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The Health Effects of Passive Smoking and Socio-Demographic Factors among Patients in Bangladesh: A Retrospective Study

Shaikh Md. Eunus Ali[1*], Most. Dilara Akter[2], Nazmun Naher[3], Inamur Rahman[4], Nabid Shahriar Sarker[5], Khadiza Rubab[6]

[*1]Associate Professor, Department of Medicine, Shaheed Tajuddin Ahmad Medical College, Gazipur, Bangladesh.
Email: shaikhmdeunusali@gmail.com,
Orcid ID: 0009-0002-6099-4273
[2]Associate Professor, Community Medicine, Shaheed Tajuddin Ahmad Medical College, Gazipur, Bangladesh,
Email: dilarasbmc17@gmail.com,
Orcid ID: 0009-0001-4313-7619
[3]Deputy Director, National Institute of Laboratory Medicine and Refferal Centre (NILMRC), Dhaka, Bangladesh,
Email: nazmun.mashruq@gmail.com,
Orcid ID: 0009-0001-4051-7085
[4]Assistant Professor (Community Medicine), OSD (DGHS), Deputed in CME, Mohakhali, Bangladesh,
Email: inam111266@gmail.com,
Orcid ID:0009-0004-5804-6068
[5]Assistant Professor, Department of Anaesthesiology, International Medical College & Hospital, Dhaka, Bangladesh,
Email: nabidsh@gmail.com,
Orcid ID: 0009-0009-3391-9973
[6]MBBS, DGO. FCPS part 2 trainee[Reproductive endocrinology and infertility], Dhaka Medical College Hospital, Dhaka, Bangladesh,
Email: khadizarubab1610@gmail.com,
Orcid ID: 0009-0009-1292-3631
*Corresponding author

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Abstract

Background: Tobacco use has been linked to various harmful health consequences, such as lung cancer, heart disease, stroke, and respiratory problems like chronic obstructive pulmonary disease. Additionally, exposure to secondhand smoke, or inhaling tobacco smoke from others, can lead to severe health risks, including cancer. This study examines the impact of passive smoking on health and how the demographics of tobacco users affect these effects. **Material & Methods:** A retrospective cross-sectional study was done at Shaheed Taz Uddin Ahmad Medical College, Gazipur, Bangladesh. Total 260 outpatients were selected as samples and were assessed for six months, from June 2023 to December 2023. The selected samples were more than 18 years old and provided their approval in participating in this study. **Results:** The study included 260 respondents, both male and female, aged 18 years or older. The average age of the respondents was 40.93 ± 2.04. The majority of the respondents (103%) reported using smokeless tobacco. Additionally, 30% of the respondents reported being students based on their profession. The survey revealed that smoking was a major concern for the respondents, with environmental pollution being reported as a problem by 91.3% of them. Problems with pregnant women were reported by 74.62% of the respondents, while 52.67% reported breathing problems and 34.67% reported tooth pain. **Conclusions:** The study revealed that smoking presents a grave danger to public health, causing serious physical and mental health issues. It is crucial to implement targeted preventive measures to dissuade active or passive smoking.

Keywords:- Knowledge level, passive smoking, health hazards of smoking, smokers.

INTRODUCTION

Tobacco products are responsible for causing a wide range of health issues such as lung cancer, heart disease, stroke, and respiratory disorders. Furthermore, they contain toxic substances that pollute the environment. Tobacco stands as the second major cause of

