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Workplace interventions can reduce sickness absence for persons with work-related neck and upper extremity disorders: a one-year prospective cohort study

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Author's contributions

SO, EG, HS and MH designed the study. AN and SO performed the data analysis HS, EG and MH contributed to the data interpretation. HS, MH and EG supervised the project. SO wrote the manuscript and AN, EG, HS and MH made contributions to its final form. All authors have read and approved of the manuscript.

Running Title

Workplace interventions can reduce sickness absence

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Abstract

Objective The objective of this study was to investigate whether workplace interventions are effective in reducing sickness absence in persons with work-related neck and upper extremity disorders and if disorder improvement after intervention reduces sickness absence.

Methods This study was a prospective cohort study of workers with work related neck pain or upper extremity disorders. Data was obtained from the Swedish "Work-related disorders" and "Work environment" surveys. Register data on sickness-absence one year after the surveys was made, was obtained from the Swedish health insurance database.

Results A significant lower number of sickness-absence days were found for workers reporting improvement after intervention.

Conclusion The findings in this study suggest that workplace intervention can reduce sickness absence for workers with neck or upper extremity disorders only if the intervention improves the disorder. The interventions were most effective in reducing medium long sickness absence periods.

Keywords Prevention, work ability index, work demands

Background

Musculoskeletal disorders are common in the working population and are widely recognized as causes of disability and sick leave (1-3). Among these disorders, neck pain is the second most common disorder after low-back pain. In general, neck pain is more prevalent in women than men, and the peak prevalence is at about 45 years of age (4), which means that neck pain is most prevalent during working age. Musculoskeletal disorders, such as neck pain, are among the main causes of both sick leave and disability pensions, leading to high costs for both the individual and society (5, 6)

The challenge of reducing sickness absence for individuals with musculoskeletal disorders has previously been investigated (7, 8). Moderate evidence has been found for the positive effect of multidisciplinary rehabilitation in terms of improving disability and reducing sickness absence. The involvement of workplaces has also been suggested as beneficial (9, 10). A Cochrane review investigating workplace intervention in work disability found that, for musculoskeletal disorders, workplace interventions were more effective than usual care (11); however, most studies included in these reviews have focused mainly on low-back pain. A recent study on sickness absence among workers with neck or shoulder pain comparing a brief intervention with a multidisciplinary intervention, which in some cases involved the employer, found no significant difference between the two approaches (12). In another study it was found that the involvement of the workplace, work adjustments and supportive measures at the workplace were important factors for return to work after long-term sickness absence among women with neck pain (13). Factors at work, such as non-strenuous work and recuperation, have both been linked to lower levels of sickness absence and higher work ability (14-16). While there is some evidence that workplace interventions can reduce sickness absence in general for workers with neck and upper extremity (UE) disorders, there is very little research concerning for whom and when this might be true. The

studies made in this area have mainly focused on return to work after sickness absence. In a synthesis of reviews it was found that workers with high self-efficacy and lower severity of illness/injury had a positive association with return to work and that older workers and female workers had a negative association with return to work outcomes (17).

The Work Ability Index (WAI) has shown to predict sickness absence, in that workers who report a lower level of work ability are at higher risk for future sickness absence (18, 19). When using workplace interventions with the aim of reducing sickness absence, this factor might affect the result of the intervention, that is, workers who report higher work ability might have a different response to the intervention than workers with a lower level of work ability. This might also be true for the length of sickness absence, which seem to play a role with regard to return to work. In a recent study it was found that having longer sickness absence at baseline reduced the chance of returning to work within 12 months for workers with chronic musculoskeletal pain (20).

Aim

The aim of this study was to investigate whether workplace interventions are effective in reducing sickness absence in persons with work-related neck and UE disorders in different groups, according to age, sex, sickness-absence period and work ability score. Also, to investigate if disorder improvement after intervention reduces sickness absence and whether there is a difference between men and women with work-related neck and UE disorders, regarding cause, interventions, work ability and sickness absence.

