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ORIGINAL PAPER

Oral Health of Foreign Domestic Workers: Exploring the Social Determinants

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Abstract Foreign domestic helpers constitute a significant proportion of migrant workers worldwide. This population subgroup provides an opportunity for understanding social determinants of oral health in immigrant community. A random sample of 122 Indonesian domestic helpers in Hong Kong completed a questionnaire on their demographic background, social characteristics (competency in local languages, immigration history, living condition, social connections, and leisure activities) and oral health behaviours (knowledge, attitudes, practice and self-efficacy). Their tooth status and periodontal health were assessed. Participants tended to start flossing after settling in Hong Kong. Favourable oral health knowledge was found in more acculturated participants, as indicated by proficiency in local languages and immigration history. Engagement in social and/or religious activities and decent living condition provided by employers were associated with favourable oral health behaviours and/or better oral health. Social determinants explained 13.2 % of variance in caries severity. Our findings support the significant impact of social circumstances on oral health of domestic workers.

Keywords Social determinants · Behaviours · Oral health · Immigrants · Foreign workers

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Introduction

Households across nations are increasingly delegating their housework to paid domestic helpers [1, 2]. A compilation of data from national surveys and censuses suggested there are at least 52.6 million domestic helpers worldwide and, if hidden and unregistered employment was considered, the total is up to 100 million [1]. In many countries, importing domestic workers from less developed countries is a common practice because their own nationals are no longer obliged or inclined to do domestic work. Foreign domestic helpers constitute a significant proportion of the world's migrant workers, with the major sending countries as Indonesia, the Philippines, India, Bangladesh, Pakistan, Sri Lanka, and Ethiopia [1, 2].

Foreign domestic helpers are known as a group vulnerable to exploitation, abuse and discrimination [1, 2]. To protect their rights and provide them with a decent work condition, a convention was organized by the International Labour Organization. Triparty delegates (governments, workers and employers) from 183 member states adopted a historic set of international standards regulating the employment of domestic workers and the rights they are entitled, including their healthcare right [1].

A wealth of evidence has documented the poor health in low socio-economic groups, minorities, migrants, and people with minimal social supports [3–7]. Foreign domestic helpers unfortunately fall into all these disadvantaged categories. The cumulative effects of these predisposing factors and their interplays amount to the vulnerability of this group to many health challenges. For instance, domestic helpers appeared to be the worst in general health among various municipal occupations in a study following 4,255 employees over 4 years [8]. Among Filipino domestic helpers in Hong Kong, preventive health practice was rare and symptoms of

mental distress, such as loneliness, worry and sleep disorders, were common [9].

To improve the health of disadvantaged communities and reduce the persistent health disparity, addressing social determinants of health is gaining increased scholarly attention. The poor health of underprivileged groups is postulated to be deeply rooted in their social circumstances, which can be linked to disease by material, psychosocial, and behavioural pathways [10]. Narrowly focusing on improving health behaviours without addressing the social context is victim blaming in nature and may further exacerbate the health inequality [11]. Instead of a biomedical/behavioural 'downstream' approach, a conceptual shift addressing the 'upstream' social determinants of health was advocated [11, 12]. Despite the flourishing research on the social determinants of systemic health, our current knowledge on social determinants of oral health remains incomplete and fragmented [11, 13], although its importance is theoretically recognized [14]. Empirical evidence collected from various populations is needed for unveiling the social circumstances shaping oral health.

Foreign domestic helpers, as a vulnerable immigrant group concerning many sending and receiving countries, provide an opportunity for understanding social determinants of oral health. As an economic and commercial based metropolitan, Hong Kong has a high demand for foreign domestic helpers and has been an attractive destination to them. The influx of foreign domestic helpers increased continuously since its start from 1970s up to a total of 284,901 in 2010 [15]. Indonesian domestic helpers have outnumbered Filipinos since 2009 and become the largest domestic worker group in Hong Kong, representing 49 % of the community [16]. This study, taking Indonesian domestic helpers in Hong Kong as an example, aimed to explore the social determinants of oral health of foreign domestic workers.

Methods

Participants

An ethical approval (#UW 11-060) was obtained for this study from the Institutional Review Board of the University of Hong Kong/Hospital Authority Hong Kong West Cluster. All participants were recruited with informed written consents. To be eligible to join this study, a person must, at time of entry, be holding an Indonesian passport, have entered into a Standard Employment Contract, and be registered as a foreign domestic worker with the Immigration Department. The latter two criteria were the prerequisites for foreign domestic helpers to stay in Hong Kong under the prevailing policy [17]. There were no age and gender limits. Our study only included domestic helpers who had worked in Hong Kong for at least 12 months, although another dental program was provided by our team to new arrivals in parallel.

