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National follow-up study on job satisfaction of nurses working in inpatient care and their well-being in a changing health care system

Ph.D. Thesis

by

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INTRODUCTION

Nursing is a profession where neither moral nor financial appreciation correlate with work strain. Nurses usually choose their profession because of their desire to help (Kovácsné et al., 2004). They mention among the positive sides of the profession the followings: caring for people, curing, creativity and diversity (Piczil et al., 2005). Even though less youngsters have chosen this profession in recent years, as they do not regard it as a good career opportunity (Halmosné, 2008; Balogh et al., 2009).

The number of health care providers working in hospitals and in polyclinics has dropped by 10.4% during the period of 2003-2010 (Veres and Károlyi, 2011). There is a serious lack of personnel especially at the fields of intensive-care, surgical services, oncology and psychiatry, and the mean age of health care workers is ever increasing (Halmosné, 2008; Balogh, 2009).

In Hungary based on the Act CXXXII of 2006 (Act CXXXII of 2006) special institutions with national sphere of action and priority hospitals were assigned, in which the number of active beds were also defined. Numerous institutions were closed and reorganized, institutions and departments were contracted. These changes significantly altered the lives and work environment of the employees. The altered number of active hospital beds entailed transformations in several hospitals and inpatient care units. The number of active hospital beds decreased by almost thirty thousand between 1990 and 2008, while the number of chronic care beds increased by seven thousand (30%) between 2006 and 2007 (Vas et al. 2009).

The health care system in Hungary is still undergoing changes as it was during the last decade. These changes load mostly on people working day by day in the patient care. The ongoing changes made a new study necessary focusing on the work and everyday life of nurses, which was conducted by the means of a questionnaire applied first by Dr. József Betlehem in 2003. The present study also investigated the effects of uncertainty on the everyday life of nurses, which was caused by the changes of the health care system.

Alterations of the organization (e.g. integration) affect significantly the level of stress, psychic well-being, work performance and physical health of the employees (Idel et al., 2003; Brown et al., 2006; Betlehem et al., 2007; Karasek, 2008), furthermore they increase the work strain (Baumann et al., 2001) and impair the organizational communication; the latter leads to

lowered job satisfaction (Davidson et al., 1997) and worse attributed workplace atmosphere (Clark et al., 2000; 2001). Uncertainty and the possibility of losing the job (cut-backs) affect the well-being and health status of nurses (Karasek, 1989).

Many people might react with fear, anxiety, anger or depression to the organizational changes (Hendel, 1998; Palfi et al., 2008). Nurses who experience contractions at their institutions fear more the possibility of losing their jobs and have lower levels of job satisfaction than those who did not (Armstrong-Stassen et al., 1997). If the organizational changes lead to perceived limitation of promotional possibilities, low rate of free decision making and bad communication, these might contribute to the intent of leaving the profession (Davidson et al., 1997); and management changes increase the uncertainty of work (Smith-Blair et al., 1999).

AIMS AND HYPOTHESES

The aim of the study was to reproduce the examinations of Dr. József Betlehem conducted in 2003 in order to assess the changes in job satisfaction and health status of nurses since then, and to evaluate the alterations in the parameters of the Demand-Control-Support (D-C-S) model developed by Karasek (1979) and Johnson (1991). Furthermore we intended to investigate what kind of changes occurred at the workplaces of nurses following the reorganization of the health care system and how these changes affected their work, working environment, well-being and health conditions. The uncertainty caused by the changes at workplace had a key role in the study. Our aim was to underpin statistically that the uncertainty affects significantly the positive and negative well-being of nurses alongside with the factors of the D-C-S model.

Hypotheses:

1. Among nurses the level of well-being decreased compared to the previous study.
2. More nurses would be in the high strain group than in 2003 according to the alignment along the factors of the D-C-S model.
3. The reorganization of the health care system led to a feeling of uncertainty by nurses, which might affect the perceived well-being, most of all the negative well-being.

4. The health condition of nurses got worse, furthermore the level of well-being decreased among them compared to the first study.

MATERIALS AND METHODS

The relationship between well-being and work of nurses was investigated empirically through quantitative and qualitative methods.

