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The Rotational Shift and its Impact of Menstrual Characteristics, On the Quality of Life and Myofascial Pain of Nurses in Navsari, India.

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Abstract- Menstruation is the regular intrauterine bleeding of female after puberty. There are various physical and mental paining by menstruation is called dysmenorrhea. Few studies on dysmenorrhea occurs due to rotational shift various changes in menstrual characteristics, changes in quality of life of nurses and myofascial pain occur in female nurses. **Aim of the study:** The study aims to assess the impact of rotational shift work patterns (rotational shifts) on dysmenorrhea in females nurses aged 18-40 to examine the dysmenorrhea and musculoskeletal pain, occurrence of MTrPs and menstrual characteristics among nurses in India. **Study design:** A research on comparative study of two groups that were selected as one group ofnurses from college (day shift working nurses) and other group of nurses from hospital (rotationalworking nurses) **Methodology:** The **comparative** study of rotational shift works pattern impact upon menstrual characteristics on quality of life and myofascial pain occurs in nurse at Navsari area. It is questionnaire used for assessment. There is NPRS for pain and QOL scale taken for difficulty in activity of living**. Result:** There is QOL score has no significant differences found in both day and night shift working nurses. There is no significant differences found in NPRS of MPTS of quadratuslumborum, rectus abdominis and paraspinal muscle but, gluteus medius muscle has showed the significant in female nurses who working day shift than night shift. **Conclusion:** In present study is shows no changes in QOL of both shift working nurses and somechanges in NPRS scale in both groups. There is no significant differences found in QOL both groups in day or night shift works nurses but, there is significant differences showed in NPRS of MTrPs of gluteus medius muscle.

Key words: Dysmenorrhea, Young female nurses, Night and day shift works pattern, menstrual characteristics, quality of life and musculoskeletal pain.

Introduction

After puberty, menstruation is the normal intrauterine bleeding of females. Dysmenorrheais a term used to describe numerous physical and emotional pains caused by menstruation[(1)]. Dysmenorrhea also described as discomfort and tenderness in the lower abdomen or lower back. It deviates in two forms the Primary dysmenorrhea is experiencing pain before or after menstruation, uncontrolled with other disorders and most frequent gynecological symptoms among young people[(2)]. Secondary dysmenorrhea is the pain after menstruation, caused bydysfunction in the reproductive organs of women such as endometriosis, uterine fibroids, adenomyosis[(3)].

Dysmenorrhea is associated with Premenstrual symptoms (PMS). PMS are divided between physical and psychological symptoms. Physical symptoms included nausea, muscle cramps, dizziness, fatigue, stomach pain, and breast pain. Psychological symptoms included anxiety, irritability and mental dysfunction[4].The pain may begin before or after the start of menstrual bleeding, and it normally lasts several hours to two days[5]. It is difficult to find and at times, to explain. The exact cause of dysmenorrhea not known but some studies says that symptoms to prostaglandins activity in the uterus specifically PGF2 ALPHA[6]. Overproduction of vasopressin, a hormone that stimulates muscle contraction, has been identified as a contributing factor to primary dysmenorrhea[7].

Dysmenorrhea is caused by an abnormal alignment of the pelvis, lumbar vertebrae, and a spasm of the abdominal muscles, which influences the orientationof the uterus and thereby increases the likelihood of dysmenorrhea. The location of the lumbar vertebrae can also affect the blood flow to the uterus, causing vasoconstriction and discomfort. Another theory is that the musculoskeletal system is influenced by hormonal factors during the menstrual cycle and may project discomfort[8]. It can also be felt in the surrounding organs' bones,muscles, and skin. According to previous research that examined the relationship between menstrual pain and musculoskeletal pain, people who have menstrual pain that is greater than 3 onthe visual analog scale have more musculoskeletal pain. In certain cases, pain symptoms during menstruation are essentially the same as musculoskeletal pain complaints [9].

The World Health Organization describes health as the absence of illness and infirmity, aswell as the presence of physical, emotional, and social well-being. QOL is classified based on human perception, experience, belief,
and desires. Dysmenorrhea affects women's ability to carryout daily activities, so dysmenorrhea affects QOL more than half of girls have low QOL[4].Prevalence of primary dysmenorrhea:The recent study presents a high prevalence of dysmenorrhea (72.7%) among young female. Similarity the study conducted in Turkey present that prevalence of dysmenorrhea amongthe similar age group of women range between 23.4% and 89.5%.In line with the study by Burnettet al, two-third of women about (66.2%)describe their dysmenorrhea is very severe and moderate.This shows that dysmenorrhea is still important female health problem. These female students in rural areas experience very severe and moderate dysmenorrhea, which may have a negative effect on social environment, work and psychological, personal status.

