

Shift work and health of nurses branch of anesthesiology and intensive care

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Summary

Admission: Shift work and the associated inversion biological rhythms leads over time to a number of changes in the functioning of the body. Some are compensation after a rest and do not constitute a direct threat to health, while others eventually lead to irreversible psychosomatic.

Objective of the work: Identify factors resulting from shift work and their impact on health, and psychosomatic individual spheres of nursing department of anaesthesiology and intensive therapy individual spheres of life.

Research methodology: The study was conducted in 60 nurses using a survey questionnaire containing sociodemographic data and issues covering the most troublesome factors in shift work, the negative impact on their mental and somatic sphere, used forms of relaxation and the impact on individual spheres of life. In order to determine the hierarchy of the factors affecting the individual spheres of applied five-scale assume "0" for no effect, "1" little effect "2" moderate effect, "3" high impact "4" a very large impact.

Results: The largest group (51.7%) were women between 31 and 40 years of age (Avg. 35.0 + - 3.7 years), married (76.9%), having children (72.3%). The largest (46.8%) group is working on his post for less than 10 years. For 72% of the most troublesome is night work, work days generally free from work (38%), differentiation of responsibilities per shift (32%). The most frequent symptoms of psychiatric is chronic fatigue (55%), irritability (40%), and somnolence (45%). Somatic reported 94%, these being mainly back pain and lower extremities, appetite disorders and gastrointestinal disorders. In the opinion of 67% of shift work greatly reduces the duties of parental partnerships (68%) and household chores (67%).

Conclusions: 1. Shift work in most subjects affects the health psychosomatic revealing back pain, lower limbs, gastric disorders and eating disorders, and chronic fatigue, irritability and sleepiness. 2. Shift work significantly reduces the execution of parental duties, partnerships and household activities. 3. psychiatric deficits are the least felt by women aged 41 - 50 years of working in shifts 16 - 20 years old and more, which may result from reductions in duties related to raising children. 4. Only 2% of the respondents used the active form of relaxation, and reaches 56% of the drugs.

Keywords: nursing, health, intensive care, shift work

Admission

Biological rhythms are cyclic changes of physiological and behavioral activity which play a very important role in maintaining the normal function of the whole body, and interference in their functioning can lead to a number of pathologies. The proper functioning of the biological clock depends on the information coming from the external environment. In humans, there are two basic biological rhythms, the circadian rhythm, which lasted 24 hours and seasonal rhythm, depending on the seasons. Circadian rhythm is regulated by the hormone - melatonin, which is produced mainly in the pineal gland, but also in the retina, the

gastrointestinal tract and bone marrow. In the human body melatonin synthesis it is greatest between 2 and 4 hours during the night, and the lowest during the day. [1]

Shift work and the associated inversion biological rhythms leads over time to a number of changes in the functioning of the body worker. Some are compensation after a rest and do not constitute a direct threat to health, while others eventually cause irreversible damage to health, which in turn leads to increased absenteeism, the risk of errors committed and misuse of equipment. Some observations point to the fact inferior to adapt to shift work people over the age of 40, and tolerance. Your night work increases stress and causes a faster bleating. The problem of sleep disorders in shift workers was included in the disease entity called Shift Work Sleep Disorder (SWSD), which is the manifestation of insomnia or excessive sleepiness [2].

The effects of shift work is considered the most in three categories: the effects of sociological, including family life, the use of forms of recreation and activity of non-professional, biological effects resulting from mental work performed in adverse phases of the circadian rhythm as nighttime artificial illumination and changes in dietary habits and health impacts manifesting a gastrointestinal diseases, cardiovascular diseases, sleep disorders, metabolic disorders, disorders neuropsychiatric and disorders of the immune system reduce the body's resistance to infections and increase the risk of breast cancer in women [3, 4].

Objective of the work

Due to the fact that it is particularly vulnerable to disorders resulting from shift work is a group of professional nurses have been taken in this paper an attempt to determine what factors related to shift work have the most negative impact on the health of psychosomatic and individual spheres of nursing department of anesthesiology and intensive care.

Research methodology

The study was conducted in 60 nurses branch of anesthesiology and intensive care. The study was voluntary and was done in accordance with accepted principles of ethics. Respondents were informed about the purpose of the study and observance of the right to confidentiality of data, and informed consent to participate in the study.

