

# **The History, Current State, and Future Improvement of Occupational Health Nurse Education**

Doctoral (PhD) Thesis

**Henriett Éva Hirdi**

Pathological Sciences Doctoral School  
Semmelweis University



Supervisor: Dr. Judit Mészáros college professor, CSc

Co-Supervisor: Dr. Zoltán Balogh college professor, PhD

Official reviewers: Dr. József Betlehem associate professor, PhD  
Dr. Péter Jakabfi associate professor, PhD

Head of the Final Examination Committee:  
Prof. Dr. Iván Forgács professor emeritus, DSc

Members of the Final Examination Committee:  
Dr. Erika Erdősi college associate professor, PhD  
Dr. Zsuzsanna Soós-Kiss college associate professor, PhD

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## **Introduction**

The history of European occupational health nursing is dated back to decades. The industrial revolution beginning in England in the 18th century induced a rapid growth in the manufacturing industry, and due to the considerable increase in the number of workers employed in factories it became more and more important to find a solution to the health protection of the working population. In the beginning the prime duty of the nurses was to attend upon ill or injured employees, however, these days they should focus mainly on prevention.

Accordingly, the nurses engaged in occupational health care are expected to demonstrate a proactive way of thinking and preventive approach so that they will be able to forecast and define the health hazards and risks arising from the working environment for the health protection of the communities at workplace as well as to plan, control and assess health development programs at workplaces. This also means that Nightingale's (1820-1910) prophesy has been proven to be true by now. For occupational health nurses has come "the day" and they have become "health nurses".

We should review the present international trends and the improvement in the training of nurses in Hungary during the last few decades so that to understand how the occupational health nursing has reached such a high level that nowadays in the countries with the culture of the highest standards in health science the qualification in occupational health care nursing can also be obtained at a master's degree level. I believe that the future also depends on our awareness of the domestic origin and present conditions of nursing. It is essential that we know our roots and values, since they may lay grounds for finding the new directions for the improvement of our profession.

In my study I intend to present the history, position and opportunities for improvement of the training of occupational health nurses.

## **The aim of the dissertation**

On the one hand, the aim of my research was to present the history of the development of the institutional system of factory nurses by means of a historical review and on the other hand, to explore the conditions of the employment of present occupational health nurses and as well as to describe their activity. Accordingly, I carried out two types of research; the basic research aimed at the exploration of the history of the Hungarian occupational health nursing and the other one was applied research focusing on the survey of the present situation of the nurses employed in the given field.

### ***Research 1: The objectives of the investigation of origin of national occupational health nursing:***

- to investigate aspects of the selection of those people who assist factory doctors, the would be factory nurses;
- to investigate whether factory nurses received any training;
- to present factory nurses' tasks;
- to investigate the financial, professional and social recognition of factory nurses.

### ***Research 2: The objectives of the 2012 national survey among nurses in occupational health services:***

- to investigate the qualification of nurses in occupational health services;
- to investigate relationship between the place of employment (the basic occupational health services, occupational health centres and occupational special health care units) and the nurses' qualification defined by law;
- to investigate relationship between the nurses' highest level of basic nursing qualification and certification as a specialist (industrial nurse or occupational health nurse specialist), and in context of the place of employment;
- to investigate relationship between the nurses' qualification and nursing activities;
- to investigate relationship between the nurses' qualification and independent activities made by nurses on health education and promotion.

## **Methods**

My PhD research work has been done from autumn 2008 until late 2013. During the preparatory phase of my research (2008-2011) the related literature was studied and I interviewed several national and international occupational health professionals, and I developed my professional experience. The purpose of my study was to get through knowledge about the national and international occupational health care system, together with the education of occupational health nurses. Between 2012 and 2013 my basic research was focused on the history of occupational health nursing in Hungary, in addition to the employment status and working conditions of occupational health nurses.

### ***Research 1: The investigation of origin of national occupational health nursing***

The research method was a holistic data gathering in which domestic printed and online available archival, literature, legal sources and press-material remaining prior to the health care establishment were explored.

The steps of data gathering were the followings:

1. exploring and studying literature available in libraries,
2. searching for law in online databases,
3. applying web query-systems,
4. exploring and studying press-material,
5. archival exploring.

First of all, I completed both simple and complex searches in different librarial databases, catalogues (MOB, MATARKA, MOKKA) to explore and study literature on the history of occupational health nursing and nurse training. Books and magazines found were studied at the National Széchenyi Library, the National Health Policy Library and the Health Science Library of the National Institute for Quality- and Organizational Development in Healthcare and Medicines. After having reviewed literature on the history of occupational health nursing, it became clear for me that primary sources will be available exclusively to introduce the institutional system of

factory nurses, regarding that I have not even found indication in most subsidiary sources for the questions under investigation by myself.