All participants were recruited through the association of employment agencies, the Asosiasi PPTKI Hong Kong Limited. A briefing session was held to introduce the purpose of this study and explain the details of recruitment procedures. The target number was set as 125. A cluster random sampling was adopted. From a complete list of 248 employment agencies registered for recruiting and deploying Indonesian domestic helpers, 12 agencies were randomly selected. Each of these 12 agencies was then given a quota of participants, which was proportional to the total number of domestic helpers recruited by this agency from Indonesia. It's a common practice in Hong Kong that employment agency keeps a full record of domestic helpers they recruited from foreign countries. The agencies were instructed to follow their namelists and select participants at a certain periodic interval (systemic random sampling), so that the number of participants recruited across the whole namelist met their assigned quota. All selected domestic helpers were contacted directly or through their employers, including those who did not live on the employers' premises.

Data Collection

This study was carried out on two consecutive Sundays, a time of the weekly day off for most domestic helpers, at the reception centre of the Indonesian Consulate General located in the central business district.

A self-administered questionnaire was completed by the participants. Questions were formulated in English, translated to Indonesian language (Bahasa Indonesia) by professional translators, and pre-tested among six Indonesian domestic helpers. The questions were structured to collect information on the participants' demographic background (gender, age, and education level), social characteristics (competency in speaking local languages, immigration history, living condition at employers' homes, social connections, and leisure activities), oral health behaviours (knowledge, attitude, practice and self-efficacy), and changes in their oral health practice after settling in Hong Kong.

The oral diseases (dental caries and periodontal diseases) of the participants were recorded by two examiners who were trained and calibrated against an experienced oral epidemiologist. A 90 % agreement rate was achieved before the completion of the training. Each participant was examined in supine position on a portable dental chair. Instruments used were a disposable mirror attached to a fibre-optic light unit and a CPI probe. The evaluation was based on visual

inspection and aided by tactile inspection if necessary. To assess the inter-examiner reliability, duplicate examination was conducted on 10 % randomly selected participants.

Dental caries was registered by using the DMFT (Decayed, Missing and Filled Teeth) index and the criteria and methods recommended by World Health Organization (WHO) [18]. Caries was recorded as present when there was a cavity, detectable softened floor or wall, undermined enamel, or a surface with a temporary filling. A tooth was recorded as filled, when one or more permanent restorations were present. If a tooth had both a carious lesion and a filling, it was calculated as a decayed tooth. A tooth was considered "missing due to caries" after excluding other reasons (trauma, periodontal diseases, orthodontic extraction, congenitally missing, etc.). The periodontal status was assessed using the Community Periodontal Index (CPI) [18]. Ten index teeth or their substitutes in six sextants were evaluated. Scores 0, 1, 2, 3, and 4 denote "healthy gingiva", "bleeding upon probing", "calculus deposits", "shallow periodontal pocket" (4–5 mm), and "deep periodontal pocket" (≥6 mm), respectively.

After examination, participants received free dental treatments (scaling, Atraumatic Restorative Treatment, and topical fluoride application), an oral health talk and a set of self-care products (toothbrush, toothpaste and dental floss).

Data Analysis

The socio-demographic characteristic of the study sample, participants' oral health behaviours, and oral health status were described. Social characteristics associated with oral health behaviours were identified through Chi square tests. McNemar test was adopted for evaluating changes in oral health behaviours after settling in Hong Kong. Social determinants of oral health were identified through multivariate analysis (multiple regressions). The dependent variables were DMFT and highest CPI score, while the independent variables were all demographic variables (age, gender, and education level) and any social variables that reached ($p < 0.05$) or approached ($0.05 \leq p < 0.1$) a significant correlation with the dependant variable in the bivariate analysis.

Results

Demographic Background and Social Characteristics of Study Sample

Out of the 125 domestic helpers approached, 122 participated. The response rate was 97.6 %. All participants were female aged 20–59, with a mean age of 33 years. The majority (89 %) had completed their secondary education (Table 1).

About a quarter (28 %) could speak Cantonese and/or Mandarin fluently. Before coming to Hong Kong, 35 % had lived in other Chinese societies for more than 6 months, mainly as domestic helpers in Singapore and Taiwan. Approximately 2/3 (69 %) of participants had their own rooms in employers' homes; 30 % had family members or relatives in Hong Kong. About 2/3 (69 %) usually spent their leisure time on social gatherings and/or religious gatherings, while the leisure activities for the rest were individual-based (shopping, exercise and/or rest).