For attaining the purpose of the survey method was used with diagnostic questionnaire technique. The questionnaire consisted of two parts. In the first data included socio - demographic: age, sex, marital status, having children, education, motivation, choice of profession, seniority, place of residence (Access form) in the second and 6 questions covering the following issues:

1. the most troublesome factors associated with shift work
 - night work
 - work days generally free from work
 - differentiation of responsibilities attaching to change
 - length of duty
 - I do not see arduous work shift
2. adverse psychiatric symptoms associated with shift work
 - chronic fatigue
 - irritability
 - somnolence
 - insomnia
 - depressed mood
 - lack of symptoms
3. in the sphere of somatic disorders
 - spinal pain syndrome
 - pain in the lower limbs
 - gastric disorders
 - eating disorders
 - overweight
 - hypertension
 - lack disorders
4. used form of relaxation
 - participation in social activities
 - watching TV, internet
 - Amusements
 - nap
 - reading
 - cinema
 - listening to music
 - shopping in supermarkets
 - lack of time to relax
5. Drugs used to improve mood

- cigarettes
 - coffee
 - alcohol
 - sedatives and hypnotics
 - other
6. the impact of shift work on different spheres of life
- parental responsibility
 - partnerships
 - household chores
 - health care
 - social life
 - hobby
 - form a rest break

In order to determine the negative impact of shift work on different spheres of life scale used five-prioritization taking the "0" for no effect, "1" low impact, "2" moderate impact "3" big impact "4" a very big impact.

Results

Among the largest group of respondents (51.7%) were persons between 31 and 40 years of age (avg. 35.0 + -3.7 years). The largest was a group of women (86.6%), married (76.9%), with children (72.3%). The vast majority of respondents (86.5%) lived in a city where there was a place to work. Higher education nursing have 18.3% of a BA nursing 76.7% and the secondary medical device 5%. For 88.3% of respondents choosing profession motive was the desire to help another human being and fascination profession. For the remaining 16.7% choice of profession was a matter of chance. The largest (46.8%) was the group of respondents working on his post for less than 10 years.

72% of respondents taken the view that the most burdensome in shift work is night work. For 38% of the days of general holidays for 32% differentiation of responsibilities per shift. Positive factors for shift work 66% of respondents considered shift work for the preferred form of employment, because it allows to devote more time to family. It gives the opportunity to take an additional job (34%), reduces the cost of commuting (34%), allows for the possible replacement of duty (44%) and the avoidance of executives (34%). Negative and positive factors associated with shift work are presented in Table 1.

Table 1. Factors positive and negative shift work.

negative factors	[%] answers	Czynnik positive	[%] answers
Night work	72%	More free time for family	66%
Work on weekdays off work	38%	The possibility of taking extra work	34%
Differentiation of responsibilities attaching to change	32%	Lowering the cost of commuting	34%
Duration changes	18%	Avoiding executives	32%
I do not see arduous shift work	12%	Possibility of converting the duty	44%

Most respondents reported chronic fatigue (40%), irritability (36%), and somnolence (36%), whereby these symptoms occurred mainly in people with work experience of at 11- 15 years. Only 8% of respondents with varying degrees of seniority did not give any symptoms in the mental sphere. The test results are shown in Table. 2.1

Table 2.1. Mental disorders associated with the performance of shift work

Type of ailments	Seniority [years]					
	1-5	6-10	11-15	16-20	> 21	SUM
chronic fatigue	8%	12%	14%	6%	16%	55%
Irritability	8%	10%	14%	4%	4%	40%
Somnolence	10%	8%	10%	8%	9%	45%
Insomnia	-	14%	4%	2%	3%	23%
depressed mood	2%	4%	6%	2%	2%	16%
No symptoms	2%	2%	2%	2%	-	8%

Somatic 94% of the respondents reported, the majority were of two or more diseases. 94% of the surveyed complained of back pain, pain in the lower limbs (74%), gastrointestinal disorders (28%), anorexia (22%), menstrual disorders (12%) and hypertension 2%. Free from any somatic disorders was only 6% of respondents. The results are presented in Table. 2.2

Table 2.2 somatic complaints related to the execution of shift work

Type of ailments	Seniority					SUM
	1-5	6-10	11-15	16-20	> 21	
Spinal pain syndrome	12%	14%	12%	24%	32%	94%
Pain in the lower extremities	10%	12%	12%	17%	23%	74%
disorders gastyczne	2%	8%	8%	6%	4%	28%
eating disorders	4%	6%	2%	6%	4%	22%
Overweight	2%	4%	7%	2%	-	15%
Hypertension	-	-	-	-	2%	2%
No symptoms	2%	2%	2%	-	-	6%

In the opinion of 67% of shift work greatly hampers the implementation of parental responsibilities (67%), household activities (67%) and difficult partnerships (68%). These areas of life, respondents acknowledged the value of "3" and "4" in the hierarchy of importance. According to 59% limited attention to their own health and nutrition, which was awarded "2" and "3". According to 49% have a negative impact on social life, hobby and leisure projects. The results are presented in Table. 3. For 74% of resting form is the form of passive and active form (walking, sports) uses only 2% of the respondents, and reaches 56% of the drugs.