For the quantitative part of the study the theoretical framework was provided by the D-C-S model developed by Karasek (1979) and Johnson (1991), and by the Affect Balance Scale regarding the well-being constructed by Badburn (1969). These models were applied earlier by Dr. József Betlehem in 2003 among Hungarian nurses, so the present study can be regarded as a follow-up study. As new factors the experiences connected to the changes of the health care system were included and we investigated how these affected the well-being and the working environment. The latter were studied by the means of self developed questionnaires.

The present study involved the same six hospitals (in Baja, Gyula, Kecskemét, Nyíregyháza, Székesfehérvár and Szombathely) which were examined during the survey of 2003. The questionnaires were dispensed and collected by the head nurses of the hospitals or by an assigned competent expert (a nurse with a college or university degree), who emphasized the anonym and voluntary nature of the participation. The study was conducted during the period between October and December 2010. In the hospital of Baja simple randomized sampling method was applied, while in the remaining hospitals systematic sampling method was used. Altogether 1587 questionnaires were handed out to female nurses working in inpatient care, from which 1048 (response rate: 66.03%) were included in the final analysis. For comparison with the study of 2003 nine-hundred and sixteen questionnaires were involved from the earlier database.

Statistical analyses were conducted through the statistical software package SPSS v18.0. Descriptive statistics were applied for the presentation of the sample and the scale items. The differences between the two samples were examined by the means of chi-square test and in the case of scales independent samples t-tests were calculated. Parts of the questionnaire regarding the reorganization of workplaces and uncertainty were analyzed through

independent samples t-tests. After creating the uncertainty factor with factor analytic methods the relationship of well-being and health condition was examined through Spearman's rank correlation. The significance value was set at five percent. The reliabilities of the subscales of the D-C-S and the well-being inventories were analyzed with Cronbach's alpha. A scale was considered as reliable when the Cronbach's alpha was above 0.6. The relationships between specific questions and subscales were characterized through Spearman's rank correlation.

The qualitative part of study was conducted through six in-depth interviews with the head nurses of the hospitals. The conversations were focused on changes in the everyday practices of the institutions between 2003 and 2010. The interviews were audio recorded in December 2010 and in January 2011 and were later simply evaluated based on the texts.

RESULTS

Comparison of the data from 2003 and 2010

The average age of nurses enrolled in the two studies increased from 35.19 to 38.47. The rate of nurses with high school degrees elevated significantly, while the rate of nurses with college degrees decreased compared to the first survey. The rate of employees working at chronic care departments increased. Fewer nurses worked in a three shift system (8 working hours per day) and more health care providers were employed in a two shift system (12 working hours per day) in 2010. A second job was needed based on financial reasons for 10.5% of the respondents, while this percent was only 9.1 in 2003.

The atmosphere at the workplace became less friendly in recent years. The co-workers helped less each other during work and co-workers did not meet as frequently after work as they did earlier. During the studied seven years the number of workdays and overtime per week decreased significantly, while the number of daily working hours increased.

During the first survey the respondents evaluated their promotional opportunities as better than in 2010, and indeed more employees were promoted. In 2010 there were more nurses who tried to change jobs during the previous 12 months. In the first survey the challenging work, helping people in need and good working relationships constituted to the reasons for being in the nursing profession, while on 2010 nurses felt that they have no other possibilities

for working and earning money to make a living. The respondents in the first study were significantly more satisfied with their work than the nurses involved in the second study.

The dimensions of the D-C-S model in the two samples

One aim of this study was to examine which factors of the D-C-S model changed during the time between the two surveys. On the three subscales of the work strain dimension six answers showed significant alterations. In the second study nurses perceived their salary to be less than other nurses' and their work to be less appreciated. In 2010 the nurses felt less that they accounted for their work without reasons, they perceived their health and safety to be less endangered by the work, they felt the treatment methods less uncertain and they experienced less dying and deaths compared to answers given in 2003. The first subscale of the Demand dimension did not differ significantly between the two surveys. Acknowledgement and appreciation were less common at the workplace in 2010 compared to 2003. Based on the third subscale the strain decreased significantly between 2003 and 2010. The strain dimension resulting from the sum of the three subscales did not differ significantly between the two studies.

Six questions from two subscales of the Control dimension showed significant differences when comparing the two studies. In 2010 the respondents were less able to work independently, they were less able to make decisions alone during their work, nurses could not choose their working methods, they were less able to influence which tasks they accomplish and their work pace and they were less allowed to plan their work. In conclusion, the second survey showed lower levels of control at workplace.

