

## **Workload in Occupational Health Nursing: A study among Occupational Health Nurses in Finland**

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### **Abstract**

The purpose of this study is to find out the current situation of OH nurses' workload and associating factors. The study was conducted with a web questionnaire with an open question. According to the results a total of 285 OH nurses participated in the survey. Almost half (45%) of occupational health nurses felt overloaded at least somewhat and about one-third (32%) a lot or too much. Most (63%) of the OH nurses felt that they are overloaded because of the work content. The most frequently workload factors related to the content of work were continuous learning demands and changes at work (17%), demanding clients (17%) and economic pressure (14 %). Due to this study our conclusion is that the most of OH nurses reported felt overloaded at their work. The results highlighted factors that could be addressed to improve OH nurses' well-being at work and provided useful information for the development of OH nurses' working conditions.

**Keywords:** Occupational health, occupational health nurse, workload.

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## 1. Introduction

In Finland, Occupational Health Services (OHS), is part of the primary health care system, but also a part of the workplace health and safety system. According to law, all employers are obliged to arrange preventive OHS for their employees to promote employees' health, safety and work ability. Beside this, employers can also offer general practitioner-level primary care services for their employees [1].

National Social Security Institution (Kela) reimburses employers for a share of the costs for occupational health care. According to reimbursement statistics from 2017, preventive OHS were organized for 52.5 thousand employers, which had 1.85 million employees (86% of all employees in Finland). Primary care services as part of OHS were available to approximately 1.75 million employees. In 2017, OH physicians, OH nurses, OH physiotherapists and OH psychologists used over half of million hours for workplace surveys. Fifty-four percentage of them were made by OH nurses. The total number of employees' visits to OHS were 7 million, of which 1.3 million were check-ups (45% to OH nurses) and 4.6 million (65%) were for primary care (20% to OH nurses) [2].

At the end of 2014, approximately 180.000 people worked in health care in Finland and 93% of them worked in the public sector [3]. In OHS worked almost 6600 professionals, of whom 2697 are full- or part-time OH physicians and 2226 are OH nurses. In private sector worked 83% OH physicians and 76% OH nurses. On average, there were 640 employee clients per OH physician and 720 per OH nurse in 2018 [4].

In the Finnish primary care OHS is significant in taking care of the health and work ability of the working population. Beside this, OHS' cooperation with workplaces is necessary when the aim is to extend employees' working careers. Of OH nurses it requires a holistic approach to employees and the expertise of assessing the associations between work, health, and work ability. Especially, the role of OH nurses is important in detecting insomnia, burnout, and depressive disorders of employees and identifying impaired work ability [5].

In many nations OH nurse is a well-established profession. The core of OH nurses' activities is to ensure healthy and safe work environments and to prevent work-related accidents and illnesses for the employers and employees they serve [1, 6, 7, 8, 9, 10, 11, 12, 13, 14]. OH nurses have emerged as a key professional in delivering high quality OHS and in helping to promote health and work ability of the working population [15, 16, 17].

The work of the OH nursing emphasizes client-centeredness, interaction and cooperation. OH nurses are required to have a multi-professional knowledge base, practical nursing skills, client-facing skills, and polite behaviour. They are expected to continuously develop their skills and competences, for example, in health promotion, education and surveillance, case and risk management, health and safety, infection control and travel health and ergonomics, in order to better serve their clients and provide them with up-to-date information and guidance. Thus, regular education of OH nurses is important for responding to the changing personal and

organizational customer needs [11, 18, 19, 20, 21, 22, 23, 24].

At the same time, when the changes in work and workplaces pose new challenges for the work of OH nurses, the traditional tasks and activities that promote employees' health are not disappearing. Motivating and encouraging both employers and employees, are important activities of OH nurses' work, requiring wide-ranging competencies and good interpersonal and negotiating skills [17, 22, 25, 26, 27, 28]. The work done by OH nurses also contributes to the economic success of their client companies. For example, how OH nurses support employers to promote a safe and healthy workplace and to manage employees' absence and return to work from sick leave [29, 30].

To the best of our knowledge, workload of OH nurses has not been studied much. In Finland, the latest study of OH nurses' workload has conducted in 1998. According to the results OH nurses were already then burdened by a continuous shortage of time, pressure from unperformed tasks and a lack of opportunities to concentrate on work [31]. The aim of this study is to find out the current situation of OH nurses' workload and associating factors and by it to improve OH nurses' wellbeing at work. The survey was conducted in March 2019 to the 1186 members of the Finnish Association of Occupational Health Nurses (FAOHN). Altogether 285 members answered to the survey.