Methods

Study population

This was a follow-up study using material from Sweden's Work-related disorders survey from 2010, 2012 and 2014; from its Work Environment survey from 2009, 2011 and 2013; and from the 'Longitudinal integration database for health insurance and labour market studies' (LISA) database from 2011 and 2013. All Swedish residents are included in the LISA database. Individuals in these databases were linked using the Swedish personal number in Statistics Sweden's (SCB) Microdata Online Access (MONA) system. Both the Work-related disorders and the Work Environment surveys are additions to the annual Swedish Labour Force Survey. The Work-related disorders survey is conducted by telephone interview, with questions about work-related accidents and disorders. For inclusion in this study, the following question was used: 'Now we would like to know about disorders caused by circumstances other than accidents at work. These might be workload, doing a job that is physically demanding or monotonous, or exposure to chemicals, noise, stress or, say, bullying. Have you at any time during the past 12 months suffered from disorders caused by circumstances of this kind at work?' Also used was a question about where the disorders were located: 'During the past 12-month period, because of work, have you had problems with your neck, shoulder or arm?' If a worker answered yes to these two questions, the worker was included in this study.

The population eligible for the Labour Force Survey were all persons aged 15–74 years and registered in Sweden. After the questions in the Labour Force survey were completed, all individuals aged 16–64 years, employed and not on long-term sickness absence, were invited to answer questions either from the Work-related disorders survey or the Work Environment survey, depending on when the Labour Force survey was conducted. The Work Environment

survey is conducted every two years during the last quarter of the year, and the Work-related disorders survey is conducted during the first quarter of the following year. Approximately 70% of those who participate in the Work Environment survey are also included in the Work-related disorders survey.

The Work-related disorders survey was used as the main source of data for this project, as it includes questions on work-related disorders, causes of the disorders, interventions and self-reported sickness absence. The only question from the Work Environment survey that was used was the question on work ability, the Work Ability Score (WAS).

In the years 2010, 2012 and 2014 a total of 39,717 workers aged 16–64 years were asked whether they had had any work-related disorders during the last 12 months. Of these, 11,287 (28%) replied that they had had a work-related disorder (physical or other types) during the last 12 months. On the question about work-related neck and UE during the last 12 months 1750 replied that they have or had had work-related neck or UE disorders during the last 12 months, and these respondents were included in this study (Table 1).

Cause of disorder

For what factor at work had caused the disorder, the question used was 'Now we wonder what you think caused the disorders.' For this question, several alternative answers were used for this study: vibrations, awkward postures, repetitive movements, manual handling, computer work, harassment and stress. Respondents could choose one or more answers.

Workplace intervention

Workplace interventions were measured by the question 'Were any of the following measures taken to alleviate the disorders, to stop them from getting worse or returning?'. If the individual stated that interventions had taken place, the following question was asked: 'What

interventions have been done in the workplace where your disorders developed?' Several alternatives were used for this study: in the physical work environment, in the work organization, in the work methods, education for the workers, use of personal protection or aides, individual support, and other. Respondents could choose one or more answers. If the respondent answered that interventions had been made the following question was asked: "Have your disorder improved as a result of the intervention? (yes/no)".

Work Ability

Work ability was measured with the WAS question, using a score of 1–10: 'Assume that your work ability at its best has a value of 10 points. How many points would you give your current work ability?' This question was asked in the Work Environment survey, which is done by telephone interview. Studies have shown that the WAS question has good validity and reliability when compared with the total WAI. In this study the work ability score was categorized in four levels: 1–5 (poor), 6–7 (moderate), 8–9 (good) and 10 (excellent). This question was included, as it were hypothesized that sickness absence would be different in the different WAS categories and also that the effect of an intervention could be different. Of those who were included in this study 884 persons had answered the WAS question (Table 1).