I used an internet database (called Laws of 1000 year, Complex Kiadó Kft., which contains laws from the time of Saint Stephen up to 2003) in order to search for relevant legislation. Regarding that there is no search index in the database, I have reviewed the laws published between 1840 and 1950.

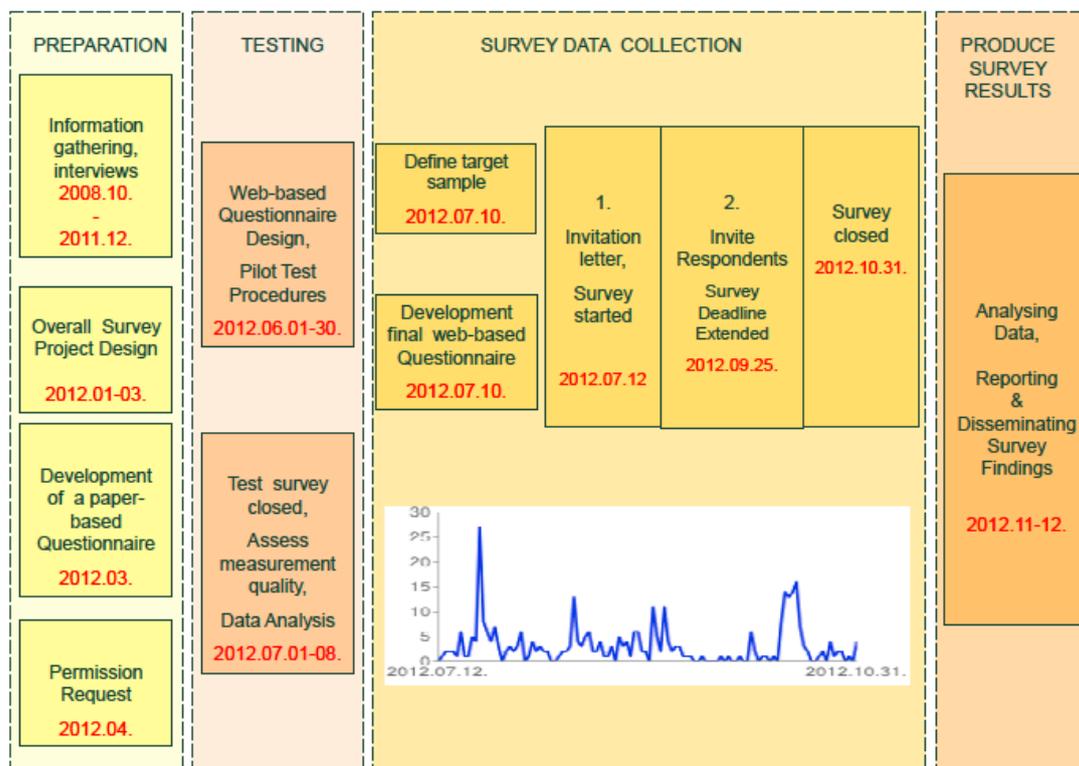
Google was applied from among the query-systems. Using this web-based search, I found out that the issues of 'Egészség' ('Health') magazines published between 1887 and 1942 are available exclusively at the National Institute for Health Development. Publications of this magazine had a significant role in carrying-on my research. In addition, the web-based search method was successfully used for finding books, magazines and press-materials published before 1945 and available in different second-hand bookshops.

After having reviewed printed sources, I began archival research. Due to the archives' files and boxes register primarily and 'Common Searcher of Archives' electronic database, I was informed in which archives the documents of the examined topic are kept. Possessing the supporting declarations required for archival research in the National Archives of Hungary and Budapest City Archives, I focused mainly on the review of letters and memoirs of factories, enterprises, finishing-schools, folk cultural committee operating before the nationalization.

By collecting and processing systematically the documents and legal resources issued between 1840 and 1950, I have obtained data required for investigation of the origin and practise of the institutional system of factory nurses in Hungary. Based on this knowledge I tried to reconstruct the history and evolution of the institutional system of factory nurses.

