

A Study on the Awareness of Dental Hygienists on Maternity Protection and Work-Family Balance Assistance Policy

Seon-Hui Kwak^{1,2}, Bo-Mi Shin^{1,2,3}, and Soo-Myoung Bae^{1,2,3,†}

¹Department of Dental Hygiene, College of Dentistry, Gangneung-Wonju National University, Gangneung 25457, ²Research Institute of Dental Hygiene Science, Gangneung-Wonju National University, Gangneung 25457, ³Research Institute of Oral Science, Gangneung-Wonju National University, Gangneung 25457, Korea

Background: This study investigated the awareness and utilization of maternity protection and work-family balance support policies among dental hygienists in dental hospitals and clinics.

Methods: We surveyed 200 dental hygienists. Twenty-two who did not meet the inclusion criteria were excluded, leaving 178 participants for analysis. The self-administered 48-item questionnaire gathered information on demographics, workplace details, policy awareness, government knowledge, and suggestions for improvement.

Results: Awareness of maternity and family support programs significantly differed with age, marital status, number of children, and clinical experience. Dental hygienists in general hospitals and university hospitals reported greater ease of utilizing these policies compared to those in dental clinics. Among the participants, 27.7% took pre- and post-maternity leave, 26.6% took parental leave, 16.9% had reduced working hours during pregnancy, 15.8% had reduced working hours during childhood, and 8.5% during family leave. To promote program uptake, participants suggested mandatory implementation across workplaces (68.4%), expanded support for substitute workers (48.6%), and increased education and promotion of government support (42.4%).

Conclusion: While most dental hygienists were aware of the Maternity Protection and Work-Family Balance Assistance Policy, utilizing it proved challenging due to several factors. Organizational policies or practices may not fully implement this policy, while workplace culture could discourage its use. Unfair treatment and the lack of available substitutes further hindered access. To prevent career interruptions for dental hygienists due to pregnancy, childbirth, childcare, and family care, and to maintain career continuity, the dental community and government should establish a multifaceted social support system. This system should prioritize several key areas: strengthening policy promotion, fostering a family-friendly atmosphere, improving management and supervision of policy implementation and developing a robust support system for substitute personnel.

Key Words: Dental hygienists, Family leave, Parental leave, Working conditions, Work-life balance

Introduction

1. Background

One in six married women in Korea experiences career interruptions due to life cycle events like marriage, childcare, and childbirth, according to a 2022 Statistics Korea survey¹⁾. These interruptions typically occur in life cycle events such as childbirth, childcare, and marriage, which

occur in the late 20s to early 40s, a crucial period for economic activity, and are known to negatively impact female workers' long-term career management²⁻⁴⁾.

Recognizing this challenge, the government actively implements specific systems and policies to prevent career disruptions and support female workers' employment security and participation in economic activities⁵⁾. Representative policies in this regard include maternity protection and

Received: December 6, 2023, Revised: December 15, 2023, Accepted: December 21, 2023

eISSN 2233-7679

†Correspondence to: Soo-Myoung Bae, <https://orcid.org/0000-0002-1802-4129>

Department of Dental Hygiene, College of Dentistry, Gangneung-Wonju National University, 7 Jukheon-gil, Gangneung 25457, Korea
Tel: +82-33-640-2756, Fax: +82-33-642-6410, E-mail: edelweiss@gwnu.ac.kr

Copyright © The Korean Society of Dental Hygiene Science.

© This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/4.0>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

work-family balance assistance, established under the Labor Standards Act⁶⁾ and the Equal Employment Opportunity and Work-family Balance Support Act (Gender Employment Equality Act)⁷⁾.

The maternity protection policy provides pre- and post-natal leave and reduced working hours during pregnancy, while the work-family balance assistance policy offers parental leave, reduced working hours during childhood, and family leave⁸⁾. Research suggests that these policies positively impact female workers' job satisfaction, commitment, personal development, and work-family balance⁹⁻¹¹⁾.

Despite these benefits, underutilization remains a concern, with many women opting to leave their jobs instead. Organizational cultures that discourage policy use and lack of support for finding substitutes are often cited as key reasons¹²⁾.

Globally, a staggering 80% of dental hygienists experience career interruptions due to childcare responsibilities¹³⁾. In Korea, many married female dental hygienists in their 30s and 40s have similarly faced at least one career disruption due to marriage, childbirth, or childcare^{14,15)}. Yet, these experienced professionals possess valuable knowledge, expertise, and skills honed through years of practice. Their career interruptions related to maternity and parenthood can have significant consequences: wasted professional resources, increased recruitment and training costs, and a potential decline in care quality, ultimately impacting the population's oral health¹⁶⁻¹⁸⁾. Notably, Korea's active dental hygienist workforce sits at 49.3%, decreasing annually, and the labor shortage is intensifying¹⁹⁾. Considering that life-cycle events like childbirth and child-rearing are primary reasons for dental hygienists leaving the field, finding effective solutions to help them maintain work-family balance and job continuity is crucial to addressing the workforce gap²⁰⁾. However, a lack of research specifically examining the utilization of maternity protection and work-family support policies by dental hygienists hinders our understanding of the true extent of career disruptions within dental hygienists.

2. Objectives

This study aimed to assess, via a survey, dental hygienists' awareness and utilization of maternity protection and work-family balance policies in hospitals and clinics, generating baseline data for policy improvements and a

better working environment for dental hygienists.

Materials and Methods

1. Study design

This study, approved by the Institutional Review Board of Gangneung-Wonju National University (IRB No. GWNUIRB-2022-4), sought to gauge dental hygienists' perspectives on maternity protection and work-family balance assistance policies. We conducted a survey targeting those working in dental hospitals and clinics.

2. Study subjects

The participants were dental hygienists from dental clinics. We used G*power 3.1.9.7 to calculate the needed sample size, aiming for 90% power, a 0.05 significance level, and an effect size of 0.30. This yielded a required minimum of 172 participants. Anticipating a 15% dropout rate, we recruited 200 individuals. The survey was distributed only to dental hygienists on an online community forum after informing them of the study's purpose. Participants were required to provide consent by checking the "I agree to participate" box within the online questionnaire. Of the 200 collected samples, 22 did not meet the selection criteria, leaving 178 valid responses for data analysis.

