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Education

KEY WORDS: Tobacco use, school children, adolescents, influencing factors.

TOBACCO INFLUENCING FACTORS IN SCHOOL CHILDREN- A REVIEW

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ABSTRACT

Tobacco has been established as one of the leading causes of preventable deaths globally. Tobacco use increases the risk of oral cancer and alcohol further increases the risk. Recent trends indicate an earlier age of initiation among children and adolescents and thus contributing to an increasing smoking prevalence for this vulnerable group. The early age of initiation underscores the urgent need to intervene and protect them from falling prey to this addiction. Tobacco use and adolescent smoking have become a public health problem that urgently needs to be solved by reducing the overall tobacco use in the world. Thus , the purpose of this review was to know the determinants of tobacco influencing factors among school children.

Introduction

Tobacco is a major public health problem since decades. Tobacco use kills more people than Acquired Immune Deficiency Syndrome (AIDS), alcohol, drug abuse, car crashes, homicide, suicides and fires combined each year[1]. India ranks 4th in the total tobacco consumption in the world. India's cigarette consumption ranks 11th in the world.[2]

Out of the total production, only 19% of the total consumption of tobacco is in the form of cigarette whereas 81% is in other forms like, chewing, bidi (tobacco rolled in tendu leaf), snuff, gutka paste,(crushed arecanut, tobacco) jarda, hookah paste etc[3].

Each year, nearly six million deaths and hundreds of billions of dollars in health expenditure are attributed to cigarette smoking globally. It is estimated that if the current trend continues, smoking-related deaths will increase to more than 8 million per year by 2030[4].

Adolescence is a developmental period where behavior is influenced by emotional and social functions. An adolescent once initiated into tobacco use will continue using it lifelong, with very low quit rates. In India, the rate of adolescent addiction to cigarettes is high[3,5]. A youth tobacco surveillance study reported that 68% of boys and 48% of girls had their first experience of tobacco before the age of 10 years[6]. The most common reasons cited for children to start using tobacco are peer pressure, siblings and parental tobacco habits, easy availability, pocket money given by parents and colorful sachets that attracts children [1,3,7].

Tobacco is not only harmful to adolescents' physiological health, but also damages their psychological health and leads to lower performance and lower grades in academics[3]. Smokeless tobacco is economically priced, easier to hide and use the smoked product, especially in the restricted environment of schools. Furthermore, daily smokeless tobacco users were more likely to start using marijuana, abusive drugs, cocaine and heroin[1].

The early age of initiation of tobacco underscores the urgent need to intervene and protect them from falling prey to this addiction. Considering the enormous health complications associated with tobacco use, it is of utmost importance to understand the factors leading to its use and to plan strategies to reduce its intake. This is especially relevant for developing countries like India, where tobacco use continues to be common notwithstanding the recognition of harmful consequences of its usage. This paper reviews the factors influencing tobacco use in school children and adolescents in India, its prevalence and prevention.

Objectives

The aim of this review was to describe the prevalence of tobacco use and to identify the determinants and influencing factors for its use among school children.

Materials and Methods

Criteria for considering studies for this review

Types of studies

This review included observational cross-sectional, case control, cohort studies, systematic reviews, narrative reviews and meta analysis.

Types of participants

Children (aged 5 to 12 years) and adolescence (aged 13-18 years) in school setting.

Types of outcome measures

The term "tobacco use" in this review refers to the use of any nicotine-containing tobacco product, such as cigarettes, cigars, and smokeless tobacco. The primary outcome measure was assessing determinants and influencing factors for tobacco use among school children. The literature included studies assessing baseline smoking status, influencing factors on tobacco, individual behavior, peer's and friend's influence; school settings and perception of school; and social involvement and pressure and socio-economic characteristics; parental attitudes and practices.

Data source (literature search strategy)

A comprehensive and substantial search strategy was developed, which included electronic databases, websites, Medline literature, searches, books, reports, previous reviews and contact with experts. The following search strategies were used, using the terms school children, tobacco use, prevalence and influencing factors.

Databases searched include Pub Med, Medline, Google Scholar, and Dissertation Abstracts. Both key words and MeSH headings were used. Websites (World Health Organization, Action on Smoking and Health-UK, Action on Smoking and Health-US, National Institutes of Health, Centers for Disease Control and Prevention) were also searched using the key term "Tobacco use and school-going adolescents".

Data collection, analysis and results

Two authors independently assessed the studies and extracted data independently. The full text of each study was independently assessed. Of the thirty articles retrieved, 23 were identified as potentially relevant to the review. Information extracted from selected studies included prevalence, setting of study, study participants biophysical characteristics, family and school factors influencing tobacco use.

Principal findings of the review:

Prevalence of tobacco use in school children

The World Health Organization (WHO) estimates that approximately over 1 billion people smoke tobacco currently, among whom 12% of adolescent boys and 7% of adolescent girls smoke cigarettes[3]. In 2009, global youth tobacco survey (GYTS) found that nearly one in ten students in India ages 13–15 years used some form of smokeless tobacco (SLT) (9.4% overall; 10.7% boys; 7.5% girls) [8].