Oral Health Status

The inter-examiner reliability was high for both indices ($\kappa = 0.853$ for DMFT; Intraclass Correlation = 0.863 for CPI). Almost all (94 %) participants were affected by caries (DMFT > 0), including 90 % with untreated decayed teeth (DT > 0) (Table 2). The average number of affected teeth was 5.3 per person. For gingival status, no participants were rated as "healthy" (score 0) or having "bleeding only"

Table 1 Demographic and social profile of study sample

	n (%)
Demographic background	
Gender	
Female	122 (100)
Male	0 (0)
Age (years)	
20–29	43 (35.2)
30–39	56 (45.9)
40 or above	23 (18.9)
Education level	
Primary school or below	13 (10.9)
Secondary school	106 (89.1)
Social characteristics	
Fluency in Cantonese and Mandarin	
Fluent in Cantonese and/or Mandarin	33 (27.7)
Not fluent in either languages	86 (70.5)
Immigration history	
Residence in other Chinese society	43 (35.2)
No residence in other Chinese society	79 (64.8)
Living condition	
Having own room in employer's home	84 (68.9)
Not having own room in employer's home	38 (31.1)
Family members/relatives in Hong Kong	
Yes	36 (29.8)
No	85 (70.2)
Leisure activities	
Social or religious gatherings	84 (68.9)
Shopping, exercise, or rest	38 (31.1)

(score 1). About half (53 %) scored 2 (calculus). Shallow and deep periodontal pockets existed in 39 % and 7 % of participants, respectively.

Oral Health Behaviours

Participants possessed certain knowledge on the causes of dental caries (improper tooth cleaning, bacteria, sweet intakes etc.), and periodontal diseases (accumulation of tartar, bacteria, improper tooth cleaning etc.) (Table 3). Only 14 % were aware of the inter-relatedness between periodontal disease and systemic health. All participants (100 %) regarded oral health as very important and 96 % agreed upon the importance of regular dental checkups. Fatalistic view on oral health was common; only 17 % did not regard tooth loss as a natural process of ageing. The oral health self-efficacy of the respondents was high. The majority could refrain from excessive intake of sweets on most of the occasions (93 %) and could brush their teeth thoroughly even when they were busy or stressed (95 %). Most participants brushed their teeth at least twice a day (97 %) but never used dental floss (77 %) and mouthrinse (63 %). Three quarters (75 %) reported eating no more than 3 times a day, including meals and snacks. Over 90 % (93 %) never visited dentists or only visited dentists when problem arose.

Social Determinants of Oral Health

Oral health behaviours were associated with some social characteristics (Table 4): (a) Acculturation (proficiency in local languages and immigration history): Participants who could speak local languages (Cantonese and/or Mandarin) fluently and those who had prior working experience in other Chinese societies were more aware that bacteria and improper tooth cleaning cause tooth decay, respectively ($p = 0.030$ and $p = 0.023$); (b) Living condition: Domestic helpers who had their own rooms at employers' homes tended to disagree that sweet intake is a cause of dental caries, as compared with their counterparts ($p = 0.019$) but were more aware of the importance of regular checkup ($p = 0.023$); (c) Social engagement: Participants who spent their leisure time on social and/or religious gatherings were more aware of the relationship between oral health and general health ($p = 0.021$) and ate less frequently in a day ($p = 0.024$), as compared with their counterparts (i.e. people whose leisure activities were individual-based, such as shopping, exercise or rest).

As to participants' oral health status, bivariate analysis showed significantly lower DMFT score in domestic helpers who had their own rooms in employers' home, as compared with those without their own rooms (4.49 vs. 7.24; $p < 0.01$). Domestic helpers with family members or relatives in Hong Kong had significantly higher DMFT than those without (6.92 vs. 4.71; $p = 0.005$). No social variable was associated with highest CPI score in bivariate analysis (all $p > 0.05$). Multivariate analysis showed that periodontal health deteriorated with age ($p = 0.045$), which explained 2.3 % of the variance in highest CPI (Table 5). Number of carious teeth (DMFT) was associated with participants' living condition and presence of family members or relatives in Hong Kong. "Having own room at employer's home" reduced the number of carious teeth by 2.46 ($p = 0.001$). "Having family members or relatives" however increased the number of carious teeth (DMFT) by 1.84 ($p = 0.018$). These two factors explained 13.2 % of the variance in DMFT.

