

THE RELATION BETWEEN NURSES' SHIFT WORK AND THEIR RELATIONSHIPS WITH FAMILY AND FRIENDS

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Authors' contribution:

A. Study design/planning • B. Data collection/entry • C. Data analysis/statistics • D. Data interpretation • E. Preparation of manuscript • F. Literature analysis/search • G. Funds collection

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SUBMITTED: 19.01.2019

ACCEPTED: 18.02.2019

DOI: <https://doi.org/10.5114/ppiel.2019.84076>

ABSTRACT

Introduction: The shift work system is the main work mode in healthcare facilities.

Aim of the study: To determine the correlation between shift work and relations with family and friends.

Material and methods: The research was conducted among 300 female and male nurses of the Chopin Clinical Provincial Hospital No. 1 in Rzeszów. 164 sheets that were completed in accordance with the instructions were obtained. The research used the diagnostic survey method, which was carried out using a survey technique developed by the author, consisting of 13 questions. The survey questionnaire focused on learning the respondents' opinions on the consequences of shift work. Statistical programs were used for statistical calculations: SPSS 2.0, MS Excel, χ^2 distribution tables and Tau b Kendall statistical tests. The significance level of $p < 0.05$ was assumed for the dependence study.

Results: More respondents from the surgical ward than from the conservative ward believe that shift work affects the relationships with family/friends. There is a correlation between work experience and the subjective sensation of irritability after a night shift compared to other days: with increasing work experience the sense of irritability increases.

Conclusions: Shift work has negative consequences in the form of the impoverishment of personal life. That this may be affected by irritability and the difficulty of undertaking everyday household activities. The workplace of respondents is related to their relationship with family and friends. Underestimation of the nursing profession associated with modest salaries causes reluctance to maintain good relationships with family and friends.

Key words: family, shift work, nurses, friends.

INTRODUCTION

The shift work system is the main work mode in healthcare facilities. Usually this involves 12-hour shifts [1]. When discussing social problems that result from the nature of work, one should start with the smallest and the most basic social group, which is family. Literature on the subject states that currently there is a movement in the hierarchy of values from basic needs to individual needs related to achieving a good material status. This situation began and has been dynamically developing since the period of political transformation in Poland [2]. Further to the above, it should be mentioned that for most people, the greatest amount of time is consumed by work and family, which could indicate the risk of a conflict between these two areas [3]. Researchers call this state a conflict of roles. The undertaken professional work and the necessity of meeting work duties

makes it difficult or even impossible to meet family life requirements [4]. The problem concerns a very large group of nurses whose work mode results not only in somatic complaints caused by fatigue, desynchronisation of daily rhythms, stress, and hinders the fundamental need to fulfil roles and social functions outside the working environment [5].

The aim of the manuscript was to determine the correlation between shift work and relations with family and friends.

MATERIAL AND METHODS

Organisation and study group

The research was conducted among 300 female and male nurses of the Chopin Clinical Provincial Hospital No. 1 in Rzeszów from October 2017 to April 2018. Written approval of the facility's director was obtained. The research sample was selected based

on at least one factor common to the entire sample that was a representative of the general population (shift work). The research included nursing staff working in shifts of 12 hours. A total of 164 questionnaires, completed in accordance with instructions, were obtained. The majority of the respondents were women – 94.5%, men – 5.5%. 9.1% of nurses indicated one person living in the household. In the case of 13.4% of the respondents, two people lived in the household. Three persons living in the household were indicated by 24.4% of the respondents, and four persons by 31.1%. 22.0% of nurses stated that five or more people lived in their households. A village was indicated by 50.6% of people as their place of residence. 49.4% of the respondents lived in a city. Just over half of the respondents (55.5%) had work experience of up to five years, 6-10 years – 11.6% of respondents, and 11-15 years – 4.3% of respondents, 16-20 years – 9.8% of respondents, and more than 20 years – 18.9% of respondents. The majority of nurses (60.4%) stated that the period of current employment did not exceed five years, 6-10 years – 13.4% of respondents, and 11-15 years – 1.8% of respondents. For 8.5% of nurses, the period of current employment was 16-20 years, and 15.9% of the respondents worked for more than 20 years. Half of the nurses worked in a surgical ward. The other half were employed in the medical treatment ward.

