

Oral Hygiene Practice and Tobacco Habits among Garment Factory Workers: A Cross-Sectional Study

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Abstract

Aim: The aim of the study was to assess the oral hygiene practice and habits of tobacco consumption among garment factory workers.

Methods: A descriptive type cross-sectional study conducted among 240 garment factory workers in Narayanganj district of Bangladesh. Data were collected from participants through convenience sampling techniques from October 2018 to December 2018. Face-to-face interviews employing a pre-tested, semi-structured questionnaire designed following WHO guidelines, included demographic and socio-economic characteristic, oral hygiene practices and use of tobacco among garments workers. Data were analyzed with SPSS version 26 to present descriptive statistics of study variables.

Results: Majority of participants were female (79.58%), aged between 18 and 32 years (54.58%), and earned a monthly income between 10000 and 15000 BDT (81.67%). In addition, a substantial proportion of participants (86.25%) brushed their teeth at least once daily, with the vast majority (97.92%) cleaning their teeth before breakfast. However, interdental cleaning was less common, only 35% of participants reporting regular practice. While toothbrushes are widely used (88.75% regular use). Whereas only, the reliance on water as a regular mouth rinse was about 42.5%. Regarding habit of tobacco consumption, cigarette smoking is relatively uncommon (5.83% regular use), but pan chewing, particularly with tobacco, is more prevalent (12.08% regular use). The use of gul is minimal (1.25% regular use).

Conclusions: These findings indicate the need for targeted interventions regarding oral hygiene practice and habit of tobacco consumption among garment factory workers.

Keywords: Garment factory workers; Oral hygiene; Tobacco; Cross-sectional study; Cigarette smoking;

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Introduction

Oral health is an integrated component of overall health, which has a major influence on quality of life and productivity [1]. Poor oral hygiene practices and habit of tobacco are the most significant risk factors for common oral diseases like dental caries, periodontal disease, and oral cancer [2]. These diseases, in turn, can cause pain and discomfort and also lead to systemic health problems, affecting overall health [3,4]. Moreover, these disorders also create a significant economic burden to both the individual and health systems as well as can affect daily activities and a wider health status [5,6].

The garment industry, a key contributor to many national economies, typically employs many workers, often working long hours for low pay in poor working conditions. Such factors lead to vulnerabilities impacting physical and mental health, including oral health [7-13]. In Bangladesh, the wellbeing and oral health conditions of garments workers is an important public health issue [14,15]. This study intends to evaluate oral hygiene practices and tobacco habits among garment workers of garment industry in Narayanganj area, which is a renowned export processing zone of garment industry in Bangladesh. The insights gained can be used to design targeted interventions to enhance oral health outcomes and overall well-being within this large workforce.

Methods

This cross-sectional study was conducted with garment factory workers in Narayanganj district from October 2018 to December 2018. A convenience sample of 240 workers was collected. The study's objective was explained to participants before data collection and informed consent was obtained in writing from

each of them. In addition, permission was also obtained from management of garments factory. Face-to-face interviews were conducted using pre-tested semi structured questionnaire to collect data. The questionnaire was designed following the WHO guidelines [16] and included three main domains: socio-economic background, oral hygiene practices, and tobacco habits. The socio-economic part collected data regarding age, sex and monthly income. The oral hygiene section evaluated toothbrushing frequency, brushing time (before or after breakfast), interdental cleaning practices, and types and frequency of oral hygiene aids (eg, toothbrush, miswak, toothpaste, and mouthwash). Abuses under tobacco habits section included use of cigarette, pan (with/without tobacco) and gul. The expressions in the datasets were quality controlled through the following steps. A thorough analysis of collected questionnaires was conducted to check and re-check for completeness and accuracy. Data were subsequently edited, coded, and recoded for data consistency and reliability. The data were compiled after quality assurance and entered into IBM SPSS Statistics version 26 for analysis. The data were summarized using descriptive statistics. Descriptive statistics were reported, with frequencies and percentages of categorical variables (e.g., gender, oral hygiene practices, and tobacco use) and means and standard deviations of continuous variables (e.g., age or monthly income).

Results

A total of 240 garment workers participated in the study. The demographic and socio-economic characteristics of the participants are presented in Table 1.