3. Materials

The questionnaire was developed by extracting questions from three existing surveys: a work-family balance study conducted by the Ministry of Employment and Labor and the Korea Women's Policy Research Institute¹²⁾, Kim and Kim's²¹⁾ research on improving Korea's maternity protection systems, and An and Han's²²⁾ analysis of nurses' utilization of maternity protection systems. The questionnaire comprised 48 questions covering various sections and was developed using the Google forms platform.

Demographic information consisted of six questions that assessed age, clinical experience, marital status, childbirth history, number of children, and work type. Three further questions gathered information about the dental clinic, including location, type, and employee count.

The maternity protection and work-family support system awareness consisted of 36 questions that explored

awareness of five systems: pre- and post-natal leave, maternity work-hour reduction, parental leave, childcare work-hour reduction, and family leave. This section also investigated the ease of policy utilization within the clinic, personal experience using them, and any unfair treatment faced afterward.

Awareness of government-support programs consisted of two questions that gauged familiarity with government benefits for workers and businesses using relevant programs. These benefits include pre- and post-natal leave, parental leave, childcare work-hour reduction, employer benefits, and childcare substitute worker subsidies. Identifying dental hygienists' awareness of these programs guided their inclusion in the survey.

Regarding the improvement plan, one open-ended question asked for suggestions on revitalizing maternity and work-family support systems. Additionally, respondents could freely provide further feedback beyond the proposed activation measures.

4. Data analysis

After cleaning the data in SPSS version 25 (SPSS Inc., Chicago, IL, USA), we conducted a cross-tabulation analysis to examine how participant awareness of the policies, the government-supported system, its clinic-level usefulness, and personal usage experience varied across diverse general characteristics. Frequency analyses revealed the most common reasons why participants had not used these policies, as well as their suggestions for revitalizing them.

Results

1. Awareness of maternity and work–family balance assistance policies based on general characteristics

Table 1 shows the results of awareness regarding maternity protection and work-family balance assistance policies. Over 60% of dental hygienists were aware of pre- and post-natal leave (67.8%), reduced working hours during pregnancy (66.7%), and parental leave (69.5%). However, awareness of reduced working hours during childhood and family leave was significantly lower at 48.6% and 30.5%, respectively. Regarding general characteristics, awareness

was highest among those with two or more children, and participants with more years of clinical experience tended to be more aware of the policies ($p < 0.001$).

2. Awareness of government support programs for maternity protection and work–life balance assistance policies

Table 2 presents the survey results on dental hygienists' awareness of government support programs related to maternity protection and work-family balance assistance policies. For employee support systems, 58.2% were aware of pre- and post-natal leave benefits, and 63.3% knew about parental leave benefits. However, only 49.2% recognized the reduced working hours benefit during childhood. Interestingly, awareness of employee programs increased with age, with married dental hygienists were more informed than single ones ($p < 0.001$). Additionally, having more children and clinical experience was significantly associated with greater knowledge of government-sponsored programs ($p < 0.001$).

Regarding support systems for employers, a substantial gap in awareness remained. Specifically, 55.9% of dental hygienists were unaware of the parental leave subsidy, and 58.2% did not recognize the subsidy for substitute labor during childbirth and childcare. Notably, younger age and less clinical experience were significantly associated with lower awareness of these government support programs ($p < 0.001$).

3. Usability of access to in-dental maternity protection and work–life balance assistance policies

While over half of dental hygienists (50.3%) reported freely utilizing pre- and post-natal leave within their clinics (Table 3), accessing specific measures proved more challenging. Freedom declined sharply for reduced working hours during pregnancy (64.4%), parental leave (59.3%), childcare work hour reduction (68.9%), and family leave (75.7%). Notably, the type of clinic made a significant difference in policy accessibility. Dental hygienists in dental hospitals, general hospitals, and university dental hospital enjoyed greater ease of use compared to those in dental clinics ($p < 0.05$). Interestingly, access to reduced working hours during childhood did not vary significantly

Table 1. Awareness of Maternity and Work-family Balance Assistance Policies by General Characteristics