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death globally, and young people have high smoking rates, including non-cigarette products. Smoking and passive smoking are significant avoidable causes of death in Bangladesh and have considerable financial impacts on the community (The Daily Star, 2016). Bangladesh has a high prevalence of tobacco use among adults and the number of smokers is increasing. According to the Global Youth Tobacco Survey, tobacco-related diseases cause over 57,000 deaths every year, with 1.2 million cases of sickness and 380,000 impairments linked to cigarette use. Unfortunately, with a staggering 41.3 million people using both smoked and smokeless forms of tobacco, the prevalence of tobacco-related illnesses and health hazards is on the rise among the general population.[1] Bangladesh is responsible for producing 1.3% of the world's tobacco, which is a significant threat to its society, economy, and ecology. The country's food security is in danger due to the exploitation of arable land for tobacco cultivation. Tobacco waste, such as cigarette litter, is a major environmental issue globally because of the harmful chemicals and heavy metals present in tar. Cigarette filters, containing tar, can cause cancer, heart and lung diseases.[2] When a cigarette is burned, it releases hazardous ingredients into the smoke. These metals accumulate in various organs of the body, such as the blood, kidneys, bones, brain, respiratory system, and lungs. As a result, they cause diseases and also pollute the environment.[3]

Passive smoking causes acute respiratory infections (ARI) that lead to over 12 million hospital admissions worldwide each year, especially in young children.[4] In low-income countries, the mortality rates associated with Acute Respiratory Infection (ARI) are significantly higher, showing a tenfold increase compared to more economically developed nations. It is noteworthy that around 70% of hospitalizations caused by childhood pneumonia occur among children under five in the United States. As per the World Health Organization (WHO), 740,180 children died due to pneumonia in 2019, which accounted for 14% of all deaths in this age group. Furthermore, according to UNICEF data, a child dies from pneumonia approximately every 39 seconds.[5]

This study aims to research the health effects of passive smoking and socio-demographic factors among patients in Bangladesh. Ethical clearance and informed consent were taken from the respective authority.

Objectives

- General objective: The objective of this research is to assess the effects of passive smoking among patients in Bangladesh.
- Specific objective: This study aims to investigate the effects of passive smoking on patients' health and its relation with socio-demographic factors who live in Bangladesh.

MATERIAL AND METHODS

It is a retrospective cross-sectional study that has been designed to assess the effect of passive smoking among patients who came to visit Shaheed Taz Uddin Medical College, Gazipur, Bangladesh from June 2023 to December 2023. Within this period, 260 patients aged 18 years or more came to this hospital for various treatments at the General

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Medicine. This retrospective study includes participants from diverse socio-demographic backgrounds, paying particular attention to factors such as age, gender, socioeconomic status, and various health problems related to smoking.

Inclusion Criteria

The study included patients who are 18 or more than 18 years old, both male and female. The patients who live or work in an environment where they have active smoking family members or colleagues were included.

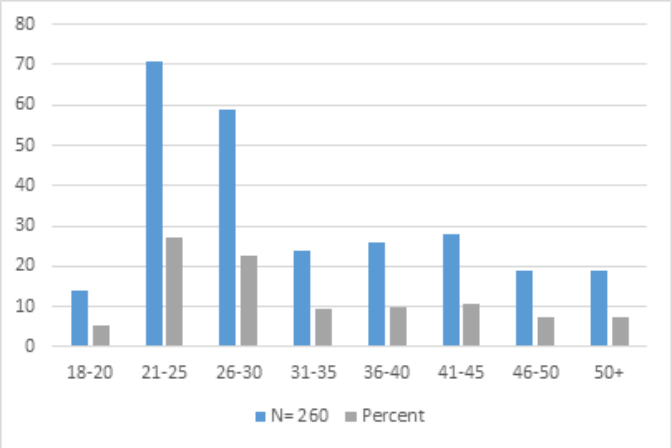
Exclusion Criteria

Patients with a history of COVID-19 were excluded from this study. This study also excludes patients who were not ready to provide the information needed for this study.

To gather data for the study, a semi-structured interviewer-administered questionnaire was created, taking into consideration the study's aims and variables. The questionnaire was pretested among different demographics to identify any comprehension issues. After pretesting, the questionnaire was revised and polished. The data were manually processed, tabulated, and analyzed based on the study's goals. To examine the data, the Statistical Program for Social Scientists (SPSS) Version 16 was used. An electronic calculator was also used to calculate the results. The ethical review committee of Shaheed Taz Uddin Medical College has approved the study. A well-informed written consent paper was signed by the patients.