Many studies indicated that the prevalence of dysmenorrhea decrease with increasing age. That shows primary dysmenorrhea peaks in adolescence and the early 20 and decreased with increasing age.Epidemiological studies have shown a relation between dysmenorrhea and several environmental risk factors, including current cigarette smoking and alcohol. Some study have reported that daughter of mothers who have menstrual complains also experience menstrual pain and that the reason for this could be related with behavior that is learned from mother. In other hand, it is considered dysmenorrhea decreasing with increasing age.

Clinical features:Pain in lower abdomen, lower back pain, head, neck, pelvis, hands, elbow, knees and thighs[10],It associated with headache, fatigue, Nausea, vomiting, breast tenderness, anal swelling,diarrhea, generalized pain[10],Mood swings like anger, depression, nervousness [3]Night shift nurses have grown exponentially around the world over the last decades and nurses work long-hour night shifts because they suffer from excessive workloads, tension,insufficient social support, poor quality of life. The night shift creates a disparity between ideal lifestyle and work; women play an important role in household life and sacrifice sleep to performdomestic tasks such as child care and family chores[11]. About one-third of the nursing workforcecould be employed as shift workers[12]. General health conditions of nursing staff members shift work causes changes in the physical and psychological health of nursing professionals, whether they work day or night shifts. As a result, shift work is attributed to both acute and chronic medicalissues[13].Shift work can impair the circadian clock, which is an important regulatory component ofthe reproductive system. Circadian rhythms are endogenous biochemical rhythms that have cyclesthat are close to 24 hours. Circadian patterns of clock gene expression have been observed at the tissue and cellular levels in the majority of endocrine tissue, including the hypothalamus, pituitary,adrenal gland, thyroid gland, adipocytes, pancreas gonads, and adipocytes[14].

Night shift has a negative effect on the daily cycle time, and the decrease in cycle length does not revert to its initiallength following two years of shift service. Circadian rhythms, whether disrupted by sleep disturbances or altered melatonin production, may play a role in regulating the reproductive hormones that control the menstrual cycle[9]. Circadian rhythm disturbance in shift workers may impact follicular growth and hormone release, causing the luteal phase to be disrupted and so affecting menstrual cycles[15]. The uterus contracts during menstrual bleeding in order to remove the waste that accumulates during the menstrual period. Hormones cause uterine contractions to begin, as well as vasoconstriction of blood vessels in the pelvic floor and a mitochondrial deficiency of muscle, which may contribute to the production of myofascial discomfort[16].Prostaglandins antagonists, NSAIDS, and hormonal drugs such as contraceptive are used to relieve menstrual discomfort. Females do not use this pharmacological medication because of its side effects; instead, they use physical therapy[17]. Non-pharmacological therapy options includephysical therapy, yoga, heating pads, massage, taping, aerobics, and other exercises like Swiss ballmovements are used to help relieve discomfort and inflammation[1].

It was hypothesized that cardiovascular exercise and stretching may help with dysmenorrhea symptoms. During themenstrual periods, the therapy group that did physical exercises and stretches had slightly fewer dysmenorrhea and body pain than the control group that did not do the aerobics and stretches. When reflexology therapy was compared to connective tissue stimulation (relaxed muscle contraction, increased blood flow, and a healthy autonomic system), there was little distinction inthe prevention of dysmenorrhea between the two therapies[18]. Dry needling of abdominal muscleseffectively reduces symptoms distinction in the prevention of dysmenorrhea between the two therapies. Dry needling of abdominal muscles effectively reduces symptoms[5]. The Aim Of The Study:The study aims to assess the impact of night shift work patterns (rotational shifts) on dysmenorrheain females' nurses aged 18-40 years to examine the dysmenorrhea and musculoskeletal pain, occurrence of MTrPs and menstrual characteristics among nurses in India. Significance Of The Study:The dysmenorrhea occurs with nausea, vomiting, headache, fatigues, diarrhea, nervousness, physical symptoms like abdominal cramp, back pain, breast pain, calf pain, emotional instability. The significance of this study to check the rotational shift and its impact on menstrual characteristicmusculoskeletal pain and myofascial pain and quality of life in female nurses.