Sickness absence

Sickness absence was measured with two different measures. The first was self-reported sick leave from the Work-related disorders survey. The question used to measure sickness absence was: 'Have you during the last 12 months received sick-leave benefits (or similar), full- or part-time, as a result of these disorders?' If the individual stated that they had received sick-leave benefits, another question was asked: 'How long in total during the last 12 months did the sickness absence or sick-leave benefits last as a result of these disorders?' The

alternatives given for this question were: 1–3 days, 4 days to 1 week, 8 days to 2 weeks, 2–4 weeks, 4 weeks to 2 months, 2–3 months, 3–6 months, 6 months to 1 year, the whole year or more. For this study, a median of each of these was used to calculate the total number of self-reported sickness absence days (S-Days).

The second measure of sickness absence used was obtained from the LISA database. For this study, only records for the years 2011 and 2013 were available; for those who answered the Work-related disorders survey in 2014, only self-reported sickness absence is used. The measure used was total net days (2 days on 50% sick leave measured as one net day) >14 days during the year following participation in the Work-related disorders survey (N-Days). The LISA database contains demographic information such as employment, education, family, sickness absence, disability pension and so forth. In Sweden, sickness benefits are granted to those who have impaired work capacity due to disease or injury. There is no financial reimbursement for the first qualifying day. The initial 7 days of a sick-leave period are self-certified; after that, a medical certificate is required. Sickness benefits are covered by the employer for the first 14 days of a sick-leave spell. Thereafter, sickness benefits are granted by the Swedish Social Insurance Agency.

Statistics

Wilcoxon Rank Sum Test was performed to estimate the association between workplace intervention and sickness absence, both S-Days and N-Days, and between improvement after intervention and sickness absence, both S-Days and N-Days. The analyses were stratified for sex, age group and WAS.

Quantile regression is a semi-parametric statistical method that investigates the association of workplace intervention and several percentiles of sickness absence (21).

A quantile regression analysis was used to estimate the association between receiving a workplace intervention, improvement after intervention and sickness absence (N-Days) in the 90th to 99th percentiles. This analysis was also performed with an adjustment for sex. Coefficients from Quantile regression are interpreted similarly to coefficients of ordinary linear regression except that a quantile regression coefficient indicates the change in the value at the given percentile, not the mean, of the outcome variable.

For all analyses in this study, SAS version 9.3 (SAS Institute, Cary, NC, USA) was used. Descriptive data on the neck and UE disorders group and on the no neck or UE disorders group were derived through frequency analyses.

Results

There were a total of 11287 persons who reported that they have or had had work-related disorders during the last 12 months. Of these 1750 reported neck or upper extremity (UE) disorders. In this group there was a larger proportion who reported 'poor' or 'moderate' work ability compared to the group with work-related disorders but not a work-related neck or UE disorder .

The most commonly reported causes of the work-related neck or UE disorder were, for women, work stress (38%), and among men, heavy manual work (27%) (Table 2).

Workplace intervention

A total of 622 persons (35%) reported that they had received workplace interventions, 37% of the women and 31% of the men. The most common intervention was in the physical work environment for both men and women (Table 3), with 66% of the women who received an intervention reporting that the disorder improved as a result of the intervention, and 69% of the men reporting improvement.

Among those who reported interventions, the largest proportion were found in the age group 30–49 years; 38% of those in that age group reported that they had received interventions. Among those who reported a work ability score and reported that they had received interventions, the highest proportion was among those who reported excellent work ability (42%) (Table 3)

Sickness absence

The mean number of self-reported median sickness absence days during the last 12 months (S-Days) was 65 days for female workers and 49 days for male workers. The mean number of registred net days >14 days (N-Days) during the following year was 17 for female workers and 9 for male workers (Table 4). Among the workers who reported work ability score (WAS), the highest number of sickness absence days, both S-Days and N-Days, was found in the group reporting poor work ability (WAS 1–5) (Table 4). The median number of N-Days for the workers reporting neck or UE disorders was 0, for the 75th percentile was 0, for the 90th percentile was 26.5 days and for the 95th percentile was 89.25 days.