Variable	Pre- and post-natal leave		p*	Reduction of working hours during pregnancy		p*	Parental leave		p*	Reduction of working hours during childhood		p*	Family leave		p*
	I know	Don't know		I know	Don't know		I know	Don't know		I know	Don't know		I know	Don't know	
Total	120 (67.8)	57 (32.2)		118 (66.7)	59 (33.3)		123 (69.5)	54 (30.5)		86 (48.6)	91 (51.4)		54 (30.5)	123 (69.5)	
Age															
20~29 years old	24 (42.1)	33 (57.9)	<0.001	22 (38.6)	35 (61.4)	<0.001	29 (50.9)	28 (49.1)	<0.001	17 (29.8)	40 (70.2)	0.002	8 (14.0)	49 (86.0)	0.003
30~39 years old	72 (79.1)	19 (20.9)		72 (79.1)	19 (20.9)		70 (76.9)	21 (23.1)		51 (56.0)	40 (44.0)		33 (36.3)	58 (63.7)	
40 years of age or older	24 (82.8)	5 (17.2)		24 (82.8)	5 (17.2)		24 (82.8)	5 (17.2)		18 (62.1)	11 (37.9)		13 (44.8)	16 (55.2)	
Marital status															
Married	80 (88.9)	10 (11.1)	<0.001	81 (90.0)	9 (10.0)	<0.001	77 (85.6)	13 (14.4)	<0.001	62 (68.9)	28 (31.1)	<0.001	40 (44.4)	50 (55.6)	<0.001
Unmarried	40 (46.0)	47 (54.0)		37 (42.5)	50 (57.5)		46 (52.9)	41 (47.1)		24 (27.6)	63 (72.4)		14 (16.1)	73 (83.9)	
Number of children															
No children	60 (52.2)	55 (47.8)	<0.001	60 (52.2)	55 (47.8)	<0.001	67 (58.3)	48 (41.7)	<0.001	39 (33.9)	76 (66.1)	<0.001	22 (19.1)	93 (80.9)	<0.001
One	36 (94.7)	2 (5.3)		36 (94.7)	2 (5.3)		33 (86.8)	5 (13.2)		27 (71.1)	11 (28.9)		18 (47.4)	20 (52.6)	
Two or more	24 (100.0)	0 (0.0)		22 (91.7)	2 (8.3)		23 (95.8)	1 (4.2)		20 (83.3)	4 (16.7)		14 (58.3)	10 (41.7)	
Clinical experience															
Less than 5 years	16 (34.0)	31 (66.0)	<0.001	17 (36.2)	30 (63.8)	<0.001	23 (48.9)	24 (51.1)	<0.001	13 (27.7)	34 (72.3)	<0.001	6 (12.8)	41 (87.2)	<0.001
Less than 5 ~ 10 years	43 (69.4)	19 (30.6)		41 (66.1)	21 (33.9)		42 (67.7)	20 (32.3)		26 (41.9)	36 (58.1)		15 (24.2)	47 (75.8)	
10 years or more	61 (89.7)	7 (10.3)		60 (88.2)	8 (11.8)		58 (85.3)	10 (14.7)		47 (69.1)	21 (30.9)		33 (48.5)	35 (51.5)	
Shift types															
Full-time	104 (66.2)	53 (33.8)	0.111	102 (65.0)	55 (35.0)	0.102	106 (67.5)	51 (32.5)	0.161	73 (46.5)	84 (53.5)	0.029	46 (29.3)	111 (70.7)	0.416
Part-time	10 (100.0)	0 (0.0)		10 (100.0)	0 (0.0)		10 (100.0)	0 (0.0)		9 (90.0)	1 (10.0)		4 (40.0)	6 (60.0)	
Part-time jobs	5 (55.6)	4 (44.4)		5 (55.6)	4 (44.4)		6 (66.7)	3 (33.3)		3 (33.3)	6 (66.7)		3 (33.3)	6 (66.7)	
Other (short)	1 (100.0)	0 (0.0)		1 (100.0)	0 (0.0)		1 (100.0)	0 (0.0)		1 (100.0)	0 (0.0)		1 (100.0)	0 (0.0)	
Dentistry type															
Dental clinic	96 (64.9)	52 (35.1)	0.184	94 (63.5)	54 (36.5)	0.205	97 (65.5)	51 (34.5)	0.042	64 (43.2)	84 (56.8)	0.015	38 (25.7)	110 (74.3)	0.014
Dental hospital	11 (78.6)	3 (21.4)		12 (85.7)	2 (14.3)		11 (78.6)	3 (21.4)		11 (78.6)	3 (21.4)		8 (57.1)	6 (42.9)	
General hospital	7 (100.0)	0 (0.0)		5 (71.4)	2 (28.6)		7 (100.0)	0 (0.0)		5 (71.4)	2 (28.6)		3 (42.9)	4 (57.1)	
University dental hospital	6 (75.0)	2 (25.0)		7 (87.5)	1 (12.5)		8 (100.0)	0 (0.0)		6 (75.0)	2 (25.0)		5 (62.5)	3 (37.5)	

Values are presented as n (%).

*The analysis was performed using a chi-square test.

Table 2. Awareness of Government Support Programs for Maternity Protection and Work-Life Balance Assistance Policies

Variable	Support for employees						Support for employers								
	Pre- and post-natal leave benefits			Parental leave benefits			Reduction of working hours during childhood benefits			Subsidy system for parental leave			Subsidy system for substitute labor		
	I know	Don't know	p*	I know	Don't know	p*	I know	Don't know	p*	I know	Don't know	p*	I know	Don't know	p*
Total	103 (58.2)	74 (41.8)		112 (63.3)	65 (36.7)		87 (49.2)	90 (50.8)		78 (44.1)	99 (55.9)		74 (41.8)	103 (58.2)	
Age															
20 ~ 29 years old	17 (29.8)	40 (70.2)	<0.001	25 (43.9)	32 (56.1)	<0.001	16 (28.1)	41 (71.9)	<0.001	13 (22.8)	44 (77.2)	<0.001	11 (19.3)	46 (80.7)	<0.001
30 ~ 39 years old	65 (71.4)	26 (28.6)		65 (71.4)	26 (28.6)		51 (56.0)	40 (44.0)		48 (52.7)	43 (47.3)		47 (51.6)	44 (48.4)	
40 years or older	21 (72.4)	8 (27.6)		22 (75.9)	7 (24.1)		20 (69.0)	9 (31.0)		17 (58.6)	12 (41.4)		16 (55.2)	13 (44.8)	
Marital status															
Married	77 (85.6)	13 (14.4)	<0.001	76 (84.4)	14 (15.6)	<0.001	66 (73.3)	24 (26.7)	<0.001	60 (66.7)	30 (33.3)	<0.001	59 (65.6)	31 (34.4)	<0.001
Unmarried	26 (29.9)	61 (70.1)		36 (41.4)	51 (58.6)		21 (24.1)	66 (75.9)		18 (20.7)	69 (79.3)		15 (17.2)	72 (82.8)	
Number of children															
No children	45 (39.1)	70 (60.9)	<0.001	54 (47.0)	61 (53.0)	<0.001	35 (30.4)	80 (69.6)	<0.001	29 (25.2)	86 (74.8)	<0.001	25 (21.7)	90 (78.3)	<0.001
One	35 (92.1)	3 (7.9)		35 (92.1)	3 (7.9)		32 (84.2)	6 (15.8)		31 (81.6)	7 (18.4)		30 (78.9)	8 (21.1)	
Two or more	23 (95.8)	1 (4.2)		23 (95.8)	1 (4.2)		20 (83.3)	4 (16.7)		18 (75.0)	6 (25.0)		19 (79.2)	5 (20.8)	
Clinical experience															
Less than 5 years	15 (31.9)	32 (68.1)	<0.001	21 (44.7)	26 (55.3)	<0.001	12 (25.5)	35 (74.5)	<0.001	12 (25.5)	35 (74.5)	<0.001	10 (21.3)	37 (78.7)	<0.001
Less than 5 ~ 10 years	31 (50.0)	31 (50.0)		33 (53.2)	29 (46.8)		25 (40.3)	37 (59.7)		21 (33.9)	41 (66.1)		19 (30.6)	43 (69.4)	
10 years or more	57 (83.8)	11 (6.2)		58 (85.3)	10 (14.7)		50 (73.5)	18 (26.5)		45 (66.2)	23 (33.8)		45 (66.2)	23 (33.8)	
Shift types															
Full-time	89 (56.7)	68 (43.3)	0.416	98 (62.4)	59 (37.6)	0.166	75 (47.8)	82 (52.2)	0.396	65 (41.4)	92 (58.6)	0.073	61 (38.9)	96 (61.1)	0.047
Part-time	8 (80.0)	2 (20.0)		9 (90.0)	1 (10.0)		7 (70.0)	3 (30.0)		8 (80.0)	2 (20.0)		8 (80.0)	2 (20.0)	
Part-time jobs	5 (55.6)	4 (44.4)		4 (44.4)	5 (55.6)		4 (44.4)	5 (55.6)		4 (44.4)	5 (55.6)		4 (44.4)	5 (55.6)	
Other (short)	1 (100.0)	0 (0.0)		1 (100.0)	0 (0.0)		1 (100.0)	0 (0.0)		1 (100.0)	0 (0.0)		1 (100.0)	0 (0.0)	
Dentistry type															
Dental clinic	81 (54.7)	67 (45.3)	0.208	87 (58.8)	61 (41.2)	0.032	68 (45.9)	80 (54.1)	0.278	60 (40.5)	88 (59.5)	0.064	57 (38.5)	91 (61.5)	0.104
Dental hospital	11 (78.6)	3 (21.4)		11 (78.6)	3 (21.4)		9 (64.3)	5 (35.7)		10 (71.4)	4 (28.6)		9 (64.3)	5 (35.7)	
General hospital	5 (71.4)	2 (28.6)		7 (100.0)	0 (0.0)		5 (71.4)	2 (28.6)		5 (71.4)	2 (28.6)		5 (71.4)	2 (28.6)	
University dental hospital	6 (75.0)	2 (25.0)		7 (87.5)	1 (12.5)		5 (62.5)	3 (37.5)		3 (37.5)	5 (62.5)		3 (37.5)	5 (62.5)	