Methodology: Study Design: The research design used for present study was questionnaire comparative between two groups. One group is nursing female students' day shifts works and second group is nursingfemale staff they works night shifts in India. **Study Population**: Female nurses (Night and day shift works). **Sampling Technique**: Convenient Sampling Sample The sample size is calculated on G* power software analysis. These criteria led to an estimated sample size of 50 female nurses who works during night shift in group one and50 female nurses who works during day shift in other group so total 100 female nurses were included in this study. **Study Duration**: 6 month. **Source Of Data Collection**: S.S. Agrawal College of Nursing, Navsari, Ramaben hospital, Navsari, Anand hospital, Navsari, Shradha hospital, Navsari**. Inclusion Criteria**: The female nurses' students age 18-40 years works in hospital in different shifts like dayor night shifts, Willingness to participate, Non-athletes. **Exclusion Criteria**: Female nurses >40 age, Pregnant or breastfeeding nurses, Using a contraceptive, Undergoing fertility treatment, Also nurses who reported a diagnosis of menstrual dysfunction (polycystic ovarian diseaseendometriosis, hyperprolactinemia, thyroid disorders),Fibromyalgia, Rheumatoid disease,Fracture or surgeries in pelvic or hip region. **Tools And Materials**: Pen, Pencil,Eraser,Notebook,Informed consent form, Data recording sheet, Questionnaire paper,NPRS Scale,QUALITY OF LIFE Scale

Procedure Of The Study: A total 100 subjects were selected from different nursing colleges and hospitals in India. All explanations was given to participate for collections of data according to the inclusion and exclusion criteria. The consent form was signed by all subjects. The demographic data and other details of subjects was also collected.

Subjects was divided into two groups:
Group: 1: Nurses working for day shif
Group: 2: Nurses working for night shift
The questionnaire was taken by the therapist on two groups, one group of 50 nurses who were working in day shift, and other 50 nurses in night shift. The participants were received informationregarding this questionnaire

as well as about procedure of testing by filling an informed consent form.