**Research 2: National Occupational Health Nurse Survey**

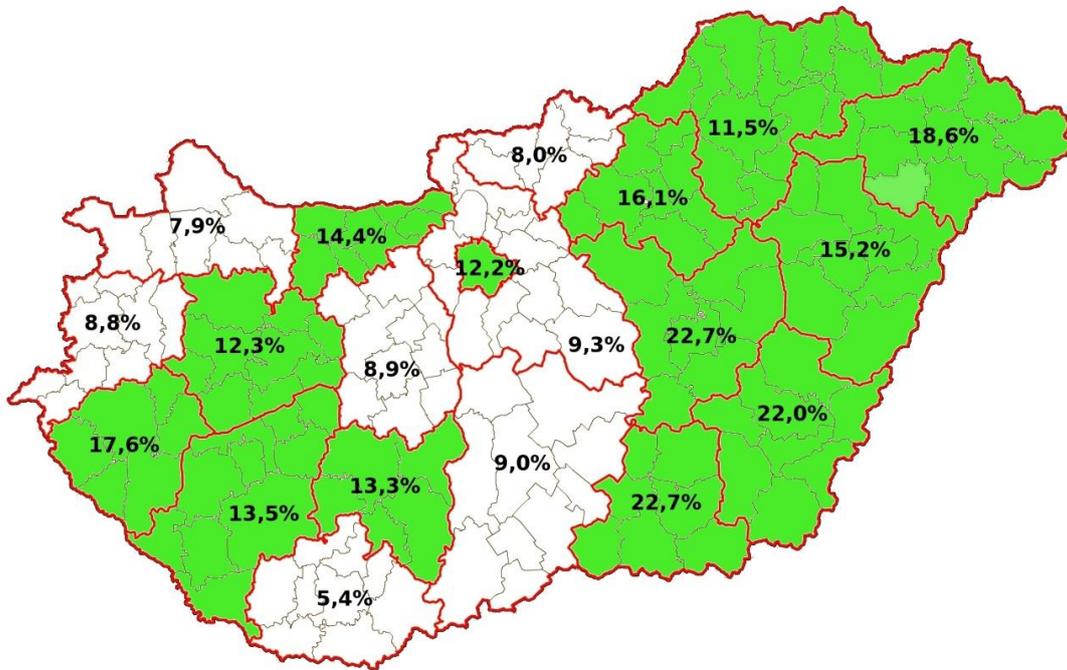
Methods: The cross-sectional survey was conducted between 13 July 2012 and 31 October 2012 among nurses working in occupational health units in Hungary. The population for the survey was made up by the paramedical professionals working in the basic occupational health services, occupational health centres and occupational special health care units in the year of the survey. Figure 1 shows an illustration of the overview of the National Occupational Health Nurse Survey process.



**Figure 1: Overview of the National Occupational Health Nurse Survey Process (Source: Own illustration)**

The online questionnaire published on the website of the Council of Hungarian Paramedical Professionals (MESZK) was completed by 344 occupational health nurses until 31 October 2012, which corresponds to 12.3% of the population. The results of the survey can be stated as representative in the following regions: Békés County, Borsod-Abaúj-Zemplén County, Budapest, Csongrád County, Hajdú-Bihar County, Heves County, Jász-Nagykun-Szolnok County, Komárom-Esztergom County, Somogy

County, Szabolcs-Szatmár-Bereg County, Tolna County, Veszprém County és Zala County. Figure 2 shows the percentage of respondents by geographic regions. Those regions where the response rate was more than 10 percentage are marked on the figure with green background.



**Figure 2: The distribution of respondents by geographic regions (N=344)  
(Source: Own illustration)**

Methodology and sample: The data gathering took place using web-based, anonymous, self-completion questionnaire, published on the website of MESZK, selected using a random, sampling method. The survey was pilot-tested in a convenience sample of 10 nurses from the field of occupational health. The purpose of this pilot study was to determine item clarity for the participants. I examined the test-retest (time interval) reliability at interval of 1-30 days. The nurses filled out the questionnaires first-time on the 1st of June 2012, and filled out again after 30 days. The results of the pilot-test showed the adequacy of the data collection instrument for the proposed research objectives (Pearson correlation: 0.836-0.999;  $p \leq 0.003$ ). I analysed the reliability (validity) for the question containing the interval scale (Cronbach-alfa value: 0.82). The link to the questionnaire and the invitation to the survey were sent to the target group through an electronic newsletter by using the address lists of the chamber and they were also published on the website of MESZK as well as on Facebook social media platform.

Statistical analysis: I analyzed the gathered data with Microsoft Excel 2007 and SPSS 20.0 softwares. Results were analyzed using basic descriptive statistics: frequency distribution, average, standard deviation, maximum and minimum. Pearson Chi-square test was used to examine the relationship between categorical variables (analysed at a significance level of 5%,  $p \leq 0.05$ ), and in case of symmetry of the non-metric (nominal) scale Cramer's V ( $0 \leq V \leq 1$ ) was used. I analysed the data obtained in correlation with the total sample, however, I also formed subgroups (on the basis of professional field and qualifications) and I compared the values of such subgroups.