Four questions from two subscales of the Support dimension showed significant changes compared to the first study. In the second survey the nurses reported their co-workers to be more prepared, while co-workers played smaller roles in each other's lives and were less likely to stand out for the others. Nurses felt less well about them being a nurse than in the time of the first study. The perceived cohesion of the work teams decreased significantly, but the evaluation of the direct superior nurses did not change through the years.

Situation, feelings, health status

Regarding the dominating feelings of nurses it can be stated that concerns about the future, anxiety, exaltation and overdriven states were more pronounced. The respondents of the

second survey felt their lives to be more troubled than in the first study. In 2010 there were fewer nurses who did not suffer from any chronic illnesses. The increment in the number of people with allergies, migraine, gastrointestinal disorders and varicose veins was stunning. The rate of psychiatric disorders was also elevated compared to the previous study. In 2010 the respondents evaluated their own health as worse and the rate of people taking medicines regularly also increased from 23.9% to 35.5%.

The average number of days spent on sick-leave decreased from 5.1 days to 3.25. Many nurses did not take any single day as sick-leave and this number increased from 71% to 79.1% during the studied time interval. In the second study the frequency of headaches or migraines, sleep disturbances, backaches increased, and many of the nurses found it hard to begin something and felt exhausted from work.

Comparison of well-being and the factors influencing it

The well-being scale consists of a four-item positive and a three-item negative well-being subscale. Only two items of the positive well-being scale showed significant changes during the studied seven years. Significantly fewer responders characterized their general condition as extremely good in the preceding month or felt glad about accomplishing something compared to the first study. The scores of the positive well-being subscale decreased significantly, while the negative well-being subscale showed a non-significant elevation between the two surveys.

Concerning the effects of D-C-S model dimensions on positive and negative well-being it can be stated that greater demand correlated with significantly lower level of positive well-being and significantly higher level of negative well-being. Greater control (over working conditions) and support resulted in significantly higher level of positive well-being and significantly lower level of negative well-being.

In the job strain model created by Karasek the following changes occurred between the two studies: the number of nurses belonging to the active (high demand, high control), passive (low demand, low control) and to the high strain (high demand, low control) groups decreased, while significantly more nurses were in the low strain group (low demand, high control).

The average scores of the positive well-being scale were lower in the active, passive and high strain work groups compared to those in 2003, although these changes cannot be regarded as significant. Furthermore it is pointed out that the scores of the positive well-being scale were significantly lower in the high strain group than in the other three groups in both studies. The negative well-being scale did not differ when comparing the two surveys, while the average scores of this scale were significantly higher in the high strain group than in the low strain group in both time points.

Reorganization and experiences in the health care system in 2010

The new factor of the present study was the assessment of the effects of the health care system changes. The reorganization involved the workplaces of 64.6% of the responders; from them only 7.3% did not experience any negative effects or events at their workplaces. Negative events were defined based on the literature as factors that lead to job dissatisfaction. The most commonly reported from these were the following: tense atmosphere at the workplace, decreased salary, management changes, new tools and methods, fewer opportunities to attend vocational trainings and conferences, reassignment into another ward/department, more overtime, health problems caused by work strain and losing beloved co-workers.

Nurses experiencing negative events at their workplaces had been and still were more afraid of losing their jobs than those who did not experience such events. The formers had also more worries about losing their co-workers, being reassigned, lower salary and limited access to trainings; furthermore they reported more frequently problems with income, financial status, patient-nurse relations, mental condition and institutional communication.

When somebody was afraid of losing the current job earlier, then he/she was more afraid of it at the time of the survey, too. The most problems among nurses were caused by the fear of decreased salary and reassignment in recent years.

By nurses who were involved in the reorganization of the health care system the fear of losing co-workers, reassignment into another ward/department, decreasing salary and not attending trainings caused significantly greater problems than by those who did not experience these changes. They also reported worsened financial status, relations to superiors, mental health and institutional communication; furthermore they also envisioned a worse situation regarding mental health and institutional communication in the future more frequently.

Reorganization of the health care system and the correlations of well-being and work

The dimensions of well-being and the D-C-S model were also analyzed in the light of the reorganization of the health care system and it can be stated that only the demand dimension changed significantly, it is higher by those who experienced the effects of the reorganization. Because of the higher demand it is advisable to assess the resulting uncertainty, which might be significantly correlated with the well-being, demand, control and support.

