

PATTERNS OF TOBACCO USE IN PAKISTAN

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ABSTRACT

The National Health Survey of Pakistan (1990 — 1994) indicates far more men using tobacco in any given form and in all age groups, education levels, economic strata and area of residence compared to the Pakistani female population. Overall 34% of the men and 12.5% of women use tobacco in the country. Tobacco is more commonly used by people in the lower economic groups and those with a lower level of education or no education at all both in the urban and rural areas. "Pan" is not commonly used nationally but its use is observed in the high economic groups and those with a higher level of education especially in the urban areas.

Key Words: Tobacco Smoking, Smokeless Tobacco, Chewing Tobacco, Areca quid, Tobacco quid, Pakistan.

INTRODUCTION

The use of tobacco is pandemic to 197 countries and territories world over, despite being responsible for a significant amount of morbidity and mortality among the middle-aged adults¹. Its use, primarily in the form of smoking, is the leading preventable cause of death². Tobacco chewing habits too, are widely prevalent in many parts of the world especially Asia³, one of these habits, seen more commonly in the South and the South East Asia is the use of betel quid. The term "betel quid" (synonymous to "pan") generally contains betel leaf, areca nut, slaked lime and tobacco' while other ingredients are added as per preferences. Associations of these risk habits with oral cancer and pre-cancerous lesions are strongly established'.

A decline in tobacco use has, however, been observed in many countries around the world⁴. This remarkable achievement has been possible through

organized interventions despite the addictive nature of tobacco and the powerful economic forces promoting its use⁴. For implementation and success of a cessation programme, it is necessary to have baseline data of the population related to the issue and the programme also has to be need based and culturally appropriate.

This paper reports the pattern of tobacco and "pan" use amongst the Pakistani population. The determination of these patterns will provide baseline information to initiate culturally appropriate tobacco cessation programmes.

METHODOLOGY

National Health Survey of Pakistan (NHSP) was conducted between 1990-94 by the Pakistan Medical Research Council (PMRC) in collaboration with the Centre for Disease Control (CDC), United States Public Health Service. The NHSP was a

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multipurpose study with a number of components complementing various aspects of data. It had two major parts: a health interview survey and a health examination survey. Information regarding use of tobacco and "pan" was a component of the health interview survey.

A two stage stratified sampling was adopted for the survey. The universe was divided into eight broad strata. Each of the provinces was taken as a geographic stratum. Each province was further divided into urban and rural strata. The urban frame was developed by dividing each city/town into enumeration blocks of approximately 200-250 households with detailed and identifiable physical boundaries. The list of the enumeration blocks was used for drawing the sample for the urban areas. The village list (Mozahs/dehs/villages) based on the 1981 Population Survey and published by the Population Census Organization was taken as sampling frame for the rural areas.

Enumeration blocks in the urban stratum and mozahs/dehs/villages from the rural stratum were taken as the primary sampling units (PSU). 80 PSU's were selected (32 from the urban and 48 from the rural areas) and a complete list of households of each selected PSU was prepared. A sample of approximately 30 households was drawn from each PSU. This sample of 2,356 households was selected using systematic fixed sampling technique. The overall non-response rate was 2.1%⁵ and a total of 18322 individuals were included in the survey; of which 9441 (51.5%) were adults in the age range of 15 years and above. Estimates of important health variables at national level were obtained.

Training and calibration exercises for teams were conducted for standardization of the procedures during the survey. The pre-testing of the questionnaire and field procedure took place between august 1989 and February 1990. Weighting and adjustments were made for the non-respondents. For the survey a comprehensive questionnaire was implemented. This had a section with 19 questions specifically on tobacco and "pan" use. The current tobacco or "pan" user was defined as anyone who had smoked more than 100 cigarettes or chewed more than 100 "pan" in his/her lifetime. This study only observed the patterns of current tobacco/pan usage and, therefore, selected 10 questions for analysis. Since it is recommended that smoking habits, if present should be described (cigarettes, bedi, pipe, hooka etc.) and analysed in conjunction with quid chewing habits so as to

distinguish the effects of smoking from the effects of quid chewing³, therefore, the pattern of tobacco and "pan" use were observed concurrently in this study. Table 1 enlists the questions used to gather information.

