent monitoring and evaluation of programmes.

National surveys such as National Family Health Survey can include certain vulnerable groups to bring uniformity and accurate measures to determine prevalence rate and indicators for bring behavior modifications among these groups. Inclusion of mobile groups such as truck drivers, head loaders, migrant workers to name a few can provide concrete reliable data on the their awareness and knowledge level, attitude towards the disease and can contribute to programmatic interventions with these groups.

**7.3.2 Civil Society Initiatives**

Medical facilities for other medical problems such as Malaria, Tuberculosis, respiratory infections, and skin infections etc also needs periodic surveillance and upgraded treatment facilities including regular follow ups. Alternate medicine such as AYUSH should be encouraged and monitored closely. Currently the Private Public Partnership between governmental and non-governmental agencies ensures regular periodic
monitoring of health services. Such practices should be encouraged at NACP initiatives also.

Peer groups form a major link between the agencies providing interventions and the vulnerable groups particularly the truck drivers and mathadi workers. Encouraging peer groups among these subgroups, providing regular training and monitoring of these groups would enable inroads in providing services to these groups and working towards behavior changes to reduce vulnerability in the context of HIV/AIDS.

Visual aids in the form of booklets, posters, card games are appreciated by the groups as means for providing relevant information. Melas and informal gatherings are also an effective way of information dissemination. These materials being non-threatening encourage the participants of intervention activities to gather relevant information, motivate behavior changes in a learning environment. These aids may be distributed to the peer groups for wider accessibility of IEC material to the vulnerable groups. Seminars, lectures and gathering by civil societies with active involvement of peer groups would form an important mechanism for reaching out to these groups.

**Collaborative approach**

There should be cooperation and collaboration among national and international organizations working in the field of HIV/AIDS. The National Aids Control Organisation (NACO) and various international organization like Joint United Nations Programme on HIV/AIDS (UNAIDS), United Nations Development Program (UNDP), World health Organisation (WHO) etc working on HIV/AIDS in India should participate in intervention programmes for the bridge population namely, truck drivers and mathadi
workers. There are numerous intervention programmes for Truck drivers as they have been recognized as a vulnerable group. The mathadi workers should also benefit by concrete work place interventions.