The feeling of uncertainty was assessed by a six-question scale, which was divided into two subscales by the means of factor analysis. The first one is the uncertainty caused by limited promotional opportunities (or intrinsic uncertainty: limited promotional opportunities, not being able to attend trainings, not being able to get a higher level degree); the second one is the uncertainty caused by work environment (or extrinsic uncertainty: fear of losing co-workers, reassignment and decreased salary). The more negative events someone experienced during the reorganization of the health care system, the higher the levels of both intrinsic and extrinsic uncertainty were.

Regarding the relationship between uncertainty and the dimensions of the D-C-S model the followings can be stated: high demand significantly correlates with greater uncertainty and number of negative events, that is to say demand positively correlates with uncertainty. Higher control and support correlates with lower level of uncertainty caused by limited promotional opportunities and fewer experienced negative events.

Concerning the relationship of well-being and uncertainty it can be stated that higher level of negative well-being correlates with higher level of uncertainty, while higher level of positive well-being correlates with lower level of uncertainty. The more negative events were experienced by someone, the higher level of uncertainty and negative well-being could be assessed.

Positive and negative well-being were analyzed in connection with the D-C-S model and the relationship between uncertainty and well-being was also assessed. Positive well-being was affected significantly by all four variables (demand, control, support, uncertainty). Demand contributed to the explanatory power in the highest degree and uncertainty was the second most eminent factor in this model. So, it can be concluded that the level of uncertainty also significantly influences well-being; therefore uncertainty should also be present alongside with the dimensions of D-C-S model in the statistical model when studying well-being.

As last step the relationships of health status, well-being and dimensions of D-C-S model were analyzed on the basis of the results from both studies. In 2010 a weak significant correlation could be seen between the frequency of diseases and uncertainty, well-being and the dimensions of the D-C-S model, that is to say higher levels of uncertainty, demand and negative well-being correlated with worse evaluation of own health and higher occurrence of diseases, while higher levels of support, control and positive well-being were related to better evaluation of health status and fewer diseases. Contrarily in 2003 there was no significant correlation between the number of diseases and neither well-being nor the dimensions of the D-C-S model. The evaluation of health status was significantly correlated with well-being, demand and control. It can be concluded that nurses with higher levels of uncertainty reported significantly more diseases and evaluated their own health as worse.

The analysis of the interviews with the head nurses revealed that the number of nurses working at the hospitals meet the minimum requirements except for one hospital, although more nurses would be needed for the undisturbed patient care. Every year there are even less new employees, as even less nurses graduate per year. Staff discharges happened in four hospitals during the preceding year. Five hospitals were affected by reductions in numbers of beds and financial support. Extra allowances were also withdrawn; in consequence every employee got only the mandatory allowances. Overtime and second jobs are typical for all hospitals involved in the study. The employees have the opportunity for taking at least two weeks off continuously except for one hospital. Vocational trainings are supported in different ways and at different rates, although everyone was able to take part on trainings. Stress management and burnout trainings are available for the nurses in almost all hospitals.

CONCLUSIONS

There are ongoing changes in Hungary from the last decade on. There have not been any studies focusing on the effects of these alterations on nurses' job satisfaction, well-being and health condition; even the international literature lacks this kind of surveys.

It was again demonstrated that the population of nurses is getting older. The lack of nurses made it necessary to switch to twelve hours shifts, although the amount of monthly overtime dropped. The atmosphere of workplaces became less friendly. In the opinion of the nurses their profession is less appreciated by the society. There are more nurses planning on

changing workplaces and they are less satisfied with their jobs. Nowadays nurses are in this profession because of necessity and not to fulfil their desire to help other people, as they were a few years ago.

The present study investigated the changes in the dimensions of the D-C-S model developed by Karasek (1979) and Johnson (1991) comparing two studies conducted in 2003 and in 2010. Acknowledgement and appreciation decreased, so did the salary, appreciation of nurses' work and the level of psychological demand. Although the sum of the three subscales of demand did not differ significantly between the two surveys. In the second study the sense of autonomy was lower, that is to say the employees reported that they are less able to work independently and to make work related decisions. During work nurses are less able to choose their methods, tasks, pace of work and to plan processes. They perceive the working community as less cohesive. Based on the above mentioned data it is concluded that autonomy at workplace should be enhanced, as greater freedom and flexibility during work influences positively the job satisfaction and even the self rated health status (Pisljar et al., 2011), furthermore decreases work strain (Verschuren and Masselink, 1997; Chang et al., 2007).

