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Study of effects smoking in HIV patients

Medicine

KEYWORDS :

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ABSTRACT

AIMS AND OBJECTIVES

1) Prevalence of habit of smoking in HIV/AIDS patients.

2) Health related quality of life (HRQ) of HIV patients in both (smokers and non smokers) groups.

3) Incidences of various body system involvement in our HIV/AIDS patients.

MATERIAL AND METHODS

In the present study, we included patients admitted to medical, skin and surgical wards of a general hospital as well as outdoor patients who were known HIV/AIDS or detected HIV positive for the first time. A detailed history regarding smoking status was noted in form of type of smoking (Bidi/Cigarette/Hukka), number of bidi/cigarette per day and duration of smoking. Intensity of smoking was calculated in terms of pack years as under: 1 pack year= number of packs of bidi/cigarette smoked per day multiplied by number of years of smoking. 1 pack= 10 bidi/cigarette. To assess Health Related Quality of Life (HRQL), subjective parameters like level of activity causing discomfort and objective parameters like number of hospital admissions due to any cause in last 6 months were noted. Sense of well being was noted in terms of level of activity that patient could perform prior to current admission/health visit. For simplicity and comparison, level of activity was labelled as A,B,C and D.

CONCLUSION: Non smokers enjoy comparatively better Health Related Quality of Life in terms of better performance in daily activities and less number of hospital admissions. Smokers have more respiratory and CNS manifestations,while non smokers have more abdominal and cutaneous manifestations. Although larger sample size and longer follow up is needed to have more scientific and statistically significant inference, we can conclude from available data that smokers have higher chances of acquiring HIV/AIDS and have poor HRQL as compared to non smokers.

INTRODUCTION

Early detection, diagnosis and management of disease leading to improved prognosis and longevity gives opportunity for many more studies revealing newer information and data regarding many factors affecting health and disease. Smoking in HIV/AIDS is one such factor. Effects of smoking on various commonly occurring diseases have been extensively studied and it has been proved to be causative for many diseases, while in many other conditions it has been found to be deleterious and a cofactor for delayed response and diminished efficacy of treatment. Many pulmonary diseases like cancers of lung and larynx, chronic obstructive pulmonary disease are directly found to be related to amount and duration of smoking. It has been found that 50-70% of HIV/AIDS patients are smokers and majority of them continue to smoke even after diagnosis of disease. HIV/AIDS has now acquired a state of commonly occurring disease with increasing incidence. Not only that, in era of highly active antiretroviral therapy (HAART) people with HIV/AIDS live longer and comparatively healthier lives. Even without HAART, early detection and treatment of opportunistic infections have improved survival of patients with HIV/AIDS. This leads to emergence of many new areas of studies and knowledge thereafter. Smokers infected with HIV are found to have increased incidence of bacterial pneumonia, emphysema, oral candidiasis, oral hairy leukoplakia, cancers of oral cavity, lungs, larynx, cervix, Kaposi sarcoma and depression. It has also been reported that smokers are more likely to suffer from complications of HIV medications like hepatitis, osteoporosis, cardiac disease and cerebrovascular accidents. Increasing risk of vertical transmission of HIV from mother to fetus has been reported when HIV positive women continue to smoke during pregnancy. Various studies have reported that HIV positive patients who smoke have poor health related quality of life than nonsmokers. Hence we consider it worthwhile to study detailed case histories of some patients with HIV/AIDS to get first hand information about the effects of smoking on health of HIV/AIDS patients. We do feel that this type of study definitely require larger sample size, longer follow up and comparison with nonsmoker and/or after cessation of smoking.

AIMS AND OBJECTIVES

- Prevalence of habit of smoking in HIV/AIDS patients.
- Health related quality of life (HRQ) of HIV patients in both groups.
- Incidences of various body system involvement in our HIV/AIDS patients.

MATERIAL AND METHODS

In the present study, we included patients admitted to medical, skin and surgical wards of a general hospital as well as outdoor patients who were known HIV/AIDS or detected HIV positive for the first time. Duration of disease in known HIV/AIDS patients was noted. For this, we considered duration since HIV screening test was positive and not duration since beginning of symptoms. Diagnosis of present condition for which patient was admitted or has attended outdoor department was noted. A detailed history regarding smoking status was noted in form of type of smoking (Bidi/Cigarette/Hukka), number of bidi/cigarette per day and duration of smoking. Intensity of smoking was calculated in terms of pack years as under:

1 pack year= number of packs of bidi/cigarette smoked per day multiplied by number of years of smoking. 1 pack= 10 bidi/cigarette.

History regarding other habits like tobacco chewing and alcohol consumption were noted. History regarding probable source of infection such as sexual exposure in form of unsafe exposure to commercial sex worker or homosexual habits or history of HIV/AIDS to spouse, was noted. History of blood transfusion and history of IM or IV drug abuse were taken. To assess Health Related Quality of Life (HRQL), subjective parameters like level of activity causing discomfort and objective parameters like number of hospital admissions due to any cause in last 6 months were noted.