Table 1: Demographic and Socio-economic Characteristics of Participants (n=240)

Attributes	Frequency (f)	Percentage (%)
Sex		
Female	191	79.58%
Male	49	20.42%
Age Group (Years)		
18-32	131	54.58%
33-42	77	32.08%
43-57	32	13.33%
Monthly Income (BDT)		
10000-15000	191	81.67%
15000-20000	36	15.00%
Above 20000	8	3.33%

Table 1 revealed that the majority of participants were female (79.58%), aged between 18 and 32 years (54.58%), and earned a monthly income between 10000 and 15000 BDT (81.67%).

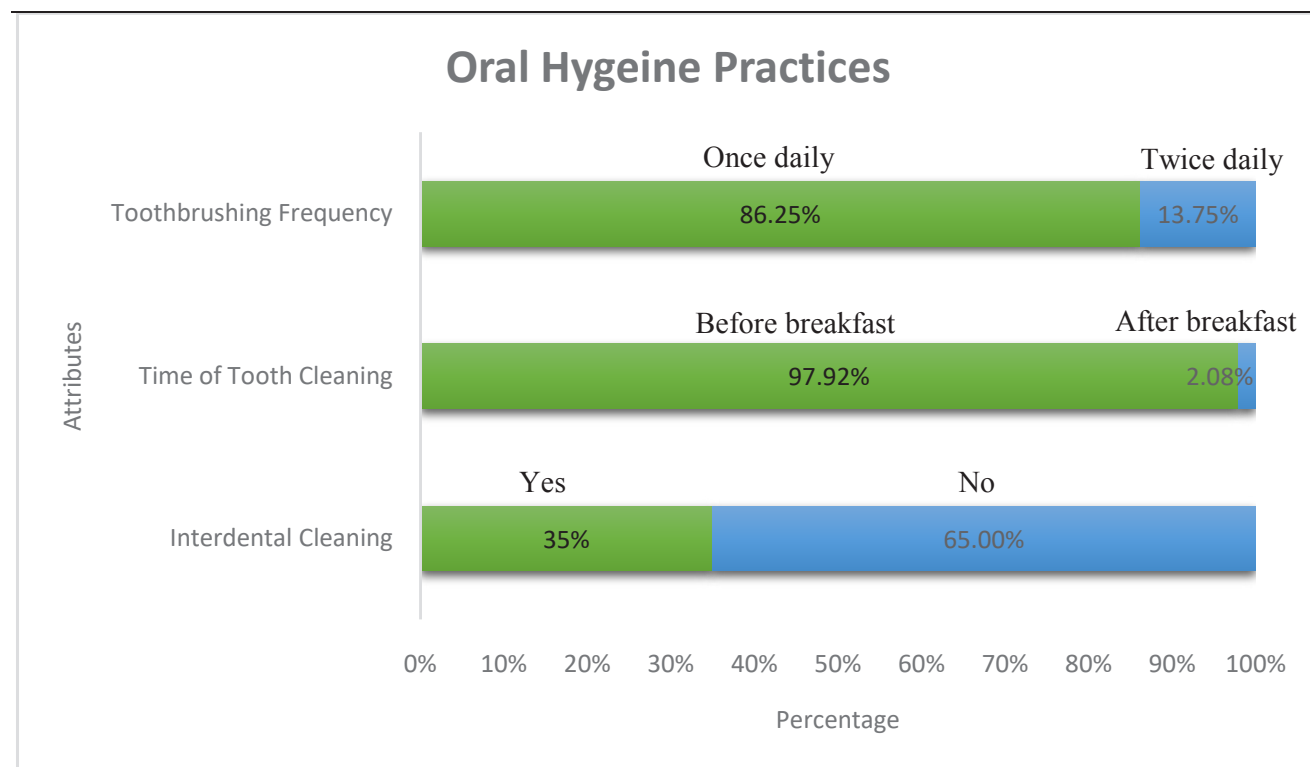
**Figure1: Oral Hygiene Practices among Participants (n=240)**

Figure 1 showed that a substantial proportion of participants (86.25%) brushed their teeth at least once daily, with the vast majority (97.92%) cleaning their teeth before breakfast. However, interdental cleaning was less common, with only 35% of participants reporting regular practice.