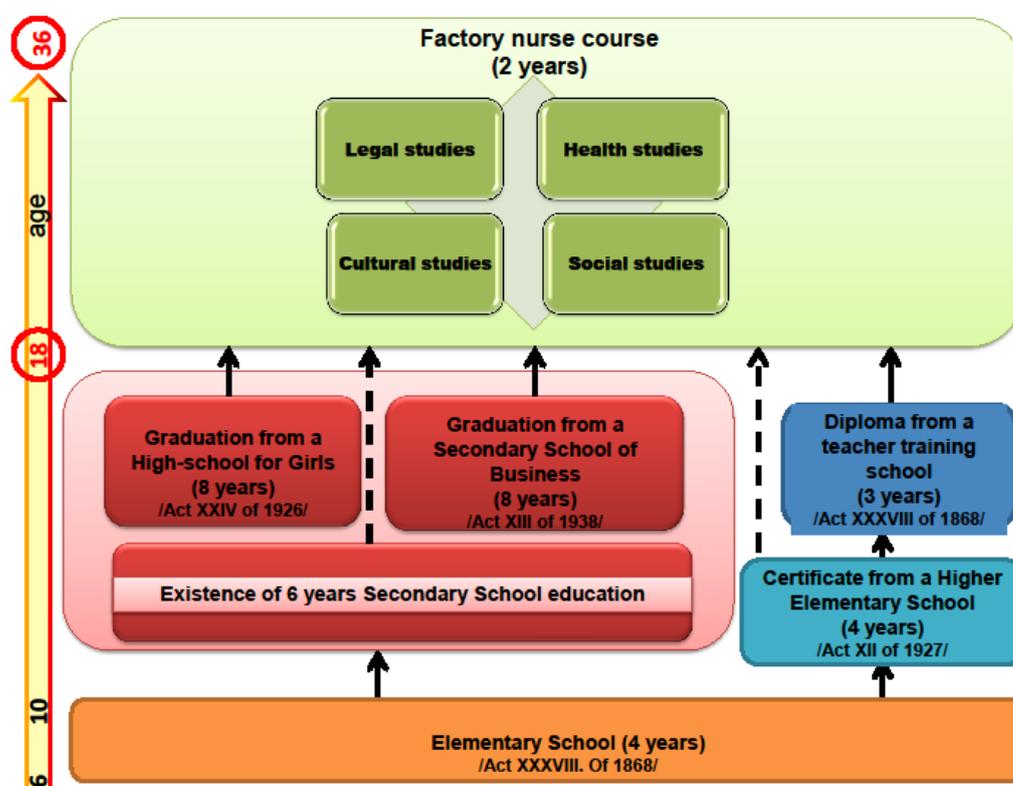
## **Dissertation's results**

### ***Research 1: The investigation of origin of national occupational health nursing***

On the basis of the archival resources and primary literature issued, factory nurses mostly were selected not from among women working in the factory. Before nurses were applied in the factories, factory nursing class had been started. Finding a job for factory nurses was assisted by the directorate of the factory nursing class.

Requirements of taking up factory nurse appointment were regulated by law from 1941. Ordinance on institutional organizing of factory nursing was passed by the Budapest Municipal Committee (Budapest Székesfőváros Törvényhatósági Bizottsága) and ratified by the Ministry for home affairs (M. Kir. Belügyminiszter). Under this statute factory nurses used to fill a position of factory official subject to high school diploma or to school qualification equal to that in educational terms. No others could be admitted for the position of factory nurse but those who were able to certify beyond the abovementioned educational level the participation in a course training for factory nursing and the successful completion of such training course. Apart from the school qualification and separate special qualification another condition to be met for the employment was certification of six-month apprentice training to be completed in factory nursing. The statute contained detailed regulations on the job duties in factory nursing, the number, labour relations, remuneration scheme, benefits in kind and rules pertinent to the retirement allowance of factory nurses.

The idea of the training of factory nurses and the outline of the job were developed by Dr. Mária Baloghy (1895-1970?) secondary school teacher. In order to properly elaborate the training scheme and the job duties, Ms. Baloghy took up a job as a factory workwoman; she lived and worked with workwomen, and thus she gained sufficient experience. The training was provided in the course of factory nurses under the supervision of the Out-of-school Educational Committee of Budapest Capital. Following the successful organization of the first course in factory nursing the Minister of Industry supported the development of the institutional system of factory nurses. Late on Dr. Mária Baloghy also took part in study trips in foreign countries with the aid of the ministry and the capital, where she presented the training scheme and institutional system developed by her, and then she supplemented the practice already in operations in Hungary with the expertise she gained in England, Germany and Sweden. According to Dr. Mária Baloghy's report these aids from public authorities were of high importance, since at the time there was no other country where any similar initiative would have been aided, which fact was also reported even in the journal of the International Labour Office.



**Figure 3: The education of factory nurses between 1933 and 1945 (Source: Own illustration)**

At first the length of fee-paying (total of 720 Pengoes, the Hungarian currency before the war) training for factory nurses was one and a half years, which was extended for two years later on. (Fig.3.) After taking the final exam students were awarded a certificate attesting the completion of the course. Within the framework of the final exams students took exams in Red Cross patient care and first aid, and having passed such exams, the candidate also obtained a diploma in Red Cross home nursing and a Certificate in first aid. The term-time lasted from 1 October until 30 June with training in 45 hours per week, including 25 theoretical classes (in the afternoon) and 20 practical classes (in the morning) per week. Women of 18-36 could be admitted if the pre-recruitment medical tests completed in the university Institute of Public Health proved their physical and mental fitness and if they had appropriate educational grounding.