Tobacco smoking was categorized into two groups; One for cigarettes/bedi smokers and the other for chillum/huqa users. Use of smokeless tobacco was categorized into tobacco chewers/snuff users and "pan" chewers. The results were tabulated for gender, economic status, education level and area of residence.

Data was processed and analysed using Dbase; Epi-info (version 5.1)

RESULTS

A clear pattern of tobacco usage emerged with far more men than women using tobacco in any given form and in all age groups, education levels, economic strata and area of residence. The National data indicates that tobacco use is very common in Pakistan with approximately 34% of men and 12.5% of women using tobacco in some form on regular basis. Most tobacco use increases with age. The highest levels of smoking and chewing habits are in men and women of 65 years of age and over. The exception is cigarette and bedi smoking. Smoking cigarettes is most common in men aged 25-44 years and in women aged 45-64 years.

It can be seen in figure 1 that cigarette smoking is less amongst females in any age group but as high as 25% of women use chewing tobacco. Men in all age groups commonly use cigarettes and bedis. Twenty-nine percent of men smoke cigarettes/bedi on regular basis with the highest percentage (40%) falling in the 25-44 years age group. However, men who fall in 65 years and over age group are more likely to use huqqa than any other form of tobacco. Figure 2 gives the details of the current male tobacco users. Since the difference of residence, education, economic status among the 15-24 years male and female group was not significant, therefore, detailed analysis on these parameters was not done for this age group.

Over 10% of women aged 25-64 years smoke tobacco in some form. Within this group 3.4% are regular users of cigarettes/bedi while 7% of the women smoke chillum/huqqa. Clear smoking patterns appear. Low economic status and illiterate women are more likely to smoke chillum/huqqa than higher status women in

the same ages. Women in rural area are more likely to smoke chillum/huqqa than women in the urban areas. Thirteen percent of women in the rural areas smoke chillum /huqqa as compared to 6% using cigarettes/bedi. A higher percentage of urban females smoke cigarettes. The most striking feature of this group was that women residing in the rural areas with 10 years or more of education did not report smoking any form of tobacco. This sub group size being too small to provide reliable estimates. Figures 3 and 4 give detail of the percentage of smokers by age, gender, residence, education, and economic status.

Similar social patterns for chillum/huqqa (hubble) use are observed for men. Low economic status and illiterate men are more likely to smoke chillum/huqqa than the higher economic group or the educated men. Illiterate rural men are twice as likely to smoke as men with matric or above as their qualification (24% vs. 12% respectively). It can be seen in figure 5 that, illiterate urban are three times more likely to smoke than the literate urban men (18% & 5% respectively). For those 25-64 years of age, urban men are more likely to smoke (45%) than rural men (35%). Education and economic status are less robustly associated with smoking in the rural areas than in urban areas (fig. 6).

The most common tobacco use among women is chewing tobacco or snuff. Nevertheless, even for this form of tobacco, a higher proportion of men than women are users. About 10% of females aged 25-64 years report regularly using chewing tobacco or snuff. About 15 percent of males in this age group report using this type of tobacco. Thirteen percent of illiterate rural women 25-64 years of age use chewing tobacco or snuff compared to 20 percent of the illiterate rural men.

- People in the rural areas are more likely to use chewing tobacco or snuff than people in the urban areas. Fifteen percent of people in rural areas 25-64 years of age use chewing tobacco or snuff while in the urban areas the proportion of users is 8 percent. Men and women with low economic status or without education are more likely to use chewing tobacco or snuff than high status or educated persons. Low economic status rural women are twice as likely to use chewing tobacco or snuff as high economic status women in the urban areas (8 percent and 4 percent respectively) Figure 7 and 8 give details on percentage of current chewing tobacco/snuff users by age, gender, economic status, education and area of residence.

While "pan" is not commonly used nationally, it is relatively common in particular groups. The social distribution of 'pan' use is quite distinct from that observed for tobacco. People who live in the urban areas more commonly use "Pan". Only one percent of persons 25-64 years of age use pan in the rural areas, compared to 8% in the urban areas. Twenty-eight percent of high economic status women (25-64 years of age) use pan in urban areas while thirteen percent of men in this economic group use pan. Only 5 percent of the urban men and women in the urban areas in the low economic group use pan. Use of pan is also more common among well educated than those without education. However, the association with economic class is stronger. Figure 9 and 10 give the details of the current pan users by age, gender, economic status, education, and area of residence.