Values are presented as n (%).

*The analysis was performed using a chi-square test.

Table 3. Usability of Access to in-Dental Clinic Maternity Protection and Work-life Balance Assistance Policies

Variable	Pre- and post-natal leave		p*	Reduction of working hours during pregnancy		p*	Parental Leave		p*	Reduction of working hours during childhood		p*	Family leave		p*
	Free to use	Unavailable		Free to use	Unavailable		Free to use	Unavailable		Free to use	Unavailable		Free to use	Unavailable	
Total	89 (50.3)	88 (49.7)		63 (35.6)	114 (64.4)		72 (40.7)	105 (59.3)		55 (31.1)	122 (68.9)		43 (24.3)	134 (75.7)	
Age															
20~29 years old	33 (57.9)	24 (42.1)	0.370	25 (43.9)	32 (56.1)	0.067	26 (45.6)	31 (54.4)	0.653	22 (38.6)	35 (61.4)	0.125	20 (35.1)	37 (64.9)	0.033
30~39 years old	42 (46.2)	49 (53.8)		25 (27.5)	66 (72.5)		35 (38.5)	56 (61.5)		22 (24.2)	69 (75.8)		15 (16.5)	76 (83.5)	
40 years of age or older	14 (48.3)	15 (51.7)		13 (44.8)	16 (55.2)		11 (37.9)	18 (62.1)		11 (37.9)	18 (62.1)		8 (27.6)	21 (72.4)	
Marital status															
Married	49 (54.4)	41 (45.6)	0.260	31 (34.4)	59 (65.6)	0.745	39 (43.3)	51 (56.7)	0.465	28 (31.1)	62 (68.9)	0.991	20 (22.2)	70 (77.8)	0.513
Unmarried	40 (46.0)	47 (54.0)		32 (36.8)	55 (63.2)		33 (37.9)	54 (62.1)		27 (31.0)	60 (69.0)		23 (26.4)	64 (73.6)	
Number of children															
No children	51 (44.3)	64 (55.7)	0.023	39 (33.9)	76 (66.1)	0.758	42 (36.5)	73 (63.5)	0.138	33 (28.7)	82 (71.3)	0.244	28 (24.3)	87 (75.7)	0.411
One	20 (52.6)	18 (47.4)		14 (36.8)	24 (63.2)		16 (42.1)	22 (57.9)		11 (28.9)	27 (71.1)		7 (18.4)	31 (81.6)	
Two or more	18 (75.0)	6 (25.0)		10 (41.7)	14 (58.3)		14 (58.3)	10 (41.7)		11 (45.8)	13 (54.2)		8 (33.3)	16 (66.7)	
Clinical experience															
Less than 5 years	25 (53.2)	22 (46.3)	0.778	21 (44.7)	26 (55.3)	0.106	21 (44.7)	26 (55.3)	0.785	16 (34.0)	31 (66.0)	0.867	17 (36.2)	30 (63.8)	0.085
5~10 years	29 (46.8)	33 (53.2)		16 (25.8)	46 (74.2)		25 (40.3)	37 (59.7)		19 (30.6)	43 (69.4)		12 (19.4)	50 (80.6)	
10 years or more	35 (51.5)	33 (48.5)		26 (38.2)	42 (61.8)		26 (38.2)	42 (61.8)		20 (29.4)	48 (70.6)		14 (20.6)	54 (79.4)	
Shift types															
Full-time	81 (51.6)	76 (48.4)	0.466	59 (37.6)	98 (62.4)	0.131	67 (42.7)	90 (57.3)	0.190	49 (31.2)	108 (68.8)	0.466	40 (25.5)	117 (74.5)	0.666
Part-time	4 (40.0)	6 (60.0)		1 (10.0)	9 (90.0)		2 (20.0)	8 (80.0)		3 (30.0)	7 (70.0)		1 (10.0)	9 (90.0)	
Part-time jobs	3 (33.3)	6 (66.7)		2 (22.2)	7 (77.8)		2 (22.2)	7 (77.8)		2 (22.2)	7 (77.8)		2 (22.2)	7 (77.8)	
Other (short)	1 (100.0)	0 (0.0)		1 (100.0)	0 (0.0)		1 (100.0)	0 (0.0)		1 (100.0)	0 (0.0)		0 (0.0)	1 (100.0)	
Dentistry type															
Dental clinic	67 (45.3)	81 (54.7)	0.015	47 (31.8)	101 (68.2)	0.019	50 (33.8)	98 (66.2)	<0.001	40 (27.0)	108 (73.0)	0.071	27 (18.2)	121 (81.8)	<0.001
Dental hospital	9 (64.3)	5 (35.7)		7 (50.0)	7 (50.0)		9 (64.3)	5 (35.7)		7 (50.0)	7 (50.0)		6 (42.9)	8 (57.1)	
General hospital	6 (85.7)	1 (14.3)		6 (85.7)	1 (14.3)		6 (85.7)	1 (14.3)		4 (57.1)	3 (42.9)		4 (57.1)	3 (42.9)	
University dental hospital	7 (87.5)	1 (12.5)		3 (37.5)	5 (62.5)		7 (87.5)	1 (12.5)		4 (50.0)	4 (50.0)		6 (75.0)	2 (25.0)	

Values are presented as n (%).