Table 2: Use of Oral Hygiene Aids among Participants (n=240)

Oral Hygiene Aid	Regular Use	Irregular Use	Never Use
Mouth Rinse			
Water	102 (42.5%)	138 (57.5%)	0 (0%)
Mouthwash	3 (1.25%)	3 (1.25%)	234 (97.5%)
Tooth Cleaning Aids			
Toothbrush	213 (88.75%)	24 (10.00%)	3 (1.25%)
Miswak	5 (2.08%)	9 (3.75%)	226 (94.17%)
Finger	19 (7.92%)	4 (1.67%)	217 (90.42%)
Dentifrices			
Toothpaste	191 (79.58%)	5 (2.08%)	44 (18.33%)
Toothpowder	26 (11.0%)	12 (5.0%)	202 (84.17%)
Charcoal	8 (3.33%)	6 (2.5%)	226 (94.17%)
Interdental Cleaning			
Wooden toothpick	26 (11.0%)	130 (54.0%)	84 (35.0%)
Thread	10 (4.0%)	6 (2.5%)	224 (93.33%)
Tongue Cleaning	65 (27.0%)	72 (30.0%)	103 (43.0%)

Table 2 illustrated the distribution of various oral hygiene aids. While toothbrushes are widely used (88.75% regular use), the use of other aids, such as miswak, mouthwash, and interdental cleaning tools was lower. In addition, the reliance on water as a mouth rinse (42.5% regular use).

Table 3: Distribution of Tobacco Habits among Participants (n=240)

Tobacco Habit	Regular Use	Irregular Use	Never Use
Pan Chewing			
Without Tobacco	17 (7.08%)	49 (20.42%)	174 (72.5%)
With Tobacco	29 (12.08%)	28 (11.67%)	183 (76.25%)
Cigarette Smoking	14 (5.83%)	11 (4.58%)	215 (89.58%)
Gul	3 (1.25%)	8 (3.33%)	229 (95.42%)

Table 3 revealed that cigarette smoking is relatively uncommon (5.83% regular use), but pan chewing, particularly with tobacco, is more prevalent (12.08% regular use). The use of gul is minimal (1.25% regular use).

Discussion

This study highlighted on oral hygiene practices and tobacco habits among rate garments worker of Narayanganj, Bangladesh. The predominantly female workforce and low-income levels are consistent with existing literature on the garment industry in Bangladesh [9]. Although most participants indicated toothbrushing every day, the use of other oral hygiene aids and interdental cleaning were much lower that was similar to another study [17,18]. The high percentage of tooth brushing before breakfast suggested a cultural or habitual practice that may influence the effectiveness of brushing. This indicates a necessity for educational interventions on a range of oral hygiene strategies, including regular interdental cleaning and fluoride-containing toothpaste [19-21]. Regarding, regular mouth rinse with water. indicates a potential limitation in access to or preference or affordability for commercially available mouthwashes. The results of this study point to a possible gap that exists in both knowledge and outlook in regards to oral health among the population that was the primary focus in the current study. Whereas, in our study, particularly pan chewing with tobacco is relatively high that other items, would be a possible risk factor for oro-dental problems [22]. So that urgent need of intervention to promote cessation and prevent initiation following 5 A and 5 R protocol [23,24].

Limitation

Although as convenient sampling was used during study, which did not address representative data of the entire garment worker population in Narayanganj. The use of cross-sectional design limits the potential to establish direct causes and consequences between

oral hygiene practice, tobacco usage and oral health outcomes. Further studies with representative sampling techniques would help to strengthen the evidence base.

Conclusion

This cross-sectional study showed a snapshot view of oral hygiene practices, tobacco habits and socio-economic factors among garment workers in Narayanganj, Bangladesh. Although most participants reported brushing their teeth at least once a day, important gaps were observed in other imperative oral hygiene practices, and tobacco smoking persisted as a major health issue. The data is an important step in informing the development of solutions for this vulnerable group, and these findings further highlight the pressing need for holistic interventions. Such approaches would include educational interventions targeting appropriate oral hygiene behaviors, the provision of affordable and accessible oral hygiene equipment, and comprehensive tobacco cessation programs.

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Ethical Declarations

The study was conducted following the World Medical Association Declaration of Helsinki. Written & verbal informed consent was taken from all participants.

Competing interests

The authors declare no competing interests

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