The rate of nurses suffering from chronic diseases, allergies, migraine, gastrointestinal disorders and varicose veins increased further. It was pointed out that nurses do not seek professional help in case of illnesses, which is verified by the lower number of sick-leaves. Greater emphasis should be put on health improvement programs at every workplace, which should include elements of healthy diet, smoking cessation, right posture and patient lifting methods to prevent vertebral and arthritic disorders. Last but not least, mental health promotion should be of greater importance.

Increasing demand contributed to the diminished level of positive well-being. Support and control at workplace might increase positive and decrease negative well-being.

Regarding the four groups of work strain model by Karasek it can be concluded that the number of members in the passive (low demand, low control), active (high demand, high control) and high strain (high demand, low control) work groups elevated during the examined seven years, while the low strain (low demand, high control) work group has now more nurses in it.

Greater part of the nurses involved in this study experienced the reorganization of the health care system in some ways, which caused mostly negative changes affecting the work demand of nurses and all of these resulted in enhanced fear of losing their jobs.

As new factor the uncertainty caused by the reorganizations was included in the present study, which was examined through two scales (intrinsic uncertainty – limited promotional opportunities; extrinsic uncertainty – caused by working environment) consisting of three questions each. The answers could be given on a five-point Likert scale. More uncertainty correlated with higher work demand, more negative work related events, higher level of negative well-being, worse self rated health status and more frequent diseases. In order to reduce this uncertainty the level of control should be elevated at workplaces, so that nurses could influence their working conditions more; furthermore superiors should show more support and also aid attendance at vocational trainings and education more. Employees should be continuously informed about ongoing reorganizations, in order to avoid misunderstandings based on improper information.

It was confirmed through statistical analyses that it is advisable to include uncertainty along with the three dimensions of the D-C-S model when studying well-being.

As there are no data in the literature about uncertainty caused by the reorganization of the health care system, which was examined by the means of a self developed six-question inventory in the present study, further studies are needed regarding this subject. Not only should the health care system be studied further, but also other areas with ongoing organizational alterations should be examined. Special attention should be paid to assess nurses in training, as they are under great stress caused by the uncertainty of career starting and their future.

PUBLICATIONS

International original article

1. **Németh, A.**, Lampek, K., Domján, N., Betlehem, J. (2013): The well-being of Hungarian nurses in a changing health care system. *South Eastern Europe Health Sciences Journal*, 3 (1), 8-12.

Hungarian journal articles

1. **Németh, A.**, Irinyi, T. (2009): A survey into the well-being of healthcare workers in Csongrád county. *Nővér*, 22 (3), 33-38.
2. **Németh, A.**, Irinyi, T. (2009): Health conduct of health workers in Csongrád county. *Nővér*, 22 (4), 32-38.
3. Irinyi, T., **Németh, A.** (2010): The psychological consequences observed in nurses of the negative external influences on the health care system. Nowadays being a nurse is a straight road to psychic and physical burnout! *Nővér*, 23 (5), 23-31.
4. **Németh, A.**, Irinyi, T. (2011): A survey on burnout and on the following intervention. *IME* 10 (1), 25-28.
5. **Németh, A.**, Irinyi, T., Lampek, K. (2011): Evaluation of leisure time and its correlations with somatic and psychic problems. *Nővér*, 24 (2), 3-10.
6. **Németh, A.**, Irinyi, T. (2012): The intent to leave the profession among nurses in Csongrád county. *Nővér*, 25 (3), 19-26.
7. **Németh, A.**, Irinyi, T. (2012): Comparison of somatic and psychic health of health care workers in Csongrád county: 2008-2012. *Nővér*, 25 (4), 28-35.
8. Irinyi, T., **Németh, A.** (2012): The epidemic plague infecting the population of nurses is called burnout. *Nővér*, 25 (5), 12-18.
9. **Németh, A.** (2012): Factors influencing job satisfaction in health care. *Acta Sana*, 7 (2), 46-48.
10. **Németh, A.**, Lampek, K., Betlehem, J. (2012): Job satisfaction among nurses: 2003-2010. *Egészség-Akadémia*, 3 (4), 265-275.
11. Irinyi, T., **Németh, A.** (2013): Does the fear of losing their jobs play any role in the everyday lives of health care workers? *Nővér*, 26 (2), 27-33.