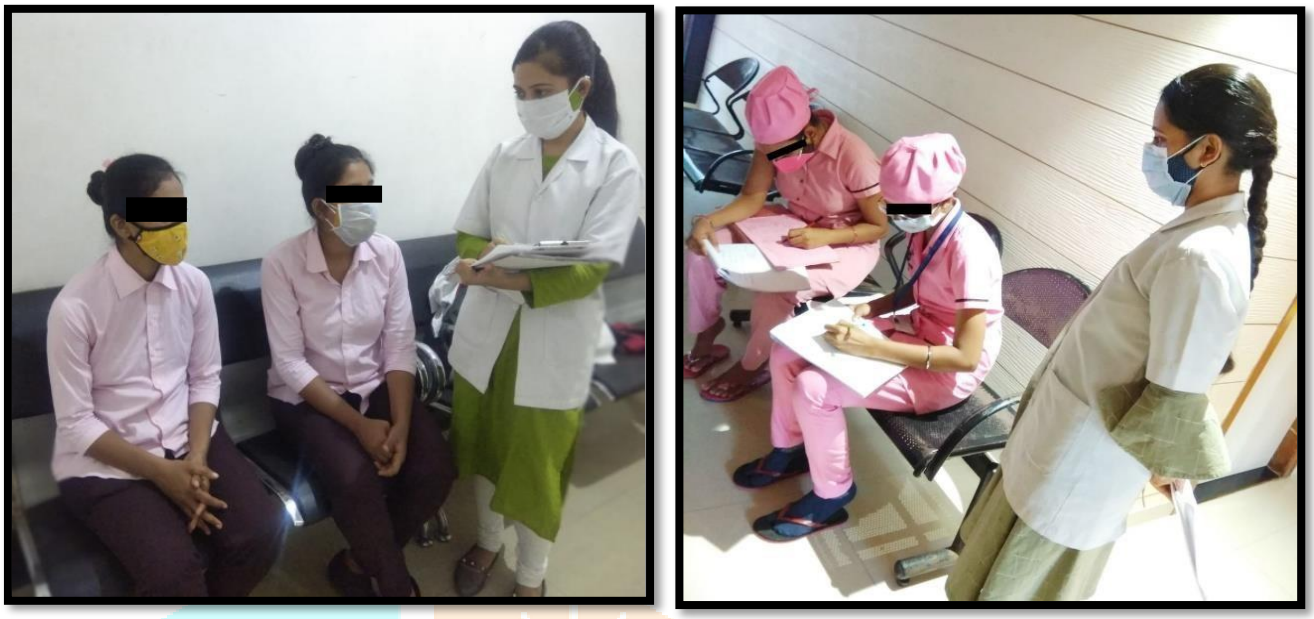

Figure 1. Questionnaire

Results

The statistical analysis for the present study was done for group A based on data taken byhelp of questionnaire for females who working in hospitals during day shift. The group B, also data taken by the questionnaire for females who working in hospitals during night shift. Normalityof data was checked. The outcome measures were measured. Descriptive statistics including meanand standard deviation were analyzed between groups differences were compared. Statically significance was set at $p<0.005$ for all statistical analyses and confidence interval was set at 95%.all the data analysis was done in IBM SPSS version 20.0.

TABLE 1. Socio-Demographic Characteristics of the Studied InNurses N=100`

AGE(Years):	**NO**	**%**
18<25	69	69.0
25<30	31	31.0
30<35	0	0
35<40	0	0
BMI(kg/m2):		
Underweight(<18)	6	6.0
Normal(18<25)	67	67.0
Overweight(25<30)	23	23.0
Obese(>30)	4	4.0
MARITAL STATUS:		
Unmarried	75	75.0
Married	25	25.0
Divorced	0	0
Widowed	0	0
NO OF CHILDRENS:		
No child	91	91.0
1 or 2	8	8.0
3 or 4	1	1.0
5 or 6	0	0.0
LEVEL OF EDUCATION:		
Secondary	3	3.0
Institute study	96	96.0
Faculty of nursing	1	1.0
YEARS OF EXPERIENCE		
<5	97	97.0
5<10	3	3.0
10<15	0	0
>15	0	0

Table 1 shows the demographic data of total 100 female nurses.

Table 2. Menstrual History Among the sttudied Nurses N=100

MENSTRUL HISTORY	(n=100)NO	%
AGE OF MENARCHE:		
9<11	1	1.0
11<13	30	30.0
13<15	66	66.0
>15	3	3.0
DURATION OF MENSES:		
1-5	93	93.0
6-10	7	7.0
11-15	0	0
THE PATTERN OF THE MENSTRUAL CYCLE:		
Regular	75	75.0
Irregular	15	15.0
MENSTRUAL CYCLE LENGTH:		
<15Days	3	3.0
15<20	41	41.00
20<30	40	40.0
30<35	15	15.0
>35	1	1.0
NO OF PADS USED DURING MENSES:		
<5	58	58.0
5-10	42	42.0
10-15	0	0
DYSMENORRHEA:		
No pain	7	7.0
Yes	18	18.0
Mild	23	23.0
Moderate	24	24.0
Severe	18	18.0
Very severe	10	10.0
SUFFER FROM INTER MENSTRUAL BLEEDING:		
Yes	7	7.0
No	93	93.0

Table 2 shows the menstrual history of total 100 female nurses.

Table 3. Biosocial Characteristics among day Shift and rotational Shift Groups (N=100):

BIOSOCIAL CHARACTERISTICS	Day shift (n=50)	%	Night shift(n=50)	%	SIGNIFICANCE:
AGE(Years):					t value=0p value=1
18<25	50	100.0	19	38.0	
25<30	0	0	31	62.0	
30<35	0	0	0	0	
35<40	0	0	0	0	
Mean±SD	12.5±25		25±8.48		
BMI:					t value=0.25982p value=0.80368
Underweight	3	3.0	3	6.0	
Normal	38	76.0	19	38.0	
Overweight	7	14.0	16	32.0	
Obese	2	4.0	2	4.0	
Mean±SD	12.5±17.13		10±8.75		
LEVEL OF EDUCATIONAL:					t value=0p value=1
Secondary	0	0	3	6.0	
Institution study	50	100.0	46	92.0	
Faculty	0	0	1	2.0	
Mean±SD	16.66±28.8		16.66±25.42		
MARITALSTATUS					t value=0p value=1
Unmarried	48	96.0	27	54.0	
Married	2	4.0	23	46.0	
Widow	0	0	0	0.0	
Divorced	0	0	0	0.0	
Mean±SD	12.5±23.68		12.5±14.52		
NO OF CHILD:					p value=1 t value=0 t value=0 p value=1
No child	50	100.0	41	82.0	
1-2	0	0	8	16.0	
3-4	0	0	1	2.0	
5-6	0	0	0	0	
Mean±SD	12.5±25		12.5±25		
YEARS OF EXPERIENCE:					t value=0p value=1
1>5	50	100.0	47	94.0	
5>10	0	0	3	6.0	