*The analysis was performed using a chi-square test.

by dentistry type ($p=0.071$).

4. Experience using the maternity protection and work-life balance assistance policies

Table 4 reveals insights into policy utilization among those who had given birth. Notably, 27.7% availed of pre- and post-natal leave, and 16.9% utilized reduced working hours during pregnancy. Additionally, clinical experience played a significant role. Dental hygienists with more years of experience were more likely to have used pre- and post-natal leave, reduced pregnancy working hours, parental leave, and reduced childcare work hours ($p < 0.001$). However, family leave utilization remained unaffected by clinical experience ($p=0.734$). Table 5 further details reasons for not utilizing policies that either restricted access or discouraged usage. Notably, some opted for annual or monthly leave instead of policy benefits.

5. How to handle the vacancy of a dental hygienist due to the use of the policy

When a dental hygienist utilizes pre- or post-natal leave in their clinics, several methods are employed to manage their absence: 30.5% distribute the workload among existing staff, 23.2% hire temporary contractual substitutes, and 21.5% recruit new full-time staff. During parental leave absences, 33.9% rely on workload sharing, followed by 27.1% hiring new full-time staff, and 26.3% opting for temporary substitutes.

6. Experiencing unfair treatment due to use of the maternity protection and work-life balance assistance policies

A concerning 28.8% of respondents reported experiencing unfair treatment after utilizing maternity protection or work-family support systems. This manifested in various ways: 20.0% faced discrimination from colleagues, 15.0% were pressured to resign, 10.0% were unjustifiably dismissed, and another 10.0% received pay cuts as disciplinary measures. Additional comments revealed experiences like department transfers, discouragement from using the system, and withheld employer-paid salaries.

7. How to promote maternity protection and work-life balance policies

Table 6 highlights desired measures to improve the situation. The most popular suggestion (68.4%) was mandatory implementation of maternity and family support programs across all workplaces. This was followed by calls for expanded support for substitute workers (48.6%), strengthened education and government promotion of the programs (42.4%), and a shift towards flexible work systems, such as time-selective systems (40.1%).

Discussion

1. Comparison to previous studies and suggestions

This study aimed to understand dental hygienists' awareness, usability, and experiences with maternity protection and work-life balance assistance policies in dental hospitals, ultimately aiding in future improvements to their working environment.

General characteristics significantly influenced awareness. Participants with more children were more interested in these systems compared to those with none. Additionally, higher age, marital status, and clinical experience correlated with increased awareness of both the policies and government support options for employees and employers taking maternity or paternity leave. These findings are consistent with Im et al.'s study²³⁾ study, indicating that the stress of parenting alongside an increased number of children drives a greater need for work-life balance support from government systems. Similarly, previous studies suggest female workers caring for children or families are more likely to be aware of such policies due to their heightened need for maternity protection and work-life balance policies²⁴⁾.

However, the relevance of these policies extends beyond specific life stages, potentially impacting individuals throughout their child-rearing and family roles. Therefore, it is crucial to explore strategies ensuring accurate understanding and use of work-life balance programs for workers, regardless of age, marital status, or childbearing experience²⁵⁾. Collaborative efforts between the government and dental hygienist associations are key. Developing and

Table 4. Experience Using the Maternity Protection and Work-life Balance Assistance Policies