Prevalence of Smoking Tobacco Globally and India

Cross-country comparison studies have shown that Chile has the highest prevalence (39.6%) of cigarette smoking among students in the world [9]. A survey on 11-15 year old conducted in European, Russian and Scandinavian countries by WHO found that the rates for tobacco experimentation at this age was lowest and consistent difference were found between different countries[10]. Aleaz [11] reported in London that 41.4% of students had tried smoking in the 6 class, with prevalence increasing from 21% in class 6 to 60% in class 12. No country exceeded a daily smoking rate of 2% for 11 year olds, while most countries were fewer than 10% at age 13 and 30% at the age of 15 years[12].

GYTS conducted in India in 2005 among 13-15 years of age showed tobacco usage varies between 2.9% to 8.5% in boys and 1.5% to 9.8% in girls[13].

Prevalence of Chewing Tobacco Globally And India

Smokeless tobacco was reported by 19.3% students, with prevalence increasing from 12% in class 6 to 29% in class 12 [14]. In India it was reported that, 18.5% boys and 8.4% girls were current uses of smokeless tobacco[15].

Factors Influencing tobacco use in Children

A multitude of factors can influence tobacco use among youth and their subsequent success in quitting. These include: gender; age and developmental stage; socioeconomic status; education level; ethnicity; cultural background; history of tobacco use; risk-taking behavior and psychological aspects; personal acceptability of tobacco use and commitment to cessation; tobacco use among peers and family; external support for cessation; time availability; knowledge, attitudes, and beliefs about tobacco; self-esteem and self-perception; sense of control; and behavioral patterns.

Influence of Biosocial characteristics

Biosocial characteristics influencing tobacco use include gender ; age, developmental stage, race and ethnicity. Various studies, including some in India have revealed that most children start using tobacco as early as at eight years of age with the median age of smoking being less than 15 years[2]. Tobacco use by gender varies between countries and has a complex association with cultures. Data from GYTS show that worldwide smoking rates among boys and girls resemble each other, with boys between the ages of 13 and 15 years smoking only 2 to 3 times more than girls. Additionally, Lopez et al.'s 1994 [16] descriptive model of the tobacco epidemic predicts that the female-to-male ratio in smoking prevalence will rise in many low- and- middle-income countries where females currently smoke at much lower rates than males.

Patterns of adolescent cigarette smoking differ substantially among racial/ethnic groups. The prevalence of cigarette smoking is higher among Whites than among Hispanics and, especially, Blacks, although these racial/ethnic differences may be disappearing among young adolescents. White adolescents start smoking at an earlier age, are more likely to persist in smoking, and become more dependent on nicotine than minority youths. Botvin and colleagues (1994)[17] studied potential predictors of cigarette smoking onset among seventh graders in six New York schools within low-socioeconomic communities.

Socio-economic status:

Adolescents from families with low SES may be exposed more frequently to parental smoking, with a corresponding increase in the chance of smoking initiation [18]. In addition, adolescents from families with low SES may use tobacco for coping with economic problems. The relationship between poverty and tobacco consumption in adults has been extensively studied by Barreto et al[18] , Ciapponi [19] and showed a higher smoking prevalence among low socioeconomic status (SES) groups compared with high SES groups.

Education of parents:

Parents' education has been negatively associated not only with adults' smoking, but also with teens' smoking, while the family income had only modest relation to adolescent smoking behaviour. The available literature shows that lowest parental education level was in cohabitating families and single-parent families, the highest education had married two biological parent families[20]. The most common possible explanation of the relationships of education and smoking is the fact that more educated individuals are better informed on the health risks of smoking and this information is transferred to the children. Children living in families with lower educated parents were exposed to the smoking environment which represents both dangerous chemical hazards and bad behavioural models.

Age of initiation of tobacco use:

Majority of the studies in India, Muttapppallymyalil,et al[21] revealed that the mean age of both smoke and smokeless form of tobacco users was 14-16 years. The initiation of tobacco starts at the age of 12 years in both the forms except north east states, where initiation of tobacco reported at the age of 10 year Kumar et al [22].

Influence of family

The family unit is the primary source of transmission of basic social, cultural, genetic, and biological factors that may underlie individual differences in smoking. Tobacco use by parents or an elder sibling increases the likelihood that a child begins smoking. Families in which both parents smoke, 20.7% of girls were smokers, compared with 7.6% of girls from families where neither parent smoked[20]. Parental smoking appears to be more influential for girls than for boys. This finding was particularly pronounced for the influence of smoking mothers on adolescent daughters.

Parental smoking has been repeatedly described in association with higher rates of children's experimentation with smoking. Parental smoking may shape children's cognitive understanding regarding the acceptability of smoking before smoking initiation[20].