The theoretical training of factory nurse students covered four major fields: health, social, legal and cultural studies. The primary reason for teaching basic legal studies was that workers were unaware of their rights, consequently, they were unable to exercise their rights. Average workers were lost in the labyrinth of various laws and statutes, thus they had no idea how their legal problems could be solved, which might have made them frustrated, as a result, it could have impaired their performance in one hand, and on the other hand, the possibly lower level of their ability to concentrate could have caused work accidents. The social studies were to promote the mitigation of misery and poverty, which were common at the time, as well as the exploitation of sources available for the support of people in need. The material of theoretical training was continuously extended according to the demands; in 1933 the number of theoretical lessons was 800, albeit it was raised to 1,200 lessons by 1944. The on-the-job training was organized in various health, social, administrative and law enforcement institutions of the capital in two- or three-week periods with 3 morning sessions per week (until 1942 a total of 600 hours, in 1944 a total of 1,200 hours). During the course students were employed as workwomen incognito in various factories for 4-6 weeks. Such approach helped the future factory nurses, who were expected to work independently later on, gain experience at first hand on everyday life of women working in a factory, including their joys, struggle, fatigue and hazards possibly threatening them.

Qualified factory nurses found jobs mainly in textile-, leather-, cable-, battery-, arms- and nutriment factories. Both the special literature and archives contain plenty of documents, such as reports and letters written by factory nurses, which bear witness to the comprehensive activity of the factory nurses. The job of factory nurses included a variety of duties, which is also reflected by the syllabus of the training. Their prime activity was functioning as a mediator like a kind of communication linkage between workers and employers. Factory nurses performed health care, social and cultural activities. They performed their job basically on two sites: within and out of the industrial unit. Out of their six-day working week they spent 3 days within the industrial unit and 3 days out of that, however, they provided consulting hours in their office in a time frame of two hours every day. Their out-of-factory activity also included care of the worker' family. Their health care duties aimed at the health promotion of workers and in a close connection to that at the improvement of health and safety at work. Their social duties included home visits three times a week, and they prepared studies of living conditions by surveying the needs of families. Within the frame of their cultural activity they organized training- and educational lectures as well as courses (eg. cooking-, needlework courses, etc.), organized leisure time opportunities for workers and gave advice to the proper use of the leisure time, organized various programs, provided assistance in sending workers to company holiday resorts, organized celebrations and trips.

While studying the special literature, I found several press releases and professional articles on the employment and training of factory nurses. Each of the articles writes admiringly about the foundation of the training scheme of factory nurses, enhancing the professional and social recognition of women choosing the career of factory nurse all over the country. From the 40s the "demand" for qualified factory nurses was so high that companies engaged students as trainees as well. The initial salary of factory nurses amounted to 250-300 Pengoes per month. The high professional esteem of factory nurses is also shown by the fact that the National Institute of Public Health accepted the factory nurses already being employed into ordinary membership and the factory nurse candidates into extraordinary membership.

**Research 2: National Occupational Health Nurse Survey**

The demonstration of the sample was carried out with the help of comprehensive analysis. Table 1 shows the characteristics of nurses employed in different type of occupational health settings (the basic occupational health services, occupational health centres and occupational special health care units).