## **2. Material and methods**

This study was carried out by using a quantitative and qualitative research methods. The material was collected by using an electronic questionnaire. The questionnaire consisted of multiple-choice questions about the salary, number of clients, working hours, remote work, and workload related to the work amount and content. The OH nurses had also an opportunity to answer to an open question about the load factors of their work content.

The results were reported as quantities and percentages. Differences in participants' responses were analysed with the chi-square. Statistical significance was defined as  $P < 0.05$ . The statistical analyses were performed using the SPSS Statistics 25 package (IBM Corp., Armonk, NY, USA).

The research material of the open question was narrative text, which was analysed with an inductive content analysis using Excel software. After the material was read twice, it was divided into sections, which were grouped into categories based on the similarity of their content [32]. In addition, we calculated how many times OH nurses gave similar statements on the subject matter.

## **3. Main Results**

The questionnaire was answered by 285 OH nurses. Almost all of them had permanent work contract (97%, n=279) and almost as many (88%, n=284) were in full-time job. Table 1 shows the characteristics of the participated OH nurses.

**Table 1: Characteristics of the participants**

<b>Characteristics</b>	<b>n</b>	<b>%</b>
Employment sector (n=273)		
Private sector	185	68
Public sector	88	32
Work experience (n=250)		
For less than 3 years	24	10
3-5 years	5	2
5-10 years	38	15
More than 10 years	183	73
Highest education level (n=285)		
Certified occupational health nurse	261	91
Public health nurse	13	5
Master's or Doctoral degree	11	4
Participated in statutory continuing education (n=285)		
7 days or more	58	20
1-6 days	171	60
None	56	20
Number of employer clients (n=276)		
Less than 50	61	22
51-100	68	25
Over 100	147	53
Number of employee clients (n=279)		
Less than 600	38	14
601-900	81	29
901-1200	82	29
1201-1500	46	17
Over 1500	32	12
Flexible working hours (n=283)		
Yes	244	86
No	39	14
Opportunity to remote work (n=281)		
Yes	137	49
No	144	51
Have worked uncompensated overtime (work is not recorded as working hours) (n=281)		
Yes	70	25
No	211	75

The comparison of the OH nurses' characteristics and work with the employment sector are shown in Table 2. According to the results, the number of employer clients was significantly higher in the private sector than in the public sector ( $p=0.000$ ). The differences were similar when comparing OH nurses' employee clients in the private and public sectors ( $p=0.001$ ). The OH nurses working in private sector had significantly more often flexible working hours ( $p=0.004$ ) and an opportunity to remote work ( $p=0.000$ ) than OH nurses in public sector. However, OH nurses' uncompensated overtime was more common in private sector than in public sector ( $p=0.007$ ).

**Table 2: Characteristics of the OH nurses and their work by employment sector**

Participant characteristic	Employment sector		
	Private sector n (%)	Public sector n (%)	p<0.05
Work experience			
Less than 5 years (n=29)	21 (72)	8 (28)	NS
5 years – less than 10 years (n=35)	20 (57)	15 (43)	
10 years or more (=176)	120 (68)	56 (32)	
Highest education level			
Certified occupational health nurse (n=249)	170 (68)	79 (32)	NS
Public health nurse (n=13)	9 (69)	4 (31)	
Master's or Doctoral degree (n=11)	6 (55)	5 (45)	
Participated in statutory continuing education			
7 days or more (n=54)	35 (65)	19 (35)	NS
1-6 days (n=165)	115 (70)	50 (30)	
None (n=54)	35 (65)	19 (35)	
Number of employer clients			
Less than 50 (n=54)	20 (37)	34 (63)	0.000
51-100 (n=67)	48 (72)	19 (28)	
Over 100 (n=144)	116 (81)	28 (19)	
Number of employee clients			
Less than 600 (n=35)	20 (57)	15 (43)	0.001
601-900 (n=78)	41 (53)	37 (47)	
901-1200 (n=80)	61 (76)	19 (24)	
1201-1500 (n=43)	35 (81)	8 (19)	
Over 1500 (n=31)	25 (81)	6 (19)	
Flexible working hours			
Yes (n=235)	167 (71)	68 (29)	0.004
No (n=36)	17 (47)	19 (53)	
Opportunity to remote work			
Yes (n=131)	106 (81)	25 (19)	0.000
No (n=138)	75 (55)	138 (62)	
Have worked uncompensated overtime (work is not recorded as working hours)			
Yes (n=69)	56 (81)	13 (19)	0.007
No (n=201)	128 (64)	73 (36)	

The OH nurses were asked about their workload and its relation the work amount. Almost half (45%) of them felt overloaded at least somewhat and about one-third (32%) a lot or too much. Twenty-three (23%) percent did not experience excessive workload related to the work amount at all.