The course of the research

The research used the diagnostic survey method, which was carried out using a survey technique developed by the author, consisting of 13 questions based on the literature on the subject. The survey questionnaire focused on learning the respondents' opinions on the consequences of shift work. The survey was not subject to a strict time criterion. Completing the questionnaire in accordance with the instructions and handing it over was tantamount to agreeing to use the collected empirical material for further procedures. The survey was carried out in one healthcare facility to avoid contrasts resulting from the organisational aspects of various facilities as much as possible because they could affect job satisfaction and translate into the provided answers.

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

Statistical analysis

Statistical programs were used for statistical calculations: SPSS 2.0, MS Excel, χ^2 distribution tables,

and Tau b Kendall statistical tests, using mathematical formulas characteristic of these tests. The significance level of $p < 0.05$ and the number of freedom depending on the number of categories of variables studied were assumed for the dependence study.

RESULTS

15.9% of the respondents did not rest after the night shift at work. 45.7% of people spent up to three hours sleeping after a night shift. A group of 26.2% of nurses devoted four hours to sleep. Few study groups spent 5 hours to sleep or 6-8 hours – 4.9%. Most of those who slept after the night shift slept before noon (82.6%). 17.4% of the respondents rested in the afternoon. 28.7% of nurses had considerably greater difficulty performing domestic duties after a night shift. These difficulties were also indicated by 51.8% of the respondents. For 12.8% of the respondents there was no difference if they worked the night shift when it was to perform domestic duties. Some respondents (5.5%) stated that they had no difficulty performing domestic duties after the night shift, and 1.2% definitely had no such problems. 4.3% had the same desire to meet friends/family after work at night as after work during the day or during time off work. 17.1% of the respondents also eagerly met friends/family, regardless of their work. For 20.7% of nurses, it was no different if they were after the night shift or not when it came to meeting friends/family. 39.0% of the respondents stated that they did not meet friends/family equally willingly after the night shift as they did after a day shift or on holidays. 18.9% of the respondents were definitely not inclined to attend such meetings after the night shift.

5.5% of nurses after the night shift were definitely interested in going out with family/friends to their favourite cultural event in the afternoon. This interest was also shown by 45.7% of the respondents. 16.5% of the respondents did not have an opinion on this matter. 28% of the respondents would have no interest in going out with friends in the afternoon after the night shift, and 4.3% of the nurses would definitely not be tempted to do so.

According to 16.5% of the nurses, shift work definitely reduces the contact with family and friends. Almost half of the respondents (47.0%) also indicated a decrease in these relations as a result of shift work. 17.1% of the respondents thought there was no difference in the effect of shift work on decreased contact with family and friends. According to 18.9% of the respondents, shift work does not weaken these relations, and one person, i.e. 0.6%, said that the shift work definitely had no impact on weakening the contact with family and friends.

The impact of shift work on making contact with household members more difficult was assessed on