**Table I: Socio-demographic and employment characteristics of the respondents (N=344)**

	Occupational Health			Total
	basic level	center	special level	
<b>Number of Nurses, n (%)</b>	225 (65.4)	29 (8.4)	90 (26.2)	344 (100.0)
<b>Gender, n (%)</b>				
Female	218 (96.9)	29 (100)	88 (97.8)	335 (97.4)
Male	7 (3.1)	0 (0)	2 (2.2)	9 (2.6)
<b>Age, years</b>				
Average	46.01	40.34	42.43	44.59
St. Deviation	8.26	9.23	9.11	8.78
min	25	23	23	23
max	66	58	58	66
<b>Nursing experience in the field, years</b>				
Average	15.44	15.82	16.97	15.87
St. Deviation	10.09	10.77	10.75	10.32
min	0.2	1	2	0.2
max	43	39	40	43
<b>Employment status, n (%)</b>				
Employee of an organisation	140 (62.2)	8 (27.6)	35 (38.9)	183 (53.2)
Free employment	2 (0.9)	1 (3.4)	---	3 (0.9)
State emolyee	63 (28.0)	17 (58.6)	53 (58.9)	133 (38.7)
Carrer man	3 (1.3)	1 (3.4)	---	4 (1.2)
Self-employed	11 (4.9)	1 (3.4)	---	12 (3.5)
Employee of civil service	2 (0.9)	---	2 (2.2)	4 (1.2)
Member of Business Association	4 (1.8)	1 (3.4)	---	5 (1.5)
<b>Work time status, n (%)</b>				
Full-time	177 (78.7)	24 (82.8)	77 (85.6)	278 (80.8)
Part-time	48 (21.3)	5 (17.2)	13 (14.4)	66 (19.2)
<b>Duration time of employment contract, n (%)</b>				
Permanent	203 (90.2)	25 (86.2)	84 (93.3)	312 (90.7)
Fixed term	13 (5.8)	3 (10.3)	5 (5.6)	21 (6.1)
Don't know	9 (4.0)	1 (3.4)	1 (1.1)	11 (3.2)
<b>Highest Nursing Education, n (%)</b>				
Nurse Assistant	83 (36.9)	13 (44.8)	37 (41.1)	133 (38.7)
Adult Nurse	28 (12.4)	2 (6.9)	12 (13.3)	42 (12.2)
Nurse with an OKJ nursing qualification	84 (37.3)	11 (37.9)	37 (41.1)	132 (38.4)
Baccalaureate	28 (12.4)	3 (10.3)	4 (4.4)	35 (10.2)
Master's degree in Nursing	2 (0.9)	---	---	2 (0.6)
<b>Specialist nursing certificates, n (%)</b>				
Industrial Nurse	28 (12.4)	---	4 (4.4)	32 (9.3)
Occupational Health Nurse	105 (46.7)	7 (24.1)	14 (15.6)	126 (36.6)
None	92 (40.9)	22 (75.9)	72 (80.0)	186 (54.1)

In these days the Decree no. 27/1995. (VII. 25.) the Minister of Welfare on occupational health services defines the educational requirements for the employment of paramedical professionals with the engagement in performance of occupational health nursing. By conducting this survey I have found that out of 344 nurses completing the questionnaire 80.2% of the respondents (n=276) have one of the qualifications prescribed by relevant laws. However, 6 respondents (1.7%) out of the nurses without a special qualification mentioned that the obtainment of one or another special qualification is in progress. It is startling that 18.1% of the respondents (n=62) work without a special qualification and none of them attends any training course in order to satisfy the educational requirements specified in laws. When analysing the ratio of the respondents with a special qualification, I have found that less than half of the respondents, 45.9% have a qualification of industrial nurse (9.3%) or occupational health nurse (36.6%) that could be considered to be special.

From a statistical point of view, significant relation could be shown between the existence of the qualificational requirements specified in the Decree no. 27/1995. (VII. 25.) the Minister of Welfare and the place of the employment (the basic occupational health services, occupational health centres and occupational special health care units) ( $p < 0.001$ ), the strength of the contact can be seen as strong between the two variables ( $V = 0.326$ ).

Concerning the highest nursing qualifications the survey shows that 38.7% of the respondents are qualified nurse assistants, 12.2% have a qualification in adult nursing, 38.4% obtained their qualification by completing a OKJ training course and 10.8% are college degree nurses. The ratio of the latter is higher in basic occupational health services (13.3%) and in the centres (10.3%) than in specialist care units (4.4%). I used Pearson's chi-squared test to explore whether there is any correlation between the existence of a supplementing special qualification of industrial nurse or occupational health nurse and the higher basic nursing qualification and the place of the employment (the basic occupational health services, occupational health centres and occupational special health care units). Among the nurses with a qualification in adult nursing the persons who have obtained the special qualification (industrial nurse or occupational

health nurse specialist) represent a much higher ratio. A significant relationship has been found between the nurses' highest level of basic nursing qualification and certification as a specialist (industrial nurse or occupational health nurse specialist) ( $p < 0.001$ ;  $V = 0.306$ ). The ratio of the nurses who have no supplementing special qualifications is rather high (75.9%-80%) in centres and specialist care units. On the other hand, 46.7% of nurses employed in basic occupational health services have a qualification in occupational health nursing and 12.4% in industrial nursing, thus less than half of the nurses (40.9%) in employment have no special qualifications. Significant and strong relation could be observed between the place of the employment and the presence of supplementing special qualification in occupational health nursing ( $p < 0.001$ ,  $V = 0.364$ ).

One of the main focuses of the survey aimed at the activities performed by nurses with different qualifications. I analysed responses related to the performance of 16 activities. The analysis of the total sample shows that only 9.9% of the respondents state that they carry out all the 16 activities. The ratio is significantly higher among the college degree nurses with a supplementing special qualification in occupational health nursing than those with lower basic qualification or the college degree nurses without a supplementing special qualification in occupational health nursing. The survey results allow to draw the following conclusions:

- the college degree nurses with a supplementing special qualification in occupational health nursing perform more activities (Average: 14.38; CI: 13.13-15.64);
- the qualified nurse assistants who have also obtained a special qualification in industrial nursing or occupational health nursing show the same ratios (Average: 12.66; CI: 12.14-13.18) as those who have obtained special qualifications supplementing their nursing qualification obtained in OKJ training (Average: 12.68; CI: 11.83-13.54);
- the respondents qualified as nurse assistants perform only the half of the 16 activities included in this survey (Average: 8.08; CI: 7.26-8.9).