In Table 3 the characteristics of OH nurses and their work is compared with the employment sector. The OH nurses working in the private sector felt themselves more often overloaded because of the work amount than the OH nurses in public sector, but the result is not statistically significant. Those OH nurses having more than 100 employer clients reported significantly ( $p=0.005$ ) more overload than those who had less than 100 employer clients. The same applied to the number of employee clients. Also, the OH nurses, who had worked uncompensated overtime felt overloaded a lot or too much significantly ( $p=0.002$ ) more than those who did not. When comparing flexible working hours or remote work and perceived workload, the differences was not significant.

**Table 3: Occupational Health nurses' perceived workload related to the work amount by participant characteristics**

Participant characteristic	Occupational Health nurses' perceived workload related to the work amount			
	Not at all n (%)	Somewhat n (%)	A lot or too much n (%)	p<0.05
Employment sector				
Private sector (n=185)	38 (21)	76 (41)	71 (38)	NS
Public sector (n=88)	24 (27)	43 (49)	21 (24)	
Work experience				
Less than 5 years (n=29)	5 (17)	13 (45)	11 (38)	NS
5 years – less than 10 years (n=38)	10 (24)	16 (42)	12 (32)	
10 years or more (=183)	44 (24)	79 (43)	60 (33)	
Highest education level				
Certified occupational health nurse (n=261)	60 (23)	114 (44)	87 (33)	NS
Public health nurse (n=13)	3 (23)	7 (54)	3 (23)	
Master's or Doctoral degree (n=11)	3 (27)	6 (55)	2 (18)	
Participated in statutory continuing education				
7 days or more (n=58)	11 (50)	29 (50)	18 (31)	NS
1-6 days (n=171)	44 (26)	75 (44)	52 (30)	
None (n=56)	11 (20)	23 (41)	22 (39)	
Number of employer clients				
Less than 50 (n=61)	20 (33)	32 (52)	9 (15)	0.005
51-100 (n=68)	17 (25)	30 (44)	21 (31)	
Over 100 (n=147)	27 (18)	59 (40)	61 (41)	
Number of employee clients				
Less than 600 (n=38)	18 (47)	14 (37)	6 (16)	0.001
601-900 (n=81)	20 (25)	43 (53)	18 (22)	
901-1200 (n=82)	16 (20)	37 (45)	29 (35)	
1201-1500 (n=46)	7 (15)	18 (39)	21 (46)	
Over 1500 (n=32)	4 (13)	13 (41)	15 (47)	
Flexible working hours				
Yes (n=244)	58 (24)	104 (42)	82 (34)	NS
No (n=39)	8 (21)	21 (53)	10 (26)	
Opportunity to remote work				
Yes (n=137)	27 (20)	58 (42)	52 (38)	NS
No (n=144)	39 (27)	66 (46)	39 (27)	
Have worked uncompensated overtime (work is not recorded as working hours)				
Yes (n=70)	9 (13)	27 (39)	34 (48)	0.002
No (n=211)	56 (27)	98 (46)	57 (27)	



We also examined does the work content overload OH nurses. Most (63%) of the OH nurses (n=275) felt that they are overloaded because of the work content. The results of the comparison are described in Table 4. The majority of OH nurses in private sector felt overloaded by work content when compared with the OH nurses in public sector. This difference was statistically very significant (p=0.003). The overload was more prevalent among those OH nurses who reported having more than 100 employer clients compared with those having less (p=0.008). In fact, over half of the overloaded OH nurses had more than 100 employer clients. The difference was significant also when comparing uncompensated overtime (p=0.001) and opportunity to remote work (p=0.028).