In many Indian families, fathers frequently ask boys to fetch bldis or cigarettes from a nearby shop and are often introduced to such products at very early life stages. A child growing in such a family watching his family using tobacco may perceive it as a family tradition that is to be followed[6]. On the other hand, as an Indian tradition, younger individuals are not expected to smoke in the presence of elderly, because smoking is taken as in contempt of the older people. Therefore, it is a paradox that the same elderly people, who passively show the way to smoke, are prohibitive of the same behavior by the younger generation in their own presence. However, this value system does not apply to the use of smokeless tobacco products.

The role of friends

Peer smoking appears to be the most important factor influencing smoking initiation especially among adolescent years. According to Brown [23] 9th through 12th grades spend about twice as much time with peers as they do with parents. The term 'peer pressure' has become a commonplace colloquialism, when considered with regard to cigarette smoking conjures up images of teenagers encouraging, teasing, taunting and even bullying each other to 'take a drag'. However, research findings suggest overwhelmingly that pressures to smoke cigarettes are predominantly normative, and not direct or coercive, in nature [24,25]. In peer groups where status as a 'smoker' or 'non-smoker' is central to the social identity of the group, members of the group are likely to be similar to one another in their smoking habits. For example, a study by Alexander etal [2] suggested that having best friends who smoked resulted in a two-fold increase of being at risk of smoking.

Individual children seek out peers with similar norms and behaviour in the process of selection, and especially depressed individuals need the acceptance by peers. The selection process includes also exclusion of those who do not adhere to social norms of the group [27].

INDUSTRY MARKETING:

Cigarette advertising appears to affect young peoples' perceptions of the pervasiveness, image, and functions of smoking. Images that make smoking seem attractive and appealing are everywhere in the movies and on TV, in video games, on the Internet, and in advertising at retail stores. Cigarette advertising and marketing cause youth and young adults to start smoking; nicotine addiction keeps them smoking into adulthood. The Food and Drug Administration (FDA) recently concluded that although advertising may not be the most important factor in a child's decision to smoke, but it is a substantial contributing factor.

Packaging and product design are important elements of advertising and promotion. Parties should consider adopting plain (or generic) packaging requirements to eliminate the advertising and promotional effects of packaging. Product packaging, individual cigarettes or other tobacco products should carry no advertising or promotion, including design features that make products more attractive to consumers. Internet sales of tobacco should be banned as they inherently involve tobacco advertising and promotion. Given the often covert nature of tobacco advertising and promotion on the Internet and the difficulty of identifying and reaching violators, special domestic resources will be needed to make these measures operational.

Role of Schools and teachers:

School, apart from being an educational institution, it is also a socializing place through which most youths must pass (Steinberg, 1999) [5, 28]. Adult ideas, self image, and even behavior are formed during this period. The school climate may be one factor that leads to psycho-social and behavioral problems that can affect health. For example, research indicates that negative feelings toward school are associated with dangerous behaviors, such as tobacco use and teachers (Samdal et al, 1998)[29]

The socioeconomic environment where the school is located may influence the smoking behaviors of students through several mechanisms, including exposure to tobacco advertising Barreto et al [18] availability of tobacco products, and the development of social norms that facilitate or detract from youth smoking Lovato et al[29].

Discussion:

In India as there is rapid globalization and urbanization, psychological problems in children and adolescents especially behavior problems depression, eating disorders , mood disorders has been increased. Adolescents desire greater connectedness to parents, school, and community. Unfortunately, today's busy adults frequently relinquish responsibility and supervision of teens allowing them greater opportunities to participate in unhealthy behaviors. When the adolescents, unable to meet their need for affirmation within the family, the daughter with the mother, the affiliation with the peer group may be greater.

The stress faced by the children and adolescents in current situation is enormous with breaking up of joint families and the traditional social support systems. Most of the risk taking behaviors and psychological problems among children and adolescents emerge during adolescent period. Smoking is a learned behavior that evolves through several stages, including preparation, initiation, experimentation, regular smoking and nicotine addiction. By experimenting with tobacco, young people place themselves at risk for nicotine addiction and this will strongly impact their participation in the classroom, scholastic achievement, relationship issues, mental health and psychological wellbeing.

Parental and sibling smoking behavior, parental attitudes toward smoking, and sibling pressure have all been found to be predictive of smoking onset, with less support for parental smoking and approval . In particular, the influence of peers is considered to be one of the most important predictors of adolescent smoking, more so than parental smoking. [30] Many of these behavioral and psychological problems, can be prevented among children if it is intervened at an early stage.

A well-timed comprehensive program in the schools using teachers as a facilitators should be trained in tobacco cessation which results in yielding high long term returns on to successfully quit the use of tobacco and address to handle withdrawal symptoms and failed attempts to quit.

Conclusion:

There are numerous factors which initiate children and adolescents for tobacco use. Developing a better understanding of these factors such as bio-social factor, parental factors, peer influence, role models etc., will allow providing social support and teaching avoidance, stress management, and refusal skills.

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