Variables	Pre- and post-natal leave experience			Reduction of working hours during pregnancy experience			Parental leave experience			Reduction of working hours during childhood experience			Family leave experience		
	Never given birth	Yes	No	Never given birth	Yes	No	Never given birth	Yes	No	Never given birth	Yes	No	Yes	No	p*
Total	115 (65.0)	49 (27.7)	13 (7.3)	115 (65.0)	30 (16.9)	32 (18.1)	115 (65.0)	47 (26.6)	15 (8.5)	115 (65.0)	28 (15.8)	34 (19.2)	15 (8.5)	162 (91.5)	
Age															
20 ~ 29 years old	55 (96.5)	2 (3.5)	0 (0.0)	55 (96.5)	2 (3.5)	0 (0.0)	55 (96.5)	2 (3.5)	0 (0.0)	55 (96.5)	1 (1.8)	1 (1.8)	3 (5.3)	54 (94.7)	0.451
30 ~ 39 years old	47 (50.6)	36 (39.6)	8 (8.8)	47 (51.6)	21 (23.1)	23 (25.3)	47 (51.6)	36 (39.6)	8 (8.8)	47 (51.6)	20 (22.0)	24 (26.4)	10 (11.0)	81 (89.0)	
40 years of age or older	13 (44.8)	11 (37.9)	5 (17.2)	13 (44.8)	7 (24.1)	9 (31.0)	13 (44.8)	9 (31.0)	7 (24.1)	13 (44.8)	7 (24.1)	9 (31.0)	2 (6.9)	27 (93.1)	
Marital status															
Married	29 (32.2)	48 (53.3)	13 (14.4)	29 (32.2)	29 (32.2)	32 (35.6)	29 (32.2)	46 (51.1)	15 (16.7)	29 (32.2)	28 (31.1)	33 (36.7)	11 (12.2)	79 (87.8)	0.069
Unmarried	86 (98.9)	1 (1.1)	0 (0.0)	86 (98.9)	1 (1.1)	0 (0.0)	86 (98.9)	1 (1.1)	0 (0.0)	86 (98.9)	0 (0.0)	1 (1.1)	4 (4.6)	83 (95.4)	
Number of children															
No children	115 (65.0)	0 (0.0)	0 (0.0)	115 (65.0)	0 (0.0)	0 (0.0)	115 (65.0)	0 (0.0)	0 (0.0)	115 (65.0)	0 (0.0)	0 (0.0)	5 (4.3)	110 (95.7)	0.020
One	0 (0.0)	29 (76.3)	9 (23.7)	0 (0.0)	16 (42.1)	22 (57.9)	0 (0.0)	28 (73.7)	10 (26.3)	0 (0.0)	14 (36.8)	24 (63.2)	7 (18.4)	31 (81.6)	
Two or more	0 (0.0)	20 (83.3)	4 (16.7)	0 (0.0)	14 (58.3)	10 (41.7)	0 (0.0)	19 (79.2)	5 (20.8)	0 (0.0)	14 (58.3)	10 (41.7)	3 (12.5)	21 (87.5)	
Clinical experience															
Less than 5 years	45 (95.7)	1 (2.1)	1 (2.1)	46 (95.7)	1 (2.1)	1 (2.1)	45 (95.7)	1 (2.1)	1 (2.1)	45 (95.7)	0 (0.0)	2 (4.3)	4 (8.5)	43 (91.5)	0.734
Less than 5 ~ 10 years	47 (75.8)	10 (16.1)	5 (8.1)	47 (75.8)	7 (11.3)	8 (12.9)	47 (75.8)	10 (16.1)	5 (8.1)	47 (75.8)	7 (11.3)	8 (12.9)	4 (6.5)	58 (93.5)	
10 years or more	23 (33.8)	38 (55.9)	7 (10.3)	23 (33.8)	22 (32.4)	23 (33.8)	23 (33.8)	36 (52.9)	9 (13.2)	23 (33.8)	21 (30.9)	24 (35.3)	7 (10.3)	61 (89.7)	
Shift types															
Full-time	104 (66.2)	44 (28.0)	9 (5.7)	104 (66.2)	27 (17.2)	26 (16.6)	104 (66.2)	42 (26.8)	11 (7.0)	104 (66.2)	24 (15.3)	29 (18.5)	15 (9.6)	142 (90.4)	0.554
Part-time	4 (40.0)	3 (30.0)	3 (30.0)	4 (40.0)	2 (20.0)	4 (40.0)	4 (40.0)	3 (30.0)	3 (30.0)	4 (40.0)	4 (40.0)	2 (20.0)	0 (0.0)	10 (100.0)	
Part-time jobs	7 (77.8)	1 (11.1)	1 (11.1)	7 (77.8)	1 (11.1)	1 (11.1)	7 (77.8)	2 (22.2)	0 (0.0)	7 (77.8)	0 (0.0)	2 (22.2)	0 (0.0)	9 (100.0)	
Other (short)	0 (0.0)	1 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (100.0)	0 (0.0)	0 (0.0)	1 (100.0)	0 (0.0)	0 (0.0)	1 (100.0)			
Dentistry type															
Dental clinic	98 (66.2)	37 (25.0)	13 (8.8)	98 (66.2)	22 (14.9)	28 (18.9)	98 (66.2)	37 (25.0)	13 (8.8)	98 (66.2)	23 (15.5)	27 (18.2)	8 (5.4)	140 (94.6)	<0.001
Dental hospital	8 (57.1)	6 (42.9)	0 (0.0)	8 (57.1)	5 (35.7)	1 (7.1)	8 (57.1)	5 (35.7)	1 (7.1)	8 (57.1)	3 (21.4)	3 (21.4)	4 (28.6)	10 (71.4)	
General hospital	4 (57.1)	3 (42.9)	0 (0.0)	4 (57.1)	1 (14.3)	2 (28.6)	4 (57.1)	3 (42.9)	0 (0.0)	4 (57.1)	1 (14.3)	2 (28.6)	0 (0.0)	7 (100.0)	
University dental hospital	5 (62.5)	3 (37.5)	0 (0.0)	5 (62.5)	2 (25.0)	1 (12.5)	5 (62.5)	2 (25.0)	1 (12.5)	5 (62.5)	1 (12.5)	2 (25.0)	3 (37.5)	5 (62.5)	

Values are presented as n (%).

*The analysis was performed using a chi-square test.

Table 5. Reasons for not Utilizing the Maternity Protection and Work-life Balance Assistance Policies

Variable	Pre- and post-natal leave	Reduction of working hours during pregnancy	Parental leave	Reduction of working hours during childhood	Family leave
Reasons for not utilizing ^a					
Company policy/practice is not to provide	9 (69.2)	13 (40.6)	0 (0.0)	16 (47.1)	43 (26.5)
By using annual or monthly leave	1 (7.7)	3 (9.4)	1 (0.6)	4 (11.8)	39 (24.1)
By using sick leave	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	6 (3.7)
Coping with unpaid leave	1 (7.7)	2 (6.3)	1 (0.6)	1 (2.9)	20 (12.3)
I don't know the policy	0 (0.0)	4 (12.5)	0 (0.0)	4 (11.8)	46 (28.4)
I don't know how to apply for the program	0 (0.0)	2 (6.3)	0 (0.0)	1 (2.9)	34 (21.0)
Organizational cultures that prevent you from using the	5 (38.5)	16 (50.0)	9 (5.1)	16 (47.1)	31 (19.1)
Due to penalties for use (resignation, termination, discrimination, etc.)	1 (7.7)	4 (12.5)	1 (0.6)	6 (17.6)	13 (8.0)

The analysis was performed by frequency analysis.

^aReasons were treated as multiple responses.

Table 6. How to Promote Maternity Protection and Work-life Balance Assistance Policies

Variable	n (%)
Implement mandatory maternity protection and work-life balance policies in all workplaces	121 (68.4)
Increase education and outreach about government assistance	75 (42.4)
Simplify the application process	50 (28.2)
Expanded support policies for replacement workers	86 (48.6)
Ease the burden by enabling flexible work arrangements	71 (40.1)
Establish state-led workforce employment training centers to support training programs for retirees due to childbirth and childcare	36 (20.2)

The analysis was performed by frequency analysis.

Reasons were treated as multiple responses.

distributing manuals on work-life balance policies specifically tailored for dental clinics could be valuable. Likewise, strengthening outreach through text messaging and social media platforms—informing workers and employers of their rights, obligations, and available government support—can prevent underutilization due to a lack of awareness.