**Table 4: Occupational Health nurses' perceived workload related to the work content by participant characteristics**

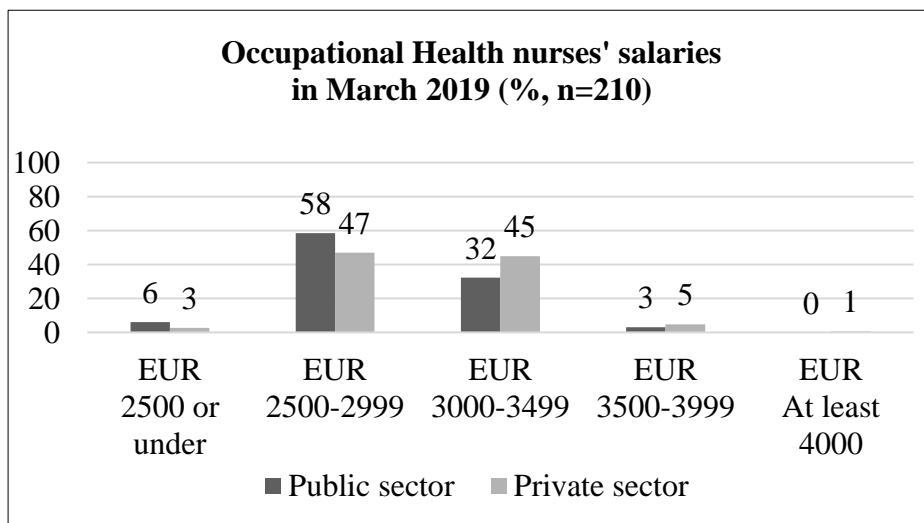
Participant characteristic	Occupational Health nurses' perceived workload related to the work content		
	Yes n (%)	No n (%)	p<0.05
Employment sector			
Private sector (n=178)	124 (70)	54 (30)	0.003
Public sector (n=85)	43 (51)	42 (49)	
Work experience			
Less than 5 years (n=29)	23 (79)	6 (21)	0.027
5 years – less than 10 years (n=37)	27 (73)	10 (27)	
10 years or more (=178)	102 (57)	76 (43)	
Highest education level			
Certified occupational health nurse (n=253)	162 (64)	91 (36)	NS
Public health nurse (n=11)	7 (11)	4 (36)	
Master's or Doctoral degree (n=11)	4 (11)	7 (64)	
Participated in statutory continuing education			
7 days or more (n=55)	38 (69)	17 (31)	NS
1-6 days (n=166)	101 (61)	65 (39)	
None (n=54)	34 (63)	20 (37)	
Number of employer clients			
Less than 50 (n=59)	30 (51)	29 (49)	0.008
51-100 (n=64)	37 (58)	27 (42)	
Over 100 (n=144)	104 (72)	40 (28)	
Number of employee clients			
Less than 600 (n=38)	21 (55)	17 (45)	NS
601-900 (n=78)	47 (60)	31 (40)	
901-1200 (n=75)	50 (67)	25 (33)	
1201-1500 (n=46)	31 (67)	15 (33)	
Over 1500 (n=32)	21 (66)	11 (34)	
Flexible working hours			
Yes (n=234)	150 (64)	84 (36)	NS
No (n=39)	21 (54)	18 (46)	
Opportunity to remote work			
Yes (n=134)	93 (69)	41 (31)	0.028
No (n=138)	78 (57)	60 (43)	
Have worked uncompensated overtime (work is not recorded as working hours)			
Yes (n=68)	54 (79)	14 (21)	0.001
No (n=203)	115 (57)	88 (43)	

In the open-ended question, OH nurses were asked: “*What workload factors are related to the content of the work?*” Hundred-and-forty-seven (147) OH nurses answered to this question. The responses are summarized in Table 5. The three most frequently given reasons were continuous learning demands and changes at work (17%), demanding clients (17%) and economic pressure (14 %).

**Table 5: Occupational Health nurses' (n = 147) responses of the load factors related to the work content**

Load factors related to work content	n	%
Continuous learning demands and changes at work	39	17
Demanding clients	38	17
Economic pressure	32	14
Too much work	31	13
Excessive and fragmented work	30	13
Information systems and new electronic services	28	12
Too much time pressure at work	18	8
Poor-quality leadership	14	6

As part of the study, we asked OH nurses to report their latest salaries, which are shown in Figure 1.



**Figure 1: Occupational Health nurses’ salaries in the public and private sectors in March 2019**

The average salary for OH nurses (n=222) was EUR 2900 and the median salary was EUR 2969 (EUR 2300 - 4600). The majority (53%) of the OH nurses in private sector had a salary above the median level, while in the public sector just over third (37%) were having a salary above the median salary level. This difference was statistically significant (p=0.030).