TABLE I. QUESTIONNAIRE- TOBACCO AND PAN USE, NATIONAL HEALTH SURVEY OF PAKISTAN (1990-94)

1 Have you smoked at least 100 cigarettes or bedi during your entire life?	Yes No
2 How many cigarettes or bedi do/did you smoke?	(Number)
3 Do you smoke now?	Yes No
4 Have you chewed tobacco or used snuff at least 100 times during your entire life?	Yes No
5 Do you chew tobacco or use snuff now?	Yes No Sometimes
6 Which? _____	Chewing tobacco Snuff Both
7 Have you smoked more than 100 times chillum/huqqa during your entire life?	Yes No
8 Do you smoke chillum/huqqa now?	Yes No
9 Have you chewed more than 100 pans during your entire life?	Yes No
10 Do you chew 'pan' now?	Yes No

Fig. 1. Percent-
age of Current
Female Tobacco
Users (15 years
and over) by
Age

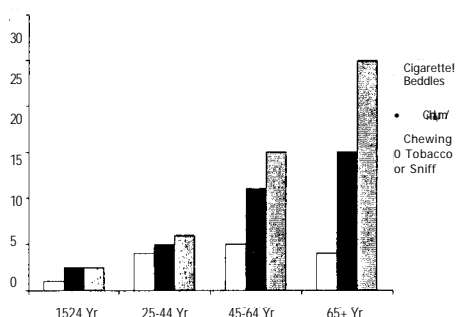


Fig. 2. Percent-
age of Current
Male Tobacco
Users (15 years
and over) by Age

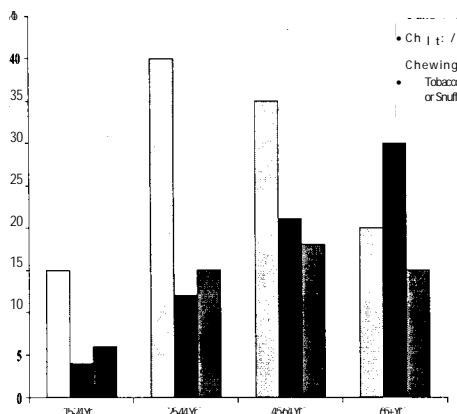


Fig. 3. Percent-
age of Current
Female Smok-
ers (25-64
years) by
Residence,
Education and
Economic Sta-

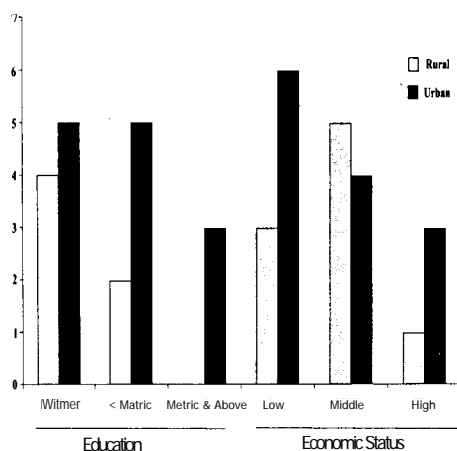


Fig. 4. Percent-
age of Current
Male Smokers
(25-64 years)
by Residence,
Education and Eco-
nomic Status

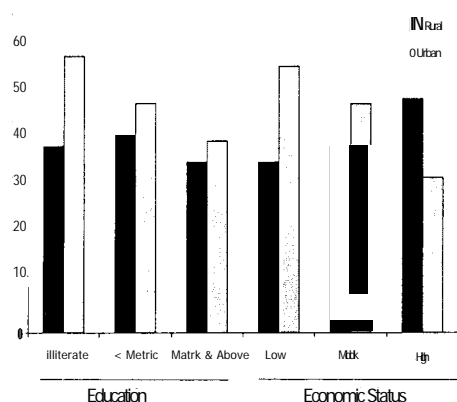


Fig. 5. Percentage
of Female
Chillum/
Huqqa Smok-
ers (25-64
years) by Resi-
dence, Educa-
tion and Eco-
nomic Status