An improvement in the use of dental floss after settling in Hong Kong was observed (McNemar test; $p = 0.039$) (Table 6). When living in Indonesia, 16 % of them ever flossed. This percentage increased to 23 % while in Hong Kong.

Table 2 Oral health status

Periodontal condition (highest CPI score)	n (%)
0 (Healthy)	0 (0)
1 (Bleeding)	0 (0)
2 (Calculus)	65 (53.3)
3 (Shallow pocket; 4–5 mm)	48 (39.3)
4 (Deep pocket; ≥6 mm)	9 (7.4)
Caries prevalence	**n (%)**
% caries free (DMFT = 0)	7 (5.7)
% affected by caries (DMFT > 0)	115 (94.3)
% without untreated decayed teeth (DT = 0)	12 (9.8)
% with untreated decayed teeth (DT > 0)	110 (90.2)
Caries severity	**Mean (SD)**
DMFT	5.34 (3.97)
DT	3.88 (3.33)
MT	0.17 (0.57)
FT	1.30 (1.59)

Discussion

While the well-being of domestic workers is an important agenda for International Labour Organization [1], health of migrants is defined by WHO as a central element of social cohesion for contemporary societies and a priority area for reducing health disparity [5]. Foreign domestic helpers, falling into both vulnerable groups, undoubtedly deserved wide international attention.

Table 3 Oral health behaviours

	n (%)
Oral health knowledge	
Perceived causes of dental caries[a]	
Improper cleaning of teeth*	56 (45.9)
Bacterial accumulation*	40 (32.8)
Sweet intakes*	60 (49.2)
Tooth worm	16 (13.1)
Excessive heat in boby	4 (3.3)
Don't know	9 (7.4)
Perceived causes of periodontal diseases[a]	
Accumulation of tartar*	39 (32.2)
Bacterial accumulation*	55 (45.5)
Improper cleaning of teeth*	37 (30.6)
Poor general health*	17 (13.9)
Smoking*	10 (8.3)
Excessive heat in boby	24 (19.8)
Don't know	9 (7.4)
Oral health attitudes	
"Oral health is very important"	
Agree/totally agree	122 (100)
Neutral	0 (0)
Disagree/totally disagree	0 (0)
"Regular checkup helps to prevent dental problems"	
Agree/totally agree	116 (95.9)
Neutral	3 (2.5)
Disagree/totally disagree	1 (0.8)
"Tooth loss is a natural process of ageing"	
Agree/totally agree	77 (63.7)
Neutral	24 (19.8)
Disagree/totally disagree	20 (16.5)
Oral health self-efficacy	
"I can control myself not to take too many sweets on most of the occasions"	
Agree/totally agree	113 (92.6)
Neutral	7 (5.7)
Disagree/totally disagree	2 (1.6)
"I can brush my teeth thoroughly even when I am very busy or stressed"	
Agree/totally agree	116 (95.0)
Neutral	5 (4.1)
Disagree/totally disagree	1 (0.8)
Oral health practice	
Toothbrushing frequency	
Less than twice per day	4 (3.4)
Twice per day or more	117 (96.7)
Flossing	
Never	94 (77.0)
Less than once per day	6 (4.9)
Once per day or more	22 (18.0)
Diet (frequency of meals/snacks a day)	
3 times per day or less	81 (74.9)
4 times per day	15 (13.9)
5 times per day or more	12 (11.1)
Dental visits	
Irregular (only when problem arose or never)	114 (93.4)
Regular (once every 12 months or more often)	8 (6.6)

[a] Multiple answers were allowed. An asterisk (*) denotes acceptable answers

Table 4 Social determinants of oral health behaviours

	% of subjects		p*
	Fluency in Cantonese and/or Mandarin		
	Fluent	Not fluent	
Bacteria causes dental caries			
Aware	48.5	26.7	0.030
Unaware	51.5	73.3	
	Residence in other Chinese society		
	Ever	Never	
Poor oral hygiene causes dental caries			
Aware	60.5	38.0	0.023
Unaware	39.5	62.0	
	Living condition		
	Own room	Shared room	
Sweets causes dental caries			
Aware	41.7	65.8	0.019
Unaware	58.3	34.2	
Regular checkup is important			
Aware	97.6	92.1	0.023
Unaware	2.4	7.9	
	Leisure activities		
	Social	Individual	
General health is related to gum disease			
Aware	19.3	2.6	0.021
Unaware	80.7	97.4	
Meals and snacks per day			
3 times or less often	80.8	62.9	0.024
4 times	13.7	14.3	
5 times or more often	5.5	22.9	

