Tobacco use is one of the major risk factors for 6 out of 8 leading causes of death in the world.

It has been estimated that there are 1.1 billion smokers worldwide and 182 million (16.6%) of them live in India. It has been predicted by the World Health Organization (WHO) and tobacco consumption will become the single leading cause of death. The objective of this study was to understand and assess knowledge, characteristics towards tobacco use and conduct program to create awareness on tobacco cessation. A prospective, interventional and survey based study was conducted in and around tertiary care teaching hospital. 110 tobacco users were interviewed and enrolled. Out of 110 tobacco users, 60 registered to quit tobacco use and from among them 21 (35.00%) tobacco users were counselled and given free nicotine chewing gum samples. Out of 21 subjects who were counselled, educated and motivated, 16 tobacco users reduced or quit using tobacco use. This study further supports the utilization of a clinical pharmacist within a tobacco cessation group setting. In future, the tobacco cessation program could be tailored to effectively maximize the pharmacist’s time, while also achieving the best patient outcomes. Thus, in this study the clinical pharmacist intervention brought an impact on tobacco users to reduce and quit tobacco use.

Keywords: Tobacco, smoking cessation, clinical pharmacist, nicotine,
Primary objective:
- To assess the impact of clinical pharmacist intervention in tobacco cessation program.

Secondary objectives:
- To identify the type of tobacco use.
- To design and prepare patient information leaflets on tobacco cessation.

OBJECTIVES:

Primary objective:
- To assess the impact of clinical pharmacist intervention in tobacco cessation program.

Secondary objectives:
- To conduct public awareness program on tobacco cessation.
- To educate smokers to quit tobacco use.
- To assess the outcomes of intervention by clinical pharmacist towards tobacco use.

METHODOLOGY

STUDY SITE:
The present study was conducted at Bellur village 1.5kms form the Sri Adichunchanagiri Hospital, Balagangadharantha Nagara, Nagamangala Thaluk, Mandaya district Karnataka.

STUDY DESIGN:
This was prospective, interventional and survey based study.

STUDY PERIOD:
The study was carried out for a period of 6 months starting from January 2011 to June 2011.

STUDY CRITERIA:

Inclusion Criteria
- Tobacco users of either gender.
- Individuals who are above 18 years of age.
- Tobacco users who are willing to sign and participate in the study by giving the consent form.

Exclusion Criteria
- Tobacco users unable to co-operate.
- Tobacco users who are bed ridden.

SOURCE OF DATA:

Study materials:
- Tobacco user's data collection forms including knowledge questionnaires regarding tobacco.
- Patient information leaflets on tobacco cessation.
- Registration form
- Smoke Check Instrument (SCI).

STUDY PROCEDURE:
A tobacco awareness program was conducted at the study site among college students, school children, farmers, tobacco vendors. The awareness program has been conducted in association and consultation with one of the leading multinational Pharmaceutical Company, Karnataka State Pharmacy Council and Gram Panchayat. Smokers and non-smokers were included in this study and initial psychosocial assessments constituted this analysis. Participants were identified from appointment schedules and were enrolled after providing informed consent form.

At enrolment, tobacco users were interviewed and completed a series of questionnaires that measures the tobacco use,
tobacco control, and psychosocial covariates. Smoking severity was assessed with the Severity of Smoke Check (SC) with the help of Smoke Check Instrument (SCI). The smoke check is based on the electrochemical fuel cell sensor, which works through the reaction of carbon monoxide with an electrolyte at one electrode, and oxygen (from ambient air) at the other. This reaction generates an electrical current proportional to Carbon Monoxide (CO) concentration. Output from the sensor is monitored by a microprocessor, which detects and displays peak expired concentration of alveolar gas. High levels of expired CO indicate raised levels of carboxy haemoglobin, most commonly caused by cigarettes smoking. The results are displayed in four ranges on a clear Liquid Crystal Display (LCD) display of the instrument. The smoke check meter provides a sample screening test for cigarettes consumption for use in an anti-smoking clinic and all smoking cessation programs.

A measurement of expired CO has been well validated as an indirect measure of cigarette consumption and is widely used in smoking cessation programs. Typical values for expired CO in smokers, together with the alarm light status, are given in the table 1.

Tobacco users were asked about their own smoking history as well as regular exposure to others who smoke. And tobacco users were checked with the smoke check instrument and counseled with the help of tools provided and giving nicotine chewing medication sample.

After checking the severity of tobacco use individuals were counseled, educated and motivated to stop using tobacco and given the cessation tools as well as the free samples of the Nicotine Replacement Therapy (NRT) which helps the individual to stop tobacco use.

RESULTS AND DISCUSSION

A tobacco cessation survey was conducted in Bellur, Javahernalli and B G Nagara in which 110 individuals were enrolled in tobacco cessation program. Out of 110, 60 tobacco users registered to quit tobacco use. And a tobacco cessation program was conducted on “World No tobacco day” i.e., May 31st 2011 in Bellur, Mandy district, in which 21(35.00%) tobacco users were counseled and given free nicotine chewing gum samples. Out of 21 tobacco users, 16 (26.66%) participants were reduced tobacco use.