The study revealed a disparity in how readily dental hygienists could utilize these policies depending on their workplace. Those working in general hospitals or university hospitals enjoyed greater freedom compared to those in dental clinics. This disparity likely stems from the hospital environment, where established systems and anti-discriminatory measures facilitate smoother policy usage²²⁾.

Yu's²⁶⁾ research supports this, demonstrating that health-care organizations with active welfare systems and family-friendly policies significantly improve employees' work-life balance, and boost organizational commitment. To minimize turnover and career interruptions among female employees, Yu²⁶⁾ further advises healthcare organizations to tailor support strategies to employee needs and consider factors like employee characteristics, and organizational size.

Likewise, Cho's²⁷⁾ findings show a 30% reduction in career interruptions for female employees in workplaces with accessible maternity or paternity leave policies. This confirms the crucial role policy usability plays in career continuity.

Therefore, to prevent career disruptions and establish a more supportive environment for dental hygienists, expa-

nson of social support is crucial. This ensures policies are readily available not just in general hospitals and university dental hospitals, but also within dental clinics. Additionally, active policy improvement measures are necessary. By strengthening implementation management and oversight under the Labor Standards Act and the Gender Employment Equality Act, we can effectively address career interruptions stemming from pregnancy and childbirth among dental hygienists.

Only 27.7% of dental hygienists utilized pre- or post-natal leave, and 26.6% took parental leave, highlighting limited policy uptake. Even lower were experiences with reduced working hours during pregnancy (16.9%) and childhood (15.8%). These findings are consistent with those of Moon et al.,¹⁷⁾ who reported a 26.9% dental hygienist maternity leave utilization rate.

Organizational culture is a key culprit behind this low usage. Many companies lack established systems, actively discourage policy usage, or harbor internal discrimination. Additionally, a common practice of redistributing workload without hiring substitutes often burdens leave-takers and fosters pressure⁴⁾. Negative attitudes from colleagues and supervisors further exacerbate the issue, requiring efforts to dismantle such negativity.

While government incentives exist to encourage employers to hire replacements during leave periods, their complex application process and practical problems, like finding suitable candidates, hinder effectiveness. To remedy this, system improvements are crucial. Streamlining the process, increasing accessibility, and simplifying benefit acquisition for employers are key steps.

One promising solution lies in the recently launched Substitute Labour Bank System, where pre-vetted workers are readily available to fill staffing gaps in the civil service²⁸⁾. Adapting this model, a dental hygienist manpower bank could be established under the leadership of relevant associations. This bank would aim to secure and manage dental human hygienist resources, allowing for flexible allocation to address staffing needs during leave periods. Such a system could prioritize previously career-interrupted hygienists, leveraging their experience and adaptability to benefit both clinicians and workers. This, in turn, could create a virtuous cycle that fosters professional development

and career continuity for dental hygienists²⁹⁾.

While maternity protection and work-family balance policies exist, unfair treatment of dental hygienists who utilize them remains a troubling reality. Discrimination, forced resignations, unfair dismissals, and pay cuts are among the reported abuses, despite clear legal protections provided by the International Labor Organization's labor guidelines³⁰⁾ and the Korean Labor Standards Act⁶⁾. Employers are legally prohibited from treating workers unfairly because of pregnancy, childbirth, and leave. Nevertheless, the fact that unfair treatment of leave still occurs shows that dental hygienists work without the protection of the law.

The government should strengthen its monitoring of workplaces to ensure compliance with labor laws and provide efficient channels for reporting and resolving unfair treatment. Dental hygienist associations can play a crucial role by establishing reporting systems and offering legal aid or mediation services.

Recommendations from the study participants offer further direction. Implementing mandatory policies across all workplaces, coupled with enhanced education and promotion of government support programs, could create a more supportive environment. Additionally, expanding support for substitute workers and promoting flexible work arrangements, such as part-time work options, can ease the burden of filling temporary vacancies.

Moving forward, a collaborative effort between the government, the Korean Dental Hygienists Association, and the Korean Dental Association is vital. By actively implementing the measures proposed in this study, we can ensure that dental hygienists can access and utilize maternity protection and work-family balance policies effectively.

2. Limitations

While this study provides valuable insights into factors influencing dental hygienists' career breaks, it's important to acknowledge its limitations. The sample size may not fully represent the entire population, and relying solely on questionnaires limited our ability to explore the nuances of policy utilization on an individual level. Nevertheless, this research holds significance as it lays the groundwork for future improvements in dental hygienists' working environment. By shedding light on key variables like policy

awareness, accessibility, and actual usage, this study offers foundational data to inform further interventions.

3. Conclusion

While dental hygienists in this study demonstrated awareness of maternity protection and work-life balance policies, utilizing them freely proved challenging. Restrictive clinic policies, peer pressure, and a lack of substitutes emerged as significant barriers. The government, dentists, and dental hygienist associations must join forces to establish and implement robust social support systems. Only through such collective action can we create a supportive environment where dental hygienists can thrive both professionally and personally.

Notes

Conflict of interest

No potential conflict of interest relevant to this article was reported.

Ethical approval

This study was approved by the institutional review board of Gangneung-Wonju National University (IRB No. GWNUIRB-2022-4).

Author contributions

Conceptualization: Soo-Myoung Bae, Bo-Mi Shin, and Seon-Hui Kwak. Data acquisition: Seon-Hui Kwak and Soo-Myoung Bae. Formal analysis: Soo-Myoung Bae, Bo-Mi Shin, and Seon-Hui Kwak. Supervision: Soo-Myoung Bae and Bo-Mi Shin. Writing-original draft: Seon-Hui Kwak. Writing-review & editing: Soo-Myoung Bae, Bo-Mi Shin, and Seon-Hui Kwak.

ORCID

Seon-Hui Kwak, <https://orcid.org/0000-0001-6407-0890>

Bo-Mi Shin, <https://orcid.org/0000-0003-3763-152X>

Soo-Myoung Bae, <https://orcid.org/0000-0002-1802-4129>

Funding

None.

Acknowledgements

None.

Data availability

Raw data is provided at the request of the corresponding author for reasonable reason.