A cross-tabulation was used to answer the relationship between the qualification (independent variables) and the nursing tasks (dependent variables). Significant relation

could be observed between the type of the qualification and 14 different types of nursing tasks ( $0.000 \leq p \leq 0.005$ ). In case of the strength of relationship the following values were calculated:  $0.199 \leq V \leq 0.578$ . No significant relationship could be found between the type of the qualification and the recognition and response of medical emergencies ( $p=0.095$ ), or the inspection of the availability of first aid kits at the company ( $p=0.518$ ).

I also examined the relationship among the qualification (independent variables) and the independent nursing activity related to the employees' health promotion (dependent variables). I formed three groups by topics: (1) lifestyle, unhealthy habits, (2) lifestyle for chronic diseases, and (3) work-related health promotion. Nurses with a supplementing special qualification in occupational health nursing have a higher fraction of performing independent nursing activity than those nurses without a supplementing special qualification in occupational health nursing. I obtained that 50% of the nurses with only nurse assistant qualification, generally do not practise independently neither participate in consultation activity. Significant relation could be shown in all cases between the qualification of the nurse and the independent nursing activity ( $p < 0.001$ ). I found significant and strong relation ( $0.308 \leq V \leq 0.315$ ) in case of two topics, moderately strong ( $0.251 \leq V \leq 0.300$ ) in 11 cases, and moderate ( $0.204 \leq V \leq 0.24$ ) in 3 themes. Three topics showed significant, but weak relationship ( $0.182 \leq V \leq 0.199$ ).

## **Conclusions**

The conclusions are overviewed according to the Objectives.

### ***Research 1: The investigation of origin of national occupational health nursing***

*Aim 1:* I have found that the job of factory nurse formed after the development of course training scheme for factory nurses. The first women who had completed the training course of factory nurses was engaged in textile factory in 1935 and the course itself commenced in 1933. Consequently, the persons filling the position of factory nurse were not selected from the workwomen employed in the industrial unit but from the applicants with special qualifications, which was regulated even at the level of ordinances. Under section 6 of the statute on the institutional organization of the training for factory nursing by the resolution number 764/1940 of the Budapest Capital Municipal Council adopted on the general meeting on 13 December 1940, which was approved by the Minister of the Interior of Kingdom of Hungary, no others could be appointed for the position of factory nurse than those who were able to certify the completion of the training course for factory nursing employment.

*Aim 2:* I have shown conclusively that factory nurses were provided training. In 1933 Dr. Mária Baloghy organized course training for factory nurses under the supervision of the Out-of-school Educational Committee of Budapest Capital which offered a term-time of 1.5-2 years. There are data available with reference to the uninterrupted existence of factory nurses' training launched by Ms. Baloghy until 1945; according to these between 1933 and 1943 150 women obtained a qualification in factory nursing and for them further training scheme was also developed. In 1938 the National Institute for Social Policy also joined in the training of factory nurses.

*Aim 3:* The archives – letters, reports and statements written and compiled by factory nurses – as well as the statute on the institutional organization of the training for factory nurses adopted by resolution number 764/1940 and approved by the Minister of Interior of Kingdom of Hungary and the publications in a thematic issue of 1941 of the journal “Health” presenting the institutional system of factory nurses clearly show that factory nurses performed self-reliant activity. Their activity based on preventive and holistic

approach covered all health-, social and cultural fields. They played an active role not only at work but also out of factories – in residential communities and in the life of workers' families – in the development and maintenance of healthy lifestyle and in the prevention of work accidents and work-related and occupational diseases.

*Aim 4:* The position of factory nurse implied financial, professional and social esteem, which is proven in a number of domestic press releases and professional articles admirably writing about the training and activity of factory nurses. The fact that in 1940 an independent statue was prepared and issued with the approval of the Minister of Interior of Kingdom of Hungary, which not only established obligations but also provided protection by granting rights for factory nurses, also supports the opinion that they enjoyed general esteem in professional and social terms.

### ***Research 2: National Occupational Health Nurse Survey***

*Aim 1:* I have highlighted that nowadays in respect of the qualification of the nurses employed in the field of the basic occupational health services there are certain shortcomings. In my opinion the most serious problem in the specific field is caused by the shortage of paramedical professionals with special qualifications. I consider the amendment to the Decree no. 27/1995. (VII. 25.) the Minister of Welfare of importance in such a way that the only acceptable educational requirement for the filling of nursing positions in the occupational health services should be the occupational health nursing qualification supplementing the basic qualification. This would mean that following the amendment to the Decree no other than a nurse with a special qualification in occupational health nursing could be selected for the position.