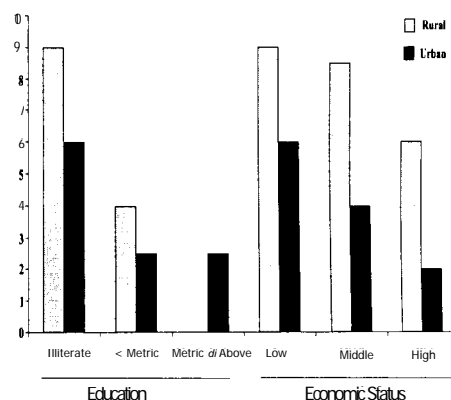


Fig. 6.
Percentage of
Male Chillum/
Huqqa Smok-
ers (25-64
years) by Resi-
dence, Educa-
tion and Eco-
nomic Status

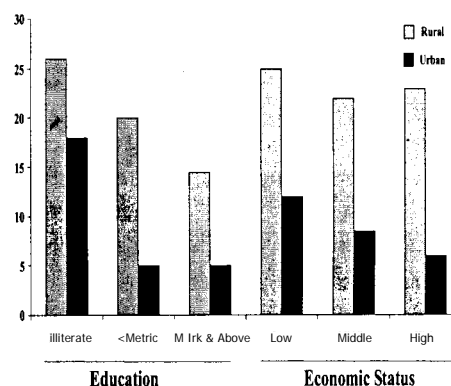


Fig. 7. Percent-
age of Current
Female Chew-
ing Tobacco or
Snuff Users
(25-64 years)
by Residence,
Education and
Economic Sta-

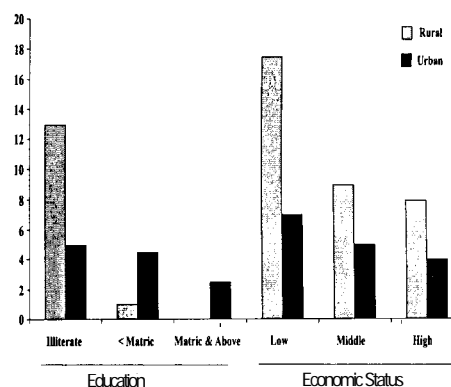


Fig. 8. Percent-
age of Current
Male Chewing
Tobacco or
Snuff Users
(25-64 years)
by Residence,
Education and
Economic Sta-

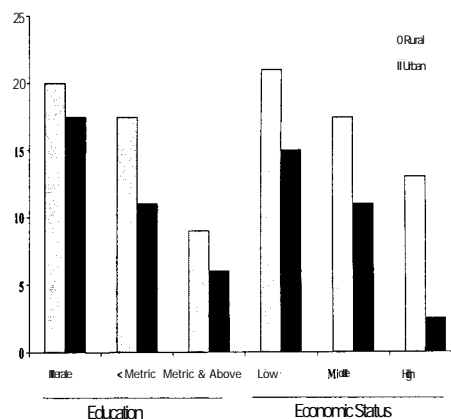


Fig. 9. Female Current Pan Users (25-64 years) by Residence, Education and Economic Status

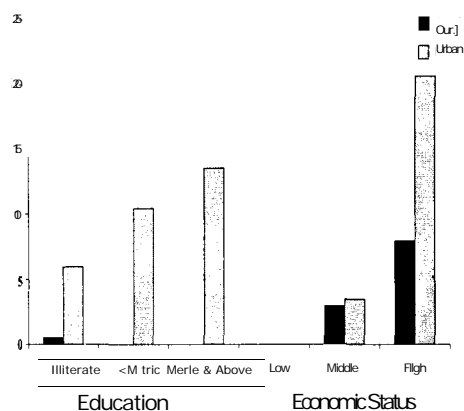
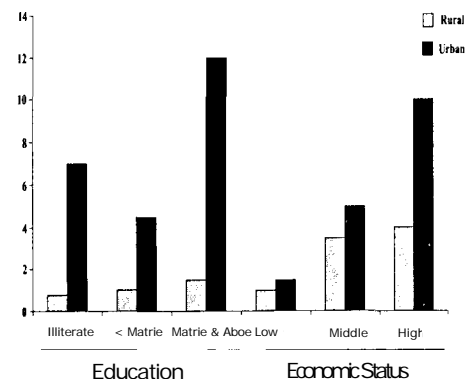