* Association between participants' social characteristic (variables in Table 1) and oral health behaviours (knowledge, attitude, practice and self-efficacy) were analysed by using Chi square test. Significant associations ($p < 0.05$) are shown in this table

Table 5 Social and demographic determinants of oral health status

	Regression coefficient		*p*
	B	95 % CI	
Dental caries (DMFT score)			
Having own room in employer's home	−2.459	(−0.980, −3.938)	0.001
Family member or relative in Hong Kong	1.836	(0.322, 3.349)	0.018
$R^2 = 0.147$ Adjusted $R^2 = 0.132$			
Periodontal disease (highest CPI score)			
Age (year)	0.016	(0.000, 0.031)	0.045
$R^2 = 0.040$ Adjusted $R^2 = 0.023$			

Results were obtained through multiple linear regressions. The dependent variables were DMFT and highest CPI score, respectively. Independent variables entered were all demographic variables (age, gender, and education level) and any social variables in Table 1 that reached ($p < 0.05$) or approached ($0.05 \leq p < 0.1$) a significant correlation with the dependant variable in the bivariate analysis. Two social variables ("having own room in employer's home" and "having family member or relative in Hong Kong") were associated with DMFT in bivariate analysis, whereas no social variable was associated with highest CPI score in bivariate analysis

Table 6 Changes in flossing after settling in Hong Kong

	In Hong Kong		Total
	Never flossed	Ever flossed	
In Indonesia			
Never flossed	92	10	102 (83.6 %)
Ever flossed	2	18	20 (16.4 %)
Total	94 (77.0 %)	28 (23.0 %)	122
McNemar test			$p = 0.039$

Methodological Considerations

With the support of the association of employment agencies, we were able to obtain a random sample of the target population. The high response rate was attributed to the thoughtfully selected dates and venue for the best convenience of participants and probably domestic helpers' need for and interest in dental programs. The random sampling and high response rate contributed to the representativeness of our study sample, although the number of participants was relatively small. Our oral health evaluation included common oral diseases, namely dental caries and periodontal diseases, thus allowed a relatively complete understanding on participants' oral health. With the well-defined WHO criteria and methods and our high inter-examiner reliability, a satisfactory quality of data could be expected.

This study targeted domestic helpers exported from a particular country (Indonesia) to another particular region (Hong Kong) hence raises a question on the extrapolation of our findings to foreign domestic helpers belonging to other sending and hosting countries. Nonetheless, our study should still be able to mirror the conditions of foreign domestic helpers as a whole owing to the similarities between Hong Kong and other major hosting countries and between Indonesia and other major sending countries in many aspects (healthcare and employment systems, culture, economy, etc.). The usefulness of this sample in exemplifying foreign domestic helpers also rests in the fact that Hong Kong and Indonesia are among those with the largest numbers of domestic helper import and export [1].

Pressing Dental Needs of Foreign Domestic Helpers

This study was not intended to collect massive prevalence data. Nevertheless, our results could still shed some light on the oral health condition and treatment need in foreign domestic helpers. Almost all participants contracted both dental caries and certain periodontal problem, most of which were left untreated. Such a disease rate is strikingly high for this relatively young adult group and approaches the same level found in older adults (35–44 years) of Hong Kong and Indonesian populations [19, 20]. Comparisons with Filipino domestic helpers, the 2nd largest domestic worker group in Hong Kong, showed lower caries rate (mean DMFT 5.3 vs. 10.6) but higher proportion with periodontal pockets (45 % vs. 24 %) in Indonesian domestic helpers (both $p < 0.05$) [21]. Such differences are in line with the disease pattern revealed in national oral health surveys in these two countries [20, 22].

Despite their almost unanimous agreement on the importance of dental checkup, the overwhelming majority (93 %) never visited a dentist or only visited dentist when problems arose. This should however be expected if one considers the minimum wage that they receive [15, 17]. Although employers are obligated to bear the cost of domestic helpers' basic medical care, the dental provision is only limited to emergencies [17]. It is therefore an understandable alternative that domestic helpers seek dental care during their visits to their home country. However, since even the most economic mean of travel is enough to empty their savings, these visits are rare and they

have to put off their dental care for months or even years. Due to such delay, they have to endure great afflictions caused by oral diseases and accept the compromised treatment outcome and diminished chance of preserving the affected teeth.