References

1. Statistics Korea: Reasons for women's career interruptions. Retrieved December 1, 2023, from https://www.index.go.kr/unity/potal/main/EachDtlPageDetail.do?idx_cd=3039
2. Yoo JS: Analysis and implications of changes in economic activity among married women. KERI Insight 21: 1-32, 2021.
3. Kim JK: Factors that decide the job continuity of young mothers. J Korean Home Econ Assoc 42: 91-104, 2004.
4. Jang KS, Yi YJ: Influence of awareness and perceived ease in using parental leave on job satisfaction of nurses in a public hospital. J Korean Acad Nurs Adm 24: 211-220, 2018. <https://doi.org/10.11111/jkana.2018.24.3.211>
5. Ministry of Employment and Labor: 2020 employment and labor policy. Retrieved January 27, 2022, from https://www.moel.go.kr/info/public/publicDataView.do?bbs_seq=20200800700
6. Ministry of Government Legislation Korean Law Information Center: Labor standards act. Retrieved December 3, 2023, from <https://www.law.go.kr/%EB%B2%95%EB%A0%B9/%EA%B7%BC%EB%A1%9C%EA%B8%B0%EC%A4%80%EB%B2%95>
7. Ministry of Government Legislation Korean Law Information Center: Equal employment opportunity and work-family balance assistance act. Retrieved January 20, 2023, from <https://www.law.go.kr/%EB%B2%95%EB%A0%B9/%EB%82%A8%EB%85%80%EA%B3%A0%EC%9A%A9%ED%8F%89%EB%93%B1%EB%B2%95>
8. Park JS, Kim MG, Lim JY: The evaluation of work-family reconciliation policy impact on fertility behavior. Korea Institute for Health and Social Affairs, Sejong, pp.1-143, 2016.
9. Jeon KT, Kim JS, Kim NJ, Shin WR, Choi JH, Noh WR: The work-family balance survey. Ministry of Employment and Labor, Sejong, pp.1-371, 2022.
10. Kim MJ, Kim JI: Effects of the strength of the maternal & paternal protection system on the work & life balance and the

- organizational commitment & job satisfaction: mediating effects of internalization and moderating effects of communication within the organization. *J Organ Manag* 47: 43-74, 2023.
<https://doi.org/10.36459/jom.2023.47.3.43>
11. Jung HJ, Cho Chung HI: Adaptation process of nurses who return to work after parental leave. *J Korean Acad Nurs Adm* 22: 33-45, 2016.
<https://doi.org/10.11111/jkana.2016.22.1.33>
12. Ruhm CJ: Parental leave and child health. *J Health Econ* 19: 931-960, 2000.
[https://doi.org/10.1016/s0167-6296\(00\)00047-3](https://doi.org/10.1016/s0167-6296(00)00047-3)
13. Gibbons DE, Corrigan M, Newton JT: A national survey of dental hygienists: working patterns and job satisfaction. *Br Dent J* 190: 207-210, 2001.
<https://doi.org/10.1038/sj.bdj.4800926>
14. Ministry of Health and Welfare: 2021 Health and welfare statistical year book. Ministry of Health and Welfare, Sejong, pp.3-693, 2021.
15. Lee KJ, Bae HS: The factors affecting the intention of career discontinuity of a married women dental hygienist. *J Dent Hyg Sci* 15: 786-793, 2015.
<https://doi.org/10.17135/jdhs.2015.15.6.786>
16. Park EJ, Chun HM: A qualitative study of the difficulties experienced in the reemployment process: focusing on the experience of career-interrupted women and recruiters. *J Korea Contents Assoc* 17: 166-182, 2017.
<https://doi.org/10.5392/JKCA.2017.17.01.166>
17. Moon HJ, Jang MH, Shin MS: A study on working environment of dental hygienists by their work division. *J Dent Hyg Sci* 7: 37-47, 2007.
18. Bae SH: Noneconomic and economic impacts of nurse turnover in hospitals: a systematic review. *Int Nurs Rev* 69: 392-404, 2022.
<https://doi.org/10.1111/inr.12769>
19. Korean Dental Association; Health Policy Institute: 2022 Year book of the Korean dentistry. Korean Dental Association; Health Policy Institute, Seoul, pp.13, 2023.
20. Yoon MS: Suggestions for settlement stable employment culture of dental hygienist. *J Dent Hyg Sci* 17: 463-471, 2017.
<https://doi.org/10.17135/jdhs.2017.17.6.463>
21. Kim TH, Kim NJ: Analysis of the implementation status of the maternity protection system in Korea and recommendations for improvement. Korean Women's Development Institute, Seoul, pp.1-238, 2003.
22. An CK, Han KD: The effect of maternal protection for female nurses on their labor conditions. *J Labor Stud* 40: 135-163, 2020.
<https://doi.org/10.56030/kuirle.2020.06.40.135>
23. Im AJ, Kim YW, Kim SJ, et al.: The influence of women dental hygienists' work - family balance on happiness level in dental clinics. *J Dent Hyg Sci* 21: 158-167, 2021.
<https://doi.org/10.17135/jdhs.2021.21.3.158>
24. Min HJ: Organizational context and corporate welfare programs: the usability of childcare leave and sick leave among women managers in Korea. *Q J Labor Policy* 10: 119-145, 2010.
<https://doi.org/10.22914/jlp.2010.10.3.005>
25. Kim KM, Kye SJ: A study on work-family balance and the happiness level of dual career families. *JFBL* 36: 103-119, 2018.
<https://doi.org/10.7466/JKHMA.2018.36.4.103>
26. Yu HJ: A study on the effects of family-friendly policy and climate on the organizational commitment: by the medium of work-life balance. *KSPA* 30: 145-171, 2019.
27. Cho DH: Determinants of female-salaried workers' career interruption. *Korean J Labour Econ* 39: 81-100, 2016.
28. Sohn HJ, Kim DW: Improvement plan for substitute human resources pool bank system on parental leave- focused on local governments. *KCGR* 23: 21-44, 2019.
<https://doi.org/10.18397/kcgr.2019.23.1.21>
29. Park KO, Jang YE, Kim SI, Park JE, Lee SM, Kim NH: Dentists' opinions on return to work of career interrupted dental hygienists. *J Korean Soc Dent Hyg* 16: 741-750, 2016.
<https://doi.org/10.13065/jksdh.2016.16.05.741>
30. International Labour Organization: Labour standards, C175 - Part-Time Work Convention, 1994 (No. 175). Retrieved December 1, 2023, from https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO:12100:P12100_ILO_CODE:C175#:~:text=Article%2010,law%20and%20practice