10>15	0	0	0	0	
>15	0	0	0	0	
Mean±SD	12.5±25		12.5±23.04		

Table 3 shows the distribution of day and night shift groups in relation to their bio social characteristics (demographic data) like age, level of education, BMI etc. There is no significance differences in both groups in age, level of education, years of experience, no of child etc. But, thereis significant changes occurs in BMI. The female who working in night shift they are more no of overweight compared to day shift females. There was p value 0.80368

Table 4. Distribution Of Day And Rotational Shift GroupsIn Relation To Their Menstrual Characteristics

MENSTRUAL HISTORY:	**Day shift (n=50)**	**%**	**Night shift(n=50)**	**%**	**T value**	**P value**
Duration of menses:						
1-5	44	88.0	48	96.0		
6-10	6	12.0	2	4.0	0	1.0
11-15	0	0	0	0		
Mean±SD	16.66±23.86		16.66±27.15			
The pattern of menstrual cycle:						
Regular	44	88.0	41	82.0	0	1.0
Irregular	6	12.0	9	18.0		
Mean±SD	25±26.87		25±22.62			
Menstrual cycle length:						
<15	1	2.0	2	4.0		
15-28	26	52.0	15	30.0	0	1.0
28-30	17	34.0	23	46.0		
30-35	5	10.0	10	20.0		
>35	1	2.0	0	0		
Mean±SD	10±11.09		10±9.46			
No of pads using during menses:						
<5	20	40.0	19	38.0		
5-10	25	50.0	23	46.0	0	1.0
10-15	5	10.0	8	16.0		
Mean±SD	16.66±10.40		16.66±7.76			

Saturation of pad at the heaviest day:						
Full pad	43	86.0	40	80.0		
Half pad	6	12.0	5	10.0	0	1.0
A quarter of a pad	1	2.0	5	10.0		
Mean±SD	16.66±22.94		16.66±20.20			
Dysmenorrhea:						
No pain	4	8.0	3	6.0		
Yes	7	14.0	11	22.3		
Mild	10	20.0	13	26.0	0.14	0.88
Moderate	11	22.0	13	26.0		
Severe	11	22.0	7	14.0		
Very severe	8	16.0	2	4.0		
Mean±SD	8.5±2.73		8.16±4.91			
Inter-menstrual bleeding:						
Yes	5	10.0	2	4.0	0	1.0
No	45	90.0	48	69.0		
Mean±SD	25±28.28		25±32.52			

Table 4 shows there is no significance difference in both groups of menstrual history except the dysmenorrhea pain during rotational shifting. The p value is 0.08.

Table 5. Distribution Of Day Shift And Rotational ShiftGroups In Relation To Their Habits (n=100)

PERSONAL HABITS	**Day shift (n=50)**	**%**	**Night shift(n=50)**	**%**	**SIGNIFICANCE**
Smoking:Yes **No**	0 50	0 100.0	0 50	0 100.0	t value= -0.14664p value=0.982586
Drink tea: **Yes** **No**	32 17	64.0 34.0	43 8	86.0 16.0	
Drink coffee: **Yes** **No**	14 36	28.0 72.0	4 46	8.0 92.0	

Used other CNS stimulation: **Yes** **No**	0 0	0 0	0 0	0 0	t value= -0.14664 p value=0.982586
Use of hypnotics: **Yes** **No**	0 0	0 0	0 0	0 0	
Mean±SD	14.9±18.51		16.77±22.39		

Table 5 shows the relationship of habits and menstruation between two groups. There are varioushabits changes in menstruation it depends on the quantity and numbers of it like, one cup, two cupof tea. The p value is 0.98

TABLE 6. The Distribution Of Symptoms DuringMenstruation

SYMPTOMS	Day shift (n=50)	%	Night shift (n=50)	%	Significance
Pain in abdominal	40	80.0	48	48.0	t value=14.664p value=0.8844
Low backpain	41	82.0	49	49.0	
General pain	41	82.0	43	43.0	
Headache	9	18.0	5	10.0	
Nausea	10	20.0	10	20.0	
Vomiting	5	10.0	8	16.0	
Tiredness	41	82.0	43	86.0	
Diarrhea	5	10.0	4	8.0	
Breast pain	1	2.0	0	0	
Acne	4	8.0	4	8.0	
Swelling	5	10.0	2	4.0	
Mood changes	40	80.0	30	60.0	t value=14.664 p value=0.8844
Anger	17	34.0	28	56.0	
Insomnia	8	16.0	12	24.0	
Loss of appetite	15	30.0	10	20.0	
Mean±SD	18.8±15.90		19.73±17.72		

Table 6 shows there are many different symptoms occur during menstruation.it table shows the distribution different symptoms in both groups.