RESULTS

[Figure 1] demonstrates the majority of outpatients (27.3%) were between the ages of 21 and 25 age was determined to be averaged at 40.93 ± 2.04. [Figure 2] shows the profession of the responders. Out of 260 respondents, the majority were unemployed (30%), 7% were day labourers, and 2% were stay-at-home mothers.



Figur 1: Age group of the patients (N=260)

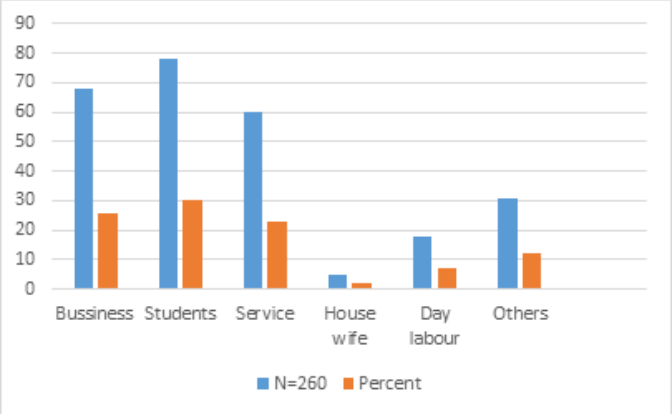


Figure 2: Occupational distribution of the patients (N=260)

Multiple responses to the smoking pattern are displayed in [Table 1]. It was discovered that the majority of respondents100% used

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smokeless tobacco, followed by smoking tobacco 63.46% and other types of tobacco 3.46%. [Table 2] revealed that 74.62% of pregnant women's problems were related to smoking, while 94.23% were related to environmental pollutants. According to [Table-3, 52.67% of smokers experienced breathing problems, while 90.7% of non-smokers reported having similar issues. 9.3% of non-smokers were uncertain. Table-4 shows that 78.66% of men had high knowledge of smoking-related health risks, but only 9.35% of women had the same level of knowledge. In terms of education, 24.66% of respondents had a degree with honours, and the majority of respondents had a good understanding of smoking health risks. Table-5 indicates that 34.67% of respondents experienced oral discomfort, 33.33% had respiratory problems, 26.67% had visual issues, 20% had nausea and/or vomiting, 18.67% had high blood pressure, 3.33% had low blood pressure, and 2% had cancer.

Table 1: Passive smoking pattern among the respondents

Passive smoking pattern	**Number of respondents (N=260)**	**Percentage**
Smoking	260	100%
Smokeless	165	63.46%
Others	9	3.46%

Table 2: Knowledge of problems regarding smoking

Knowledge of problem		**Frequency**	**Percentage**
Environment pollution problem	Yes	245	94.23%
	No	15	5.77%
Pregnancy-related problem	Yes	194	74.62%
	No	66	25.38%

Table 3: Types of problems among respondents due to smoking (N=260)

Types of problem		**Frequency**	**Percentage**
Problem of smoking	Smoke	111	42.67%
	Difficulty in breathing	137	52.67%
	Cough	90	34.67%
Problem of nonsmoker	Same problem	236	90.7%
	No problem	24	9.3%

Table 4: Smoking health risk knowledge level and education level of the respondents

Variables		**Poor Knowledge**		**Average Knowledge**		**Good knowledge**	
		Number	**Percentage**	**Number**	**Percentage**	**Number**	**Percentage**
Sex	Male	9	3.33%	19	7.33%	204	78.66%
	Female	0	0	3	1.33%	25	9.5%
Educational degree							
	Illiterate	3	1.33%	5	2%	5	2%

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Level	HSC or below	7	2.65%	12	4.66%	83	32%
	Graduate	0	0	17	6.66%	64	24.66%
	Postgraduate	0	0	24	9.34%	28	10.66%
	Technology	0	0	0	0	9	3.33%