Table 3. The negative impact of shift work on different spheres of life

The selected area of life	Hierarchy of values according to the five-point scale					Together [%]
	"0" no effect	"1" little impact	"2" moderate impact	"3" big impact	"4" a very big impact	
parental responsibility	-	-	3%	25%	39%	67%
partnerships	3%	5%	8%	11%	41%	68%
household chores	7%	4%	2%	9%	45%	67%
Taking care of your own health	3%	5%	17%	19%	15%	59%
Nutritional health behaviors	3%	3%	7%	17%	21%	59%
Social life	11%	10%	7%	10%	11%	49%
Hobby	5%	5%	3%	18%	18%	49%
Rest	-	-	5%	17%	24%	46%

Discussion

Cyclical nature of the phenomena taking place in nature has a decisive impact on the lives of all organisms. She directs the period of plant growth, flowering and the withering away. Thanks to animals hibernate and wake up, and the birds move in search of a more favorable climate. Also, man is subject to biological cycles, but as the highest form of evolution has ability to adapt to changing conditions is what time of day or night, change the lighting, temperature, and time working, which should sleep. Unfortunately, despite held by human adaptability, sooner or later comes to him a biological rhythm disturbance [5].

Shift work and the associated inversion biological rhythms consequently leads to many changes in the functioning of the body. Some changes are compensation after proper rest, and disturbances subside after some time without posing a significant health hazard. Often, however, health problems persist, leading to irreversible mental changes in the form of insomnia, chronic fatigue and depression and for somatic changes in the form of cardiovascular diseases, disorders of gastric, pain syndrome of the spine and decrease the body's resistance to infections and increased risk of cancer [6, 7].

In this paper, so it was an attempt to assess the impact of shift work on health nurses psychosomatic department of anesthesiology and intensive care. Selecting the group under test was not accidental and was dictated by the specificity of a nurse anesthesia, the group burdened specific job responsibilities arising from the care of human life, interacting with people suffering and requiring special vigilance during surgery. Professional group working with patients being in critical condition, lying, totally unable to function independently, requiring special, full time care and monitoring. In such conditions, anesthetic nurses work is difficult and complex, requiring not only the long-term alertness and concentration.

Anesthetic nurses work takes place in a continuous rhythm, which results from the necessity of continuous presence of the sick, and the shortage of nursing staff in the field of medicine that makes it has no possibility of using the statutory meal break. As a result, workers eat meals at the time free of duties between successive nourishing and therapeutic activities, and this is mainly a cold meal or "hot cup", often eaten in a hurry and standing.

Statements of the respondents clearly pointed to the negative impact of work on health. Somatic disorders mainly related back pain, reported that 94% of surveyed, pain of lower limbs and gastric symptoms of eating disorders. Such as back pain and pain in the lower limbs they are without a doubt a consequence of overloading the physical, which applies to many professional groups, such gastrointestinal disorders and eating disorders are undoubtedly due

to the irregularity and inability meals by nurses at times it intended, which may cause disorders metabolic, including obesity and diabetes.

It could be speculated that the disorder psychogenic affects the respondents, mainly due to night work, as evidenced by the frequency indicated by the respondents symptoms as chronic fatigue, mainly in the form of dislike for active recreation, irritability, and dysfunction of the body associated with wakefulness and sleep as drowsiness and insomnia. In addition, the respondents have reported a feeling of neglect, mainly with the performance of duties related to the role of parent and partner. They suffer also limited participation in social life and lack of time for the implementation of interest [9].

Observed in this study deficits psychiatric formed in degree depending mainly on the age, sex and length of shift work, where they are least felt by women aged 41 - 50 years, working in shifts 16 - 20 years old and more. It can therefore be concluded that this group of nurses is less burdened with family responsibilities, which is probably due to the empowerment of children and to improve the financial situation allows for the use of various forms of relaxation.

Considering the strategy to prevent the negative effects of shift work, no, it can only burden the employer, because a significant role in the employees themselves. Disturbing are the results of this study, which allow you to claim that the respondents do not do anything to prevent the negative effects of shift work. This is evidenced by the fact that up to 74% of respondents as the only form of relaxation is considered a passive rest, and reaches 56% for this purpose after the stimulants. Active form of recreation like sports, cycling or long walks realizes only 2% of respondents. Given the small sample size, it seems appropriate to extend the research.

Conclusions

1. The vast majority pointed to the negative impact of shift work on health psychosomatic. Respondents indicated mainly back pain and lower extremities, gastrointestinal symptoms and eating disorders, and psychiatric symptoms of chronic fatigue, irritability and drowsiness.
2. Shift work is limited according to the respondents execution of tasks parental partnerships and household activities.
3. Deficits psychiatric shape depending on age, gender and seniority, which are the least felt by women aged 41 - 50 years of working in shifts 16 - 20 years old and more, which is probably due to a decrease in family responsibilities related to the emancipation of the children.

4. Presented form of relaxation is not conducive to prevent the harmful effects of shift work, since only 2% of the respondents used the active form of relaxation, and reaches 56% of the drugs.

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