Table 7. Distribution Of Day And Rotational Shift In Relation With No Of Musculoskeletal Trigger PointsAnd Nprs Score:

NPRS of MTPS	DAY SHIFT (n=50)	%	NIGHT SHIFT (n=50)	%	t value	p value
Gluteus medius	16	32.0	28	56.0	-2.2808	0.24726
Mean±SD	1.14±1.97		2.18±2.54			
Quadratus lumborum	26	52.0	40	80.0	-1.82385	0.71222
Mean±SD	1.74±2.07		2.52±2.19			
Rectus abdominis	36	72.0	37	74.0	-0.93364	0.3527
Mean±SD	2.78±2.43		3.28±2.9			
Paraspinal	42	84.0	44	88.0	-0.96518	0.3368
Mean±SD	3.38±2.45		3.82±2.08			

Table 7 shows the Distribution of day and rotational shift in relation with no of musculoskeletal trigger points and NPRS score. There is no significant differences between two group is p<0.005 in both groups rectus abdominis, paraspinal muscle and quadratus lumborum. But there is shows significant difference in gluteus medius muscle. It more pain history due to long time standing inOT or more emergency cases or more workloads during day shifting compared to night shift.

Table 8. Distribution of day and rotational shift in relation with Quality of life.

		Day Shift (N=50)	NightShift (N=50)	Significance
QOL	Mean±SD	21.5±1.8323	21±1.9898	T Value=1.3071 P Value = 0.19423

Table 8 shows there is no significance difference between quality of life of female nurses in bothgroups as day and night shift. The p value of it 0.19 that is <0.05.

Discussion: The purpose of the study was rotational shift and its impact upon quality of life of nurses,menstrual characteristics and myofascial pain of nurses in Navsari, India. In this study 100 participates selected. Group A were 50 female nurses students who working in day shift in collegeother Group B were 50 female nurses who working in night shift in hospital. The Quality of life of and NPRS were measured both groups.

For group A the quality of life score were measured there is no significant differences showed in p value <0.005 in working nurses during day shift but NPRS significant changes showedin them. These muscles were rectus abdominis, quadratus lumborum and paraspinal muscle. The only gluteus medius muscle showed the significant changes. It is due long duration of standing activity during day shift or more workload during day shift. It may be cause of more OT in wards.Group B has quality of life score were measured there is no significant differences showed in p value <0.005 in working nurses during day shift. Also the NPRS no significant changes showed in p value<0.005 in working nurses during night shifts. These includes muscles are rectusabdominis, quadratus lumborum, gluteus medius and paraspinal muscle.

Maan Hameed Ibrahim Al-almeri et al conducted a study on Night Shift and its Impact upon the Quality of Life of Nurses Working at the Teaching Hospitals of the Medical City Complex in Baghdad City, Iraq. There are 70 female nurses was selected. The questionnaire purpose study. The concluded that there is highly significance relation with QOL, age and gender.The more than half nurses had very weak and weak quality of life. The present study showed no significance different between QOL of nurses due to night shift.

Mirfat Mohamed Labib Elkashif et al conducted study on Shift Work Pattern and MenstrualCharacteristics among Nurses in Egypt. The study sample was 100 (100 out of 678) active femalenurse staff. The present study showed that there were statistically significant differences in educational attainment, work duration and drinking tea habit among nurses in rotating shifts compared to day shift one. Heavy menstrual bleeding and severe dysmenorrhea were significantlyhigher among rotating shifts group nurses. Also, inter-menstrual bleeding and short cycle length were higher among nurses in rotating shifts group but not a significant difference. Also, Irregular menstrual cycle and very severe dysmenorrhea were significantly higher among nurses with more than 12-night shifts rotation at the last twelve months of work. For short menstrual and prolongedmenstrual cycle, numbers of pads used, heavy menstrual bleeding, and inter-menstrual bleeding were higher among nurses with more than 12-night shifts rotation at the last 12 months of work but not reach the significant Conclusion that rotating shifts work has a negative impact on the menstrual cycle and menstrual disturbances. Nurses working in rotating shifts had a significant heavy menstrual bleeding and severe dysmenorrhea. In present study not support this literature aspresence study like cycle length, heavy bleeding and number of pads used etc. But, it also supportthe literature as presence study shows the rotational shift impact on menstrual characteristics likedysmenorrhea pain different habits etc.