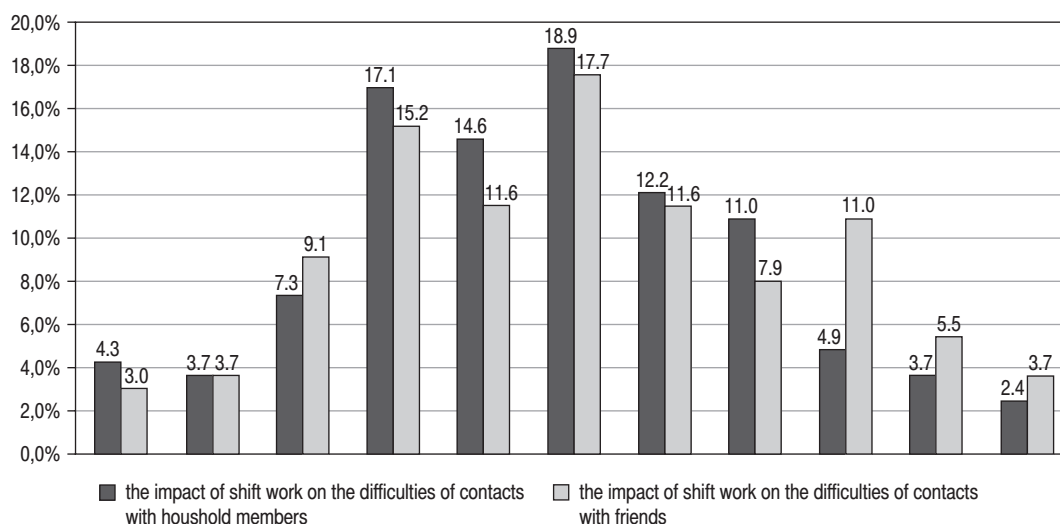


Figure 1. Impact of shift work on the difficulties of contacts with household members and with people outside of household

a scale of 0-10 points, in which 0 represented no relation. It was found that the effect of shift work on making contact with household members more difficult was assessed at 4.69 points (SD = 2.30). The results ranged from 0 points (4.3%) up to 10 points (2.4%). The respondents assessed the effect of shift work on making contact with household members more difficult at 3 to 5 points. The impact of shift work on making contact with non-household members more difficult was assessed on a scale of 0-10 points, in which 0 represented no relation. It was found that the average effect of shift work on making contact with non-household members more difficult was assessed at 5.01 points (SD = 2.48). The results ranged from 0 points (3.0%) up to 10 points (3.7%). Most often, the respondents rated this impact at 5 points (17.7%) or 3 points (15.2%) (Figure 1).

It should be noted that the respondents' workplace (surgical or medical treatment wards) influenced their opinion on the negative effects of shift work on contacts with family and friends. The analysis of the author's research showed that the weakening of contact with family and friends was more often indicated by respondents working in the medical treatment ward (56.1%) than by those working in the surgical ward (37.8%). More respondents from the surgical ward than from the conservative ward believed that shift work affects relationships with family/friends. Differences were statistically significant at the level of $p < 0.05$ (Table 1).

The main factor related to shift work that made social functioning the most difficult for nurses was the low level of earnings – a feeling of underestimation, i.e. 45.7%. In second place was the low number of employees on duty – overwork – 22.0%, and in third place – work under stress – 11.0%. To a lesser extent, the respondents pointed to working at night

Table 1. Assessment of the impact of shift work on reducing contact with family and friends and the workplace of respondents

Assessing the impact of shift work on reducing contact with family and friends	Workplace		Altogether	
	Surgical wards	Medical treatment wards		
Definitely yes	<i>n</i>	13	14	27
	%	15.9	17.1	16.5
Yes	<i>n</i>	31	46	77
	%	37.8	56.1	47.0
There is no difference	<i>n</i>	16	12	28
	%	19.5	14.6	17.1
No	<i>n</i>	22	9	31
	%	26.8	11.0	18.9
Definitely not	<i>n</i>	0	1	1
	%	0.0	1.2	0.6
Altogether	<i>n</i>	82	82	164
	%	100.0	100.0	100.0

$p = 0.0407$

N – number of respondents, % – the percentage of the respondent's group, *p* – statistical significance coefficient

– 7.3% and low prestige of the profession – 4.9% as the factors hindering social functioning. Few persons indicated insufficient ward equipment – 3.0%, rigid work formalism – lack of trust in colleagues or a sense of pressure from the authority – lack of freedom of decision-making – 2.4%, or lack of respect for competences by the interdisciplinary team – 1.2% (Table 2).

There was a relation between work experience and the subjective sensation of irritability after a night shift compared to other days. The opinion survey showed that with the extension of work experience the sense

of irritability increases – the correlation of irritation after a night shift in relation to work experience is indicated by Tau b Kendall = -0.23 and the negative indicator results from the design of the research tool to which the growing work experience category was attributed to subjective sensation of irritability but in reverse order (definitely yes – 1, definitely not – 5), and $p = 0.001$ indicates strong statistical significance (Table 3).