12. **Németh, A.** (2013): Factors influencing job satisfaction among health care workers. *Nóvér*, 26 (4), 27-31.

Oral presentations at international congresses

1. **Németh, A.**, Irinyi, T.: “Sick mind in a sick body?” II. International Congress of Psychiatric Nurses, 2012.10.18-20., Budapest, Hungary
2. Irinyi, T., **Németh, A.**: “Should I stay or should I go? Decision in the light of mental health.” II. International Congress of Psychiatric Nurses, 2012.10.18-20., Budapest, Hungary, best lecture award

Oral presentations at national congresses

1. **Németh, A.**, Irinyi, T.: “Who will take care about us, if we will be in need?” XL. Jubilee Congress for Health Care Workers, 2009.07.10., Veszprém
2. Irinyi, T., **Németh, A.**: “The effects of reorganization of the health care system on the mental health of health care workers” XL. Jubilee Congress for Health Care Workers, 2009.07.10., Veszprém
3. **Németh, A.**, Balogh, M., Tobak, O., Irinyi, T.: “Overview of the somatic condition of health care workers in Csongrád county” Scientific meeting – The Year of Creativity and Innovation – “Science and innovative environment”, 2009.11.11., Szeged
4. **Németh, A.**, Irinyi, T.: “Health conducts of nurses” XLI. National Congress of Health Care Workers, 2010.06.25., Kecskemét
5. Irinyi, T., **Németh, A.**: “A health survey, its conclusions and results” XLI. National Congress of Health Care Workers, 2010.06.25., Kecskemét
6. Irinyi, T., **Németh, A.**: “Helpers in need, or the characteristics of a disease decimating nurses” Meeting of the Working Committee for Nursing of the Medicine Section of the MTA SZAB, 2010.11.15., Szeged
7. **Németh, A.**, Irinyi, T.: “The effects of an intervention on burnout among nurses” Scientific Reading Session at the Celebration of Hungarian Science, SZTE-ETSZK, 2010.11.17., Szeged
8. **Németh, A.**, Irinyi, T.: “Leisure time for the sake of our health!” XLII. National Congress of Health Care Workers, 2011.05.26-27., Várgesztes

9. **Németh, A.**, Irinyi, T.: “The effects of an intervention on burnout among nurses” (repeated lecture) XVIII. Szent-Györgyi Days, 2011.11.16., Szeged
10. **Németh, A.**, Irinyi, T.: „The correlations of health condition and leisure time among nurses” Meeting of the Working Committee for Nursing of the Medicine Section of the MTA SZAB, 2011.11.28. Szeged
11. **Németh, A.**, Lampek, K., Betlehem, J.: “Fear as a new factor in nurses’ lives” XLIII. National Congress of Health Care Workers, 2012.08.23-25., Szolnok
12. **Németh, A.**, Irinyi, T.: “Should I stay or should I go? Assessment of the psychosomatic status of health care workers in Csongrád county” XLIII. National Congress of Health Care Workers, 2012.08.23-25., Szolnok
13. Irinyi, T., **Németh, A.**: “Should I stay or should I go? The mental health of health care workers in Csongrád county and its correlations with the intent to leave the profession” XLIII. National Congress of Health Care Workers, 2012.08.23-25., Szolnok
14. Irinyi, T., **Németh, A.**: “Changes of mental health in health care workers” XIV. Congress for Outpatient Care and IX. Congress for Outpatient Health Care Workers , 2012.09.13-15., Balatonfüred
15. **Németh, A.**, Irinyi, T.: “Intent to leave the profession among health care workers in Csongrád County” X. Meeting of Nurses with College or University Degrees, 2012.10.5-6., Szeged
16. **Németh, A.**: “The effects of fear on the well-being of nurses” Scientific Reading Session at the Celebration of Hungarian Science, SZTE-ETSZK, 2012.11.14., Szeged
17. **Németh, A.**: “Five years in the vocational trainings in Csongrád county” XLIV. National Congress of Health Care Workers, 2013.06.27-29., Eger
18. **Németh, A.**, Betlehem, J., Lampek, K.: “Changes – as nurses experienced them” XLIV. National Congress of Health Care Workers, 2013.06.27-29., Eger

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