*Aim 2:* I have reinforced that the existence of the nurses' qualifications prescribed by the relevant law is influenced by the place of employment. The survey has proved that the overwhelming majority of the nurses employed in the basic occupational health services have the qualification specified in legal regulations. However, this not true in relation to the nurses engaged in the centres and special care units. The analysis of the background conditions affecting this situation requires the conduction of additional surveys.

*Aim 3:* The nurses whose basic qualification is in compliance with the requirements specified in the Decree no. 27/1995. (VII. 25.) the Minister of Welfare tend to be less willing to obtain the supplementing special qualifications. I have found that the health care region also has an effect on the obtainment of special qualifications (industrial nurse or occupational health nurse specialist). I suggest to employ nurses with occupational health nursing certificate, and to train those who has basic nursing education, in order to increase the efficiency of occupational health settings. For this end I do think that it would be of high importance to survey the motivation of the applicants for supplementing training in occupational health nursing in the future.

*Aim 4:* I have pointed out that the range of the activities performed by nurses is quite heterogeneous. By obtainment of the higher educational levels the scope of nursing activities grows broader. As for the future I think the analysis of the expectations set for occupational health nurses could serve for the purpose of an interesting research objective from the point of view of both the individual members of the multidisciplinary team and patients, i.e. employees.

*Aim 5:* The educational level of nurses considerably influences the independent nursing activity related to the employees' health promotion. Its significance is shown by the fact that the occupational health nurses are able to promote the health development programs at work the most efficiently.

## **Summary**

The history of the occupational health (OH) roots back to almost a thousand-year's tradition in Hungary. During this period, it became clear that prevention is a key feature of OH. In this research my aim was to give a wide overview on OH nursing. Starting from the international perspective the Reader will be led through the development of the national OH nursing education system from early to recent days. Here I present both of my research tasks in order to give a complex picture. This includes a historical study of the origin of the Hungarian OH nursing and an applied research aiming to map the status of the nurses working in OH units.

The first part of my research was focused on to present the development of the factory nurse institutions which fell into oblivion by this time. Hereby, I present first time that the first factory-nurse course has been started in 1933 led by dr. Maria Baloghy in Budapest. Participants of the course had to suit strict admission requirements. Students of the two-years full-time course learnt about health, social, legal and cultural knowledge. It has been stated that OH nurse education has an 80-year-old history in Hungary that throw new light upon theories until now about origin of OH nursing.

The second part of my research based on an unique national survey, which was conducted between 13<sup>th</sup> July 2012 and 31<sup>st</sup> October 2012 among nurses working in OH units. The web-based, anonymous, self-completion questionnaire was completed by 344 nurses. Based on my results it was proven that a significant relationship has been found between the various nursing qualifications and nurses' preventive activities. Here I suggest to employ nurses with OH nursing certificate, and to train those who has basic nursing education, in order to increase the efficiency of OH settings.

Comparison past values with the shortcomings of the present may contribute to the future development of the Hungarian OH nursing's strategy.

## Author's publication list

### *Publication list with regard to subject of dissertation:*

1. **Hirdi H.** (2009) Beszámoló a Foglalkozás-egészségügyi Ápolók Európai Szövetségének 29. találkozójáról. Hivatásunk, a Magyar Egészségügyi Szakdolgozói Kamara lapja. 2: 21.
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11. **Hirdi H.**, Téglásyné BM, Balogh Z. (2013) A foglalkozás-egészségügyi szolgálatokban dolgozó egészségügyi szakdolgozók helyzete napjainkban a MESZK országos felmérése alapján. Foglalkozás-egészségügy, 1: 42-50.
12. **Hirdi H.** (2013) Magyarország a foglalkozás-egészségügyi szakápoló képzés bölcsője. Nővér, 6: 26-40.

13. **Hirdi H**, Rajki V, Mészáros J. (2013) The effects of Occupational Health Nurse-initiated education on workers knowledge, attitude and practice regarding blood donation. *New Medicine*, 4: 132-135.
14. **Hirdi H**, Balogh Z, Mészáros J. (2013) Foglalkozás-egészségügyi szakterületen alkalmazott ápolók prevenciós tevékenységének felmérése. *Egészségfejlesztés*, 4: 20-29.
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1. **Hirdi H**. (2004) Betegelégedettség mérése a családorvosi gyakorlatban. *Ápolásügy*, 3: 26-28.
2. Balogh Z, Papp K, **Hirdi H**. (2011) Munkaerőhiány és migráció az ápolásban. *Nővér*, 2: 24-30.
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