Fig. 10. Male Current Pan Users (25-64 years) by Residence, Education and Economic Status



DISCUSSION

Epidemiological studies on the tobacco chewing and smoking habits in Pakistan have been lacking. Sporadic data is available, limited to a few studies carried out in a couple of cities⁶⁻⁹. Alam (1998)⁸ has analysed the same data used in this study, however, only smoking habits were reported and the variables were not analysed in a detail required to initiate a cessation programme. The present study reports detailed analysis of tobacco smoking and chewing habits. It has included parameters required to initiate a cessation programme.

In the absence of comprehensive data on tobacco use in Pakistan, a review of the consumption and trends cannot be made. However, considering that the tobacco industry in Pakistan is expanding and there has been an increase in land used for tobacco cultivation¹⁰, it is reasonable to infer that tobacco use has increased in Pakistan over the years.

World over there are 47% male and 12% female smokers. Of these 48% men and 7% women smokers are in the developing countries while 42% men and 24% women smokers reside in developed countries. It has emerged as a paediatric epidemic starting early in childhood and adolescence'. The present data shows that tobacco use is alarmingly high amongst Pakistani men and women of all age groups. Such a high prevalence of Bangladesh¹² (both smoking and smokeless) has also been seen in other developing countries like India, Bangladesh¹², China¹³, Indonesia¹⁴, Malaysia¹⁵, Africa^{18,e} and Thailand²⁰. Patterns of smoking similar to this study have also been observed in South Africa¹⁸, Nigeria's, Israel²⁰, Estonia²¹, Bulgaria²², and Syria²³. In Czech Republic the incidence of tobacco smoking is reported to be low among the males but is increasing among the females²⁴. Even though, the

incidence of smoking in the North America is decreasing, at the same time the use of smokeless tobacco is on the rise².

Concurrent to the findings of this study, a higher percentage of smokers in the less educated^{10,17,19,21,24,26}, lower economic groups^{12,19,21,25-27}, and in the urban populations^{20,21,22} have been reported elsewhere. However, some studies did not find any clear association or found a negative association with the level of education" or the household income" or the area of residence²⁸ and tobacco use. Most of the studies from different parts of the world report maximum tobacco use in the third or the fourth decade of life^{12,20,21,22,25,27-29} that corresponds to the findings of the present study.

In comparison to tobacco, the Pakistanis do not commonly use "Pan". The reason for this limited use by the urban high economic group may be the low affordability of pan as compared to cigarettes. The current study did not look into the type of quid used for "pan". The carcinogenic potential of the type of quid used cannot be overlooked. The level of tobacco and pan use may be under estimated for women that may be due to under reporting because of cultural prohibitions. Further studies are recommended in these areas.

Association of Oral Cancers and pre-cancerous lesions with tobacco use and areca nut/quid use is strongly established³. The risk of oral cancers is increased 6-28 times in the current smokers who also use smokeless tobacco products³⁰. A high incidence of oral cancers has also been reported among tobacco chewers who also consume alcohol^{31,32}. Smokeless tobacco use is seen to be more common amongst the rural population and in the adolescents. Heavy abuse of oral smokeless tobacco may be one of the major causes of one third of all the cancers in Bangladesh, India, Pakistan and Sri Lanka.

Tobacco cessation campaigns have succeeded in a number of countries around the world and the number of smokers has declined 4,33. Organized interventions can help prevent the onset of smoking and the use of smokeless tobacco". Smoking has emerged as a paediatric epidemic starting early in childhood and adolescence'. School based smoking prevention programmes identifying social influences on smoking and providing skills to resist these influences can be successful in reducing adolescent smoking prevalence'. Such school based programs can be enhanced and sustained by adding co-ordinated community wide programmes involving the parents, community organizations or other elements of adolescent's social environments and counter advertising in youth oriented mass media". Positive lessons can be learned from the experiences of other countries and optimal results can only be achieved with the co-ordinated, multi component campaign involving policy changes, taxation, mass media, and behavioural education that can effectively reduce the onset of tobacco use among adolescents.

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