Moen et al conducted study on menstrual characteristics and night shift work among nurses, IND health. The sample was 766 nurses. 15%reported to irregular menstruations. 39% ofthe nurses were classified as having shift work disorders. D. Logistic analyses shows the relationship between irregular menstruations and night work did not show any associations. No associations were found between cycle length or bleeding period and night work parameters, menstrual characteristics.

This present study is support this literature. That shows 15% of irregularcycle in nurses. In this present study no supported to this literature. There is no significance difference between both group in menstrual cycle length and irregular bleeding.

Attarchi et al conducted study on characteristics of menstrual cycle in shift workers. Thereis 406 sample was selected. They showed heavy amount of menstrual bleeding was observed in rotational shift group as full pads saturation. It shows significantly higher among rotational shift than day workers.in our present study shows no significance differences in both groups. The 86%day shift and 80% night shift nurses used half pads and 12% used full pads during day shift and night shift nurses were 10% used full pads.

Jang Won lee et al conducted a study on Relation of the factor to menstrual pain and musculoskeletal pain. The concluded that there are significant differences between the two groupsin pain level, activity, and mood during menstruation periods (P< 0.05). The area of musculoskeletal pain and menstrual pain were found to be the same. The present study was nurses who were working during day shift the quality of life score were measured there is no significant differences showed in p value <0.005 in working nurses during day shift. But NPRS significant changes showed in them. These muscles were rectus abdominis, quadratus lumborum and paraspinal muscle.The only gluteus medius muscle showed the significant changes. The nurse working during night shift the quality of life score were measured there is no significant differencesshowed in p value <0.005 in working nurses during day shift. Also the NPRS no significant changes showed in p value<0.005 in working nurses during night shifts. These includes muscles are rectus abdominis, quadratus lumborum, gluteus medius and paraspinal muscle.

Yuval Yacubovich et al conducted a study on the prevalence of primary dysmenorrhea among students and its association with musculoskeletal and myofascial pain. There was a cross-sectional study, 40 subjects were age 20-35 concluded that data provide an initial basis for the inclusion of a myofascial examination when evaluating women with dysmenorrhea. The present study showed the relationship between myofascial pain and dysmenorrhea due to rotational shift.

According to present study there may be no significant differences in QOL between twogroups but, day shift working nurses shows significant differences in NPRS scale. They has morepain in gluteal medius muscle compared to other muscles like quadratus lumborum, rectus abdominis, and paraspinal muscle. There is no significant difference in NPRS scale during night shift in gluteal medius, quadratus lumborum, rectus abdominis and paraspinal muscle.

Further Recommendations:

The long term benefits of this for further studies. New guidelines for the diagnosis and treatment of menstrual disorder among nurses should be designed and developed to be appropriatefor nurses. A new hospital strategy should be developed to ensure safe and healthy settings for nurses, other healthcare employees, and patients. Nurses must be given adequate breaks. As well as other healthcare staff on all shifts. Night shift labor hours should be reduced.

Conclusion:

The present study shown the pain (NPRS), menstrual characteristics and quality of life of nurses during day or night shift. There is no significant differences found in QOL both groups in day or night shift works nurses but, there is significant differences showed in NPRS of MTrP of gluteus medius muscle and significant differences showed in NPRS of MTrP of quadratus lumborum, rectus abdominis and paraspinal muscle.

Limitations:It is short duration study in which follow up was not done. There are many reason when participates were no proper response due to miscommunication, misunderstanding and shame. The examiners'relative lack of expertise is evident in this investigation. The researchers attempted to reduce any bias by using particular training, a stringent process, and a twofold (both examiners blinded to each other's results) examination of MTrPs. The present study's findings18-40 year old, presumably healthy. Women of various ages and education levels will have varying prevalence ofmusculoskeletal or myofascial pain.

Conflict of interest: none declared

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