Comparison of different forms of tobacco use

Out of 60 tobacco users, the smoking form users were 55(91.50%) and chewing form users were 5(08.30%). In this study smoking form users were used more compared to chewing forms because of low price of smoking form availability.

Smoke forms

Out of 55 smoke forms users, the cigarette form users were 31(51.60%), beedi form users were 20 (33.30%) and cigarette+beedi form users were 04 (06.60%). In smoke forms, the cigarette form is more compared to beedi and cigarette+beedi form. This may be because of the prestige, friends and surroundings.

Chewing form

In chewing form, the gutkha users were 5(08.30%) as it is cheaply available and this type of tobacco use is common in India.

Age wise distribution regarding tobacco usage in different forms

Out of 60 tobacco users, 10 (32.25%) cigarette users were found between the age group of 20-24 years, between 55-59 years beedi users were 04(20.00%), tobacco chewers 2 (were age group 35-39 years chewing tobacco users were 02 (40.00%) and age group between 45-49 years

| Table 2: Details of the participants in tobacco cessation programme |
|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Age             | 20-24           | 25-29           | 30-34           | 35-39           | 40-44           | 45-49           | 50-54           | 55-59           | 60-64           | 65-69           | 70-74           |
| Male            | 12              | 06              | 09              | 07              | 06              | 03              | 04              | 05              | 02              | 04              | 02              |
| Female          | 00              | 00              | 00              | 00              | 00              | 00              | 00              | 00              | 00              | 00              | 00              |
| Cigarette smokers in percentage | 10(32.52%) | 4(9.67) | 6(19.35) | 3(9.67) | 3(9.67) | 1(3.22) | 1(3.22) | 0(0.00) | 1(3.22) | 1(3.22) | 1(3.22) | 1(3.22) |
| Beedi in percentage | 1(5.00) | 1(5.00) | 2(10.00) | 1(5.00) | 3(15.00) | 0(0.00) | 3(15.00) | 4(20.00) | 1(5.00) | 3(15.00) | 1(05.00) |
| Chewing tobacco in percentage | 1(20.00) | 1(20.00) | 9(40.00) | 2(40.00) | 0(0.00) | 0(0.00) | 0(0.00) | 1(20.00) | 0(0.00) | 0(0.00) | 0(0.00) |
| Cigarette+Beedi in percentage | 0(0.00) | 0(0.00) | 1(25.00) | 1(25.00) | 0(0.00) | 2(50.00) | 0(0.00) | 0(0.00) | 0(0.00) | 0(0.00) | 0(0.00) |
cigarette+beedi users were 02(50.00%). In this age group between 20-24 years the cigarette users were more. In this middle or lower income group were used more. Such a high percentage of cigarette smokers may be due to awareness of the hazards of tobacco, counseling and NRT therapy. One possible reason might have been the choice of friends, since adolescents tend to choose friends who have similar smoking habits to their own.

The detailed results are shown in Table 2.

**Various forms and Reasons for tobacco use**

Out of 60 tobacco users, the different forms used are cigarette 31(51.66), beedi 20 (33.33), chewing 05 (08.33) and cigarette+beedi 04 (06.66). the average reasons were passion 50 (82.74) and tension 10 (17.25).

**Comparison of occupation among tobacco users**

Out of 60 tobacco users, the occupation the business 23 (38.33%), student 08 (13.33%), farmers 17 (28.33%), drivers 10 (16.66%) and security guard 02 (03.33%).

Similar studies states that the weakness of this program was also that self reports on smoking status could not be biologically validated due to logistical and financial limitations. How ever previous studies have show that self reported smoking behavioral is reliable tool in measuring smoking when asked in various questions as done in this study. (Table 4)

**Comparison between age and smoke severity**

Out of 21 smokers screened, the age groups between 25-29 and 55-59 years were shown high severity 19.04% and the age groups between 30-34 and 45-49 years were shown low severity 09.52%.

**Post intervention survey response**

Out of 16 tobacco users, cigarettes smoke users were 10 (62.50%), beedi's users were 05 (31.25%) and chewing form users were 01 (06.25%). It showed that an average of 54.03% reduction in tobacco use/quit from the screeners. This reduction may be due to participants' interest, willingness and attitude towards avoid of tobacco products. Also, patient counseling, education and motivation by clinical pharmacist directly influenced. The strong response from tobacco users that they quit only by continuous motivation, monitoring and free supply of NCG.

A first attempt at tobacco cessation rarely results in sustained abstinence. On average, smokers report that more attempts and conducting tobacco cessation programs and counseling, and providing free NRT samples before success was achieved. Confidence in the ability to successfully quit can impact the outcome of tobacco cessation program. (Table 6)

**CONCLUSION**

The clinical pharmacy department established a clinical pharmacist-managed tobacco cessation group based on its combination of pharmacological and behavioral interventions and group-based, multi-meeting format.
Gradual reduction observed in 16 participants over a period of 3 months. This study further supports the utilization of a clinical pharmacist within a tobacco cessation group setting. The group format of the tobacco cessation was associated with high satisfaction among participants. More previous quit attempts and type of cessation aid used were predictors of cessation success at 3 and 6 months in this program. In the future, the tobacco cessation program could be tailored to effectively maximize the pharmacist’s time, while also achieving the best patient outcomes.

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