Social Determinants

Our data suggested that domestic helpers tended to start flossing after settling in Hong Kong ($p = 0.039$). This implies a positive impact of modern lifestyles and cultural norm on their self-care practice. Meanwhile, better oral health knowledge was found among more acculturated foreign domestic helpers (those who could speak local languages fluently and those who had prior working experience in other Chinese societies). This echoes the finding of a systematic review on the positive impacts of acculturation on oral health [6].

A decent living condition was associated with a better oral health, evidenced by the lower caries rate among those who had their own rooms at employers' homes. Having one's own room, albeit often small and poorly conditioned, may allow a domestic helper certain privacy, freedom, and autonomy in practicing self-care measures, such as flossing, and acquiring health information, for instance, by reading newspapers. In contrast, those without their own rooms were under round-the-clock monitor and thus might hesitate to try due to embarrassment or arbitrary interference of employers. These dilemmas were in fact heard from some participants who did not have their own rooms and may partly explain their relatively rare attempts in flossing as compared with their counterparts (18 % vs. 25 %), although such difference did not reach statistical significance. Providing a room to domestic helper may also reflect the employers' generosity and may be bundled with other provisions, such as healthy food, quality self-care products, and better healthcare, which collectively contribute to a better health of the domestic helper. Despite the above-mentioned speculations, we cannot rule out alternative explanations for the association between domestic helpers' living condition and oral health. For instance, employers who offered a separate room might be able to select domestic helpers who were healthier, more educated, more socially adaptable, or more experienced in domestic work. These pre-existing differences between domestic helpers with and without their own rooms might have contributed to the difference in their oral health in one way or another.

Our results also revealed favourable oral health behaviours among domestic helpers who spent their leisure time on social and religious gatherings. They snacked less and were more aware of the inter-relatedness of oral health and general health. Domestic helpers lose their social networks and family support when they leave their homestead for an unfamiliar city. Due to the private nature of their work, their social interaction was largely confined to the employer' immediate family. Even worse, some may be secluded in their employers' home thus are socially isolated and trapped in loneliness and helplessness. Social and religious gatherings may serve as important channels for them to acquire health information, seek social support and relieve distress, while domestic helpers who were not engaged in social and religious gatherings may tend to resort to snacking for soothing their stress.

Having other family members or relatives in the same city is supposed to be a valuable support. Surprisingly, our data showed a higher caries rate in domestic helpers of this category. This might stem from a couple of reasons: (a) A family sending a few migrant workers was likely to be in great poverty and was vulnerable to poor health; (b) Migrants struggled to earn a living thus failed to provide material or psychological support to their family members or relatives working in the same city.

Considerable proportion of variance (13.2 %) in participants' caries rate was explained by two social factors (living condition and family members or relatives in the same city). This lent empirical support to the impact of social context on one's oral health. Although the relevance of social circumstances on periodontal health was also proposed [12], no social determinant of periodontal health was found in this study among foreign domestic helpers. This might be due to the considerable impact of biological factors on one's susceptibility to periodontal disease and the rare practice of periodontal self-care measures in this particular group.

The social determinants revealed in this study have practical implications for policy making and program planning in countries importing and exporting domestic workers. Constructive solutions to the plight of foreign domestic workers derive from a balanced consideration of the interests of all stakeholders, including domestic helpers, employers, employment agencies, foreign and local governments, and non-government organizations (NGOs). In many metropolitan areas with high population density, availability of a room for domestic worker is not always possible, especially to less well-off families. However, employers and domestic helpers, with the mediation of employment agencies if needed, could negotiate toward a suitable accommodation with reasonable privacy. Ensuring domestic helpers' freedom of association and disposal of their rest time facilitates their participation in social activities. Another enabling factor for their social engagement is the availability of and easy access to regular, culturally responsive, and meaningful activities, an area that local and foreign governments, NGOs, and employment agencies can actively contribute. The coordinated efforts of

all concerned parties contribute to a healthier foreign domestic helper community and in turn a more harmonious and productive society.

This study, taking Indonesian domestic helpers in Hong Kong as an example, identified several social determinants of oral health and supports the significant impact of social context on oral health of disadvantaged community. Although an array of social variables were included in this study, our findings may only reveal the tip of the iceberg, if one considers the complex, multilevel pathways through which social circumstances may affect health. Further studies adopting a prospective design or transnational approach, which considers foreign domestic workers' experience in both their sending and receiving countries, may contribute to a more complete understanding on the social circumstances determining oral health of immigrant workers.

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