Table 5: Health problems due to passive smoking

Health problem	Number (multiple responses)	Percentage
High Blood Pressure	48	18.67%
Low Blood Pressure	9	3.33%
Abdominal Pain/Vomiting	52	20%
Difficulty in Breathing	87	33.33%
Cancer	5	2%
Dental Pain	90	34.67%
Difficulty in Vision	69	26.67%

DISCUSSION

The current study found that among 260 study patients, mostly 21-30 aged people face various difficulties due to passive smoking when they are the main ones to be practitioners. The majority of the graduate participants had good knowledge of the harmfulness of smoking. Oral discomfort and breathing problems are found to be the most common problems among the respondents.

The US Department of Health and Human Services conducted a study that revealed children whose parents smoke are more susceptible to chest illnesses than those whose parents don't smoke. Moreover, it has been observed that children whose parents smoke are more prone to significant illnesses during their early years of life. Passive smoking is the most significant issue affecting children today, who are inadvertently exposed to tobacco smoke pollution. The negative effects of passive smoking can develop early and have long-lasting impacts on children's health.[6]

In 2009, at The Institute for Students' Health of Belgrade University, a cross-sectional study about the health-related quality of life of BU students was carried out. The survey sample included 1.8% of BU students from all faculties, which revealed 21.1% of smokers.[7] 2008 study about a smoking boycott in closed public spots was led among BU understudies from all faculties. It showed that 29.5% of BU students were smokers.[8,9,10,11,12,13] An exploration found that the smoking predominance among BU understudies even expanded somewhat starting around 2008 (30.5% versus 29.5%).[8,9,10,11,12,13] At NSU in 2010/11, 5% of randomly chosen first and final-year students were studied to decide the predominance of smoking among NSU students, and 26.7% of members answered to be smokers [9, 13. A 2007/08 blended methodology to learn about the risk variables of cardiovascular illnesses among medical students in their last year at NU observed that a quarter of respondents were smokers.[10,11,12,13] Where, in the current study, more than 30% of respondents were found to be students.

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A Global Health Professions Student Survey (GHPSS) directed among third-year students from 2005-2008 cross-broadly (during 2006 in Serbia), uncovered that 34.7% of participants in Serbia were smokers.[11,12,13] The pervasiveness of smokers among first-year medical students at the College of Prishtina, Kosova in 2011, was 8.9% for general medical students.[12,13]

Posterity moms with limited formal education, or individuals who have just finished primary education, display an improved probability of creating Acute Respiratory Infections (ARI) compared with their partners with additional informed moms. The instructive level of the mother expects an urgent job in moulding the nature of the kid's consideration and deciding openness to different social and ecological elements. Ujunwa et al,[14,15] recognized a huge relationship with maternal training, especially in lower respiratory lot contaminations, a finding validated by different examinations showing a positive connection between poor maternal schooling and ARI.[15,16]

Passive smoking arises as an outstanding risk factor, hoisting the probability of ARI by 4.67 contrasted with children unexposed to passive smoke. This revelation lines up with discoveries from other specific examinations, demonstrating a two to fourfold increase in the risk of latent smoking contrasted with passive smokers. The affiliation is clarified by the detrimental impact of smoking on the regular defensive instrument of the respiratory plot, working with the split of the difference of the underlying safeguard line of the respiratory system by pathogens.[15,17]

Limitations

However, there are certain limitations to this study. As it is a cross-sectional study, any decisions about causality were not drawn. Also, the point estimates and related fluctuation evaluations could be skewed because they didn't utilise random sampling but rather ordinary sampling procedures.

CONCLUSIONS

To summarize, the participants have shown their knowledge regarding passive smoking outcomes but circumstance is found to be the main hindrance to overcoming the situation. Fundamental knowledge and awareness among the population along with strict rules can bring a change in the situation.

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