#### 4. Discussion

The Occupational Health Care Act (1383/2001) is accompanied by the code of conduct for OHS: Good Occupational Health Practice. This sets the framework for systematic and target-oriented cooperation between employer, employees and OHS. The OHS has an important role in the coordination of health care, rehabilitation, and return to work with the other health and social care providers. The role of OH nurses is crucial because in Finland they are the ones mostly coordinating the services. Oh nurses work closely with the OH physicians and other members of the client-responsible OH team [1, 33, 34, 35].

In Finland, OH nurses need a wide education. First, OH nurses need to be qualified public health nurse. After that OH nurses have to have a necessary training to perform occupational health care. This multiprofessional training for qualification in OHS should OH nurses undergo within two years' time from the start of working in OHS [34]. Furthermore, according to the Occupational Health Care Act (1383/2001) OH nurses should undergo at least every three years adequate, statutory continuing education, which means on average seven days a year [1, 36].

Only a fifth of OH nurses had participated in statutory continuing education at least seven days per year. There was, however, majority of OH nurses who had participated to education at least partly. Similar results were observed in a study of Finnish Institute of Occupational Health, which showed that in 2018, OH nurses had received an average of 3.6 days of continuing education [4]. OH nurses have the duty to keep their competencies at an appropriate level during their professional lives [35]. Due to this study our conclusion is that OH nurses have quite good chances to participate in continuing education. Hopefully, in the future the situation will remain as good. A duty to the statutory education is for OH nurses' employers too, which means that they provide appropriate and adequate education for OH nurses regularly.

An excessive workload is the major load factor for health care professionals [37, 38, 39]. An excessive workload is also one of the major determinants of well-being at work, which may due to, among other things, unclear instructions and unrealistic deadlines lead to reduced work performance [40, 41]. In this study, OH nurses felt overloaded by the continuous learning demands and changes at their work. To provide good services to clients requires cooperation between all OH professionals in the client-responsible team. Thus, the optimum multi-professional team of OH professionals could be the easiest way to provide equitable working conditions to OH nurses. However, that needs an openness of OH professionals and understanding the contribution that each can bring to the goal of serving the

common clients [35].

Another major workload factor was the demanding clients. Although "the client is always right," they may not always be easy to deal with. Since this kind of situations are inevitable, it is important that OH nurses learn the ways effectively resolve client conflicts. Hence, the training of 'demanding encounters in a client work' would be a good choice for the statutory continuing education for OH nurses.

Another main load factor was the economic pressure. It has been found, that achieving a financial target goal can increase nurses' job satisfaction [42], but it should not be at the cost of overload. Also, it has been found that taking care of oneself helps OH nurses achieving financial goals at work [22]. Further research of OH nurses' performance-based rewards is needed, since OH nurses increasingly work in the private sector and the financial targets are usually always included in their work.

In Finland, average monthly salary of all full-time earners generally was 3,386 euros in 2015. Of full-time working women the average salary was 3,107 euros per month and of men 3,661 euros per month [43]. This study showed that majority of OH nurses have a salary under the average salary. In female-dominated sectors, such as the health care sector, the salaries are generally lower than in other sectors. It has been found that generally, social and health care workers' salaries in the private sector are lower than in the public sector [44]. Also, this is a subject of which further research is needed.

The operating environment of Finnish OHS is changing, and the number of providers is shrinking, because municipal OHS providers are being bought and large private health care companies are taking over the sector. This study showed that OH nurses in the private sector appear to be the most overloaded by work content compared to the OH nurses in public sector. They also do more work that is not recorded as official working hours and is not replaced with paid vacation or money, and they also seem to have more clients in charge. Due to the privatization of the OHS, it is important to pay attention to the changes of OH nurses' workload, because work-related overload hamper OH nurses to do effective and high-quality OH nursing and can lead to ethical dilemmas.

## **5. Limitations**

A limitation of the study was a small number of respondents to the questionnaire, which is common for web-based surveys [45]. Thus, the results are not totally generalizable. However, the results provide a baseline of information about the load factors related to OH nurses' work.

## **6. Conclusion**

In this study most of the OH nurses felt overloaded at least somewhat at their work. The results highlight factors that could be addressed to improve OH nurses' well-being at work. Continuous learning demands and changes at work, demanding clients and economic pressure were factors, which related to OH nurses' workload.

Employers should pay attention to OH nurses' working conditions and workload and continue to provide adequate education to keep up with the demands of the work. The results provide useful information for the development of OH nurses' working conditions.

**CONFLICTS OF INTEREST.** The authors have no conflict of interest or disclosures pertaining to this manuscript.

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