Sense of well being was noted in terms of level of activity that patient could perform prior to current admission/health visit. For simplicity and comparison, level of activity was labelled as A,B,C and D as under:

- Patient can perform heavy labour that is more than his accustomed work or exercise.
- Routine activities like going to office, climbing stairs cause fatigue.
- Day to day activities like going to toilet cause fatigue.
- Patient is bedridden.

OBSERVATION

Showing age and sex distribution of study population

Age groups (years)	Nonsmokers		Smokers		Total
	Female	Male	Female	Male	
15-34	8	10	-	28	46
35-49	2	5	-	32	39
≥50	-	-	-	5	5
total	10	15	-	65	90

As shown in the table 65 out of 90 patients (72.2%) were smokers and 27.8% were nonsmokers. 94.44% patients were in age groups of 15-49 years, while remaining 5 patients were above 50 years of age. 91% of HIV/AIDS cases are in the age group 15-49. 10 out of 90 patients (11.4%) in our study were females and all of them were nonsmokers.

Intensity of smoking habit

	Numbers	Percentage
Smokers		
< 5 Packs years	3	4.61%
5-24 Packs years	34	52.30%
25-74 Packs years	21	32.30%
≥75 Packs years	7	10.70%
Total	65	100.00%

Except for 3 patients, all patients had habit of moderate to high intensity of smoking.

Distribution of smokers and nonsmokers according to their quality of life

Quality of life	Non smoker	Smoker	Total
A	9(36%)	8(12.3%)	17
B	14(56%)	26(40%)	40
C	1(4%)	27(41.5%)	28
D	1(4%)	4(6.15%)	5
Total	25(100%)	65(100%)	90

Qualities:

patient can perform exercise or heavy labour more than his routine activities

routine activities like going to office, climbing stairs or household work cause fatigue

day to day activities like going to toilet cause fatigue

patient is completely bedridden

In our study, majority of nonsmokers (92% of nonsmokers) had quality of life index A or B, so they were in better overall health in spite of their disease. Majority of smokers were having quality of index C or D. Thus they were in declining stage of health with more difficulty in routine activities as well.

Comparison of number of admissions in past 6 months in smokers and nonsmokers

Number of admission in last 6months	Nonsmokers	Smokers	Total
Non admission	4 (16%)	0	4 (4.44%)
1 admission	16 (64%)	31 (47.6%)	47 (52%)
2 admissions	4 (16%)	23 (35.3%)	27 (30%)
3 admissions	1 (4%)	11 (16.9%)	12 (13%)
Total	25 (100%)	65 (100%)	90 (100%)

All 65 smokers with HIV/AIDS had prior history of hospitalization in last 6 months; >50% had more than one admission. While in non smokers less number of admissions were noted meaning thereby less sensitivity of sickness was found in nonsmokers as compared to smokers. 4 patients (4.4%) had no history of admission in last 6 months; 2 of them were asymptomatic, 1 had history of weight loss and 1 had vaginal candidiasis. Mean of frequency of hospitalization in last 6 months in smokers was 1.67, while in nonsmokers it was 0.78 (p value 0.001), thus difference seems to be statistically significant.

40% of nonsmokers and 33.8% of smokers had involvement of abdominal system. In nonsmokers, 20% had skin diseases and only 8% had respiratory system involvement, while respiratory symptoms were found in 26.15% of smokers. 13.8% of smokers had meningitis and 6.15% had skin involvement.

Out of 90 patients, we had asked for chest x-ray in 34 patients who had respiratory symptoms or past history of pulmonary kochs. 23 had respiratory involvement during current admission, 11 had fibrosis suggestive of old kochs or subclinical involvement. 8% of nonsmokers and 49.23% of smokers had positive findings on chest x-ray. This may be suggestive of permanent and severe damage to lung parenchyma with smoking.

SUMMARY AND CONCLUSION

We studied detailed case histories of 90 HIV/AIDS patients in order to find out the correlation between smoking and morbidity and complications in case of HIV/AIDS. We can summarise our findings as under:

65 out of 90 patients in our study were smokers. 94.4% of our patients were in age groups of 15-49 years. Smoking was prevalent in all age groups of HIV/AIDS patients.

10 out of 90 patients (11.4%) patients were females and all of them were nonsmokers.

92% of nonsmokers had Health Related Quality of Life (HRQL)

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of grade A or B. Majority of smokers were in group C or D. All 65 HIV patients who smoked had at least one admission in last 6 months, >50% of them had more than one admission in last 6 months.

26.15% of smokers had involvement of respiratory system during present admission. 13.8% had CNS involvement in form of meningitis. 5 out of 65 smokers developed multisystem involvement. 40% of nonsmokers had abdominal system involvement and 20% had involvement of skin.

Non smokers enjoy comparatively better Health Related Quality of Life in terms of better performance in daily activities and less number of hospital admissions.

Smokers have more respiratory and CNS manifestations,while non smokers have more abdominal and cutaneous manifestations.

Although larger sample size and longer follow up is needed to have more scientific and statistically significant inference, we can conclude from available data that smokers have higher chances of acquiring HIV/AIDS and have poor HRQL as compared to non smokers.