Table 2. Factors related to shift work, which make the social functioning of the respondents most difficult for the nurse

Factors related to shift work hindering the social functioning of the nurse to the greatest extent		Altogether
Low earnings – a feeling of underappreciation	<i>n</i>	75
	%	45.70
Small staffing on-call – reloading work	<i>n</i>	36
	%	22.00
Work under stress	<i>n</i>	18
	%	11.00
Lack of respect of competences by the interdisciplinary team	<i>n</i>	2
	%	1.20
Night work	<i>n</i>	12
	%	7.30
Rigid formalism at work – lack of trust in colleagues	<i>n</i>	4
	%	2.40
Insufficient branch equipment – difficult tasks	<i>n</i>	5
	%	3.00
A sense of pressure from the authority – lack of discretion	<i>n</i>	4
	%	2.40
Low prestige of profession	<i>n</i>	8
	%	4.90
Altogether	<i>n</i>	164
	%	100.00

N – number of respondents, % – the percentage of the respondents

DISCUSSION

By its very nature, shift work may cause interpersonal relations in micro and macro societies to become shallower to a certain range [6]. Night-time activity can cause tiredness during time usually spent meeting friends, taking care of the family, or undertaking leisure activities. A nurse working in a shift system begins to plan how to effectively relax after work and before it, when to devote a moment to sleep and how to reconcile it with everyday duties rather than how to organise time spent together with family or friends [7]. On the other hand, the representatives of this professional group can feel the pressure of huge responsibility. They control the time spent in a group of friends or family, often refusing to meet in the evening for a longer period. They motivate this behaviour with the strict discipline of being focused and rested the next day at work [8]. In the literature on the subject, this behaviour is described as a time-based conflict [9]. The research carried out by Lasota indicates that night shift workers most often complain about the disorganisation of family life (micro-society), and this applies especially to employees in the age of 31-40 years [10]. Translating this into years of work, one could assume that the data will be reflected in the range of years of work from 11-20 included in the author's research, assuming that those people started working immediately after graduating from vocational school. Analysing the results of the research, it can be seen that the group with between 11-20 years of employment declare the greatest difficulty in dealing with household members, being as much as 39%. Perek *et al.* say that 60.2% of the respondents consider shift work as a factor interfering with home functioning [11]. In the author's research, 7.3% of the respondents shared such an opinion. According to the respondents, the factor that hinders the social functioning to the greatest extent is low earnings, and this opinion accounted for 45.7% of all responses. These differences may result from a different construction of

Table 3. Correlation of work experience and the subjective sensation of irritability after a night shift

Tau b Kendall		Work experience	Do you feel more irritated after night duty than on other days?	
Correlation coefficient		1.00	-0.23	
<i>P</i>			0.001	
<i>N</i>		164.00	164.00	
Method bootstrap	Deviation	0.00	-0.003	
	Statistical error	0.00	0.07	
	Confidence interval 95%	Lower	1.00	-0.36
		Upper	1.00	-0.11

Tau b Kendall – type of statistical test, *p* – statistical significance coefficient, *N* – number of respondents, *Method bootstrap* – the method of multiple comparisons

the research tool and the possibility of choosing different answers that may influence the hierarchy of factors that disrupt personal life. However, it should be noted that the financial aspects are a very important determinant of working non-standard hours. Siemiginowska et al. stated that nurses voluntarily work during extended working hours that include night time due to the possibility of collecting additional financial means [12]. This can also be indirectly explained by the sense of appreciation and high-quality life satisfaction, although it is not an instrument that fully satisfies these needs [13]. Researchers of the subject of shift work agree that this mode of work negatively affects family life and can manifest itself with a sense of irritation and tension [14, 15]. What is more, the current scientific achievements show an increase in disturbances on the background of family life related to shift work to which irritability can be attributed, among others [16]. This research indicated that the sense of irritability after a night shift increased along with extended work experience.

CONCLUSIONS

Shift work has negative consequences in the form of the impoverishment of personal life. There is a reasonable suspicion that this may be affected by irritability, which increases with the length of years of work in the profession and the difficulty of undertaking everyday household activities.

The workplace of respondents is related to their relationship with family and friends. Medical staff working in medical treatment wards are more likely to complain about the shallowing of interpersonal contact than those employed in surgical wards.

Underestimation of the nursing profession associated with modest salaries causes reluctance to maintain good relationships with family and friends. Action should be taken to improve the financial situation of nursing staff.

Disclosure

The authors declare no conflict of interest.

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