Workplace intervention and sickness absence

There were no statistical difference in either S-Days or N-Days between those who reported receiving a workplace intervention and those who did not (Tables 5 and 6). There was a statistical difference found between the groups who reported improvement of work-related neck or UE disorders after workplace intervention both in S-Days and N-Days and those who did not report improvement after intervention. For S-Days, the difference was found in the total group, and for N-Days, in the total group, among female workers and among those reporting good work ability (WAS 8–9) (Tables 7 and 8).

The quantile regression analysis showed a statistically significantly lower number of sickness absence N-Days for those workers who reported improvement after intervention on the 91st, 92nd and 95th percentiles. The differences in number of N-Days were for the 91st percentile 54 days (15 to 69 days, P = 0.012), for the 92nd percentile 54 days (17 to 71 days, P = 0.019) and for the 95th percentile 101 days (39 to 140 days, P = 0.018). When adjusted for sex, the patterns were as above. There were also a significant difference in the sickness absence days between men and women in the 91st and 92nd percentiles (P = 0.042 and P = 0.017, respectively).

Discussion

The main findings in this study suggest that workplace intervention can reduce sickness absence for workers with neck or UE disorders, among certain groups, if the intervention improves the disorder. Significantly lower sickness absence was found among those who reported improvement of their symptoms after an intervention, and within this group, a significantly lower sickness absence was found among women and those who reported good work ability (WAS 8–9).

To reduce the burden of work-related sickness absence, for both workers and society, it is important to identify who is at risk and what factors can be targeted via interventions (22). As has been shown previously and in this study, a measure of the individual's health, such as the WAS, could provide important information regarding for whom an intervention might be effective. As the lowest number of sickness absence days (both N-Days and S-Days) were found in the group who reported excellent work ability (WAS 10) and the highest in the group with poor work ability (WAS 1-5) this somewhat confirms that the measure of the work ability score can provide useful information on the risk of sickness absence among workers. As we wanted to investigate for who and when intervention might affect sickness

absence we included this measure. If there would have been little difference in sickness absence between the WAS groups then this measure would not be useful in predicting sickness absence.

A recent study on intervention in an industry setting using a participatory approach found no effect on health outcomes (23). The authors stated that one reason for this might be that the implemented action does not sufficiently reflect on the outcome. In the present study, it was shown that interventions did not significantly reduce sickness absence, unless the work-related disorder improved as a cause of the intervention. This affirms the statement that the intervention needs to sufficiently affect the health of the worker to be effective. This implies that follow-up of the workers is important to monitor the intervention for the desired effect.

In a recent review on prevention of new episodes of neck pain (24) it was found that exercise was more effective in preventing new episodes of neck pain than were ergonomic interventions. If, as the present study suggests, it is improvement of the disorder that is most important, then it could be true that interventions aimed at improving workplace ergonomics alone might not be powerful enough to reduce symptoms. As the concept of work ability can, in a simple form, be defined as a balance of demands at work and the individual's capacity to perform the work, a strategy that both strengthens the individual's capacity and also considers the demands at work would appear to be a better approach than one that only uses interventions aimed at either. The effects of work place interventions found in this study in the different subgroups were not conclusive. That only a few differences were found within the subgroups could be due to that there were few subjects in these groups, which results in low power.

Self-reported sickness absence has been shown to have a good correlation with recorded sickness absence (25, 26). In this study, we used both self-reported (S-Days) and recorded (N-Days) sickness absence measures and found significant association between improvement

of symptoms after intervention for both self-reported and recorded sickness absence days. This was despite the fact that the self-reported sickness absence measure only measured sickness absence due to work-related disorders, and the recorded measure used all-cause sickness absence of more than 14 days.

The measure of neck or UE disorder consisted only of a question regarding whether the worker had had work-related disorders in the neck or UE during the last 12 months that had made it difficult to perform work either at the workplace or in the home. No measurements of the intensity of the neck pain were made. This is a limitation in this study, as it is known that intensity of the neck pain is a predictor for long-term sick leave (27). The study by Holtermann et al. used a 0–9 scale to describe pain intensity, with 0 being no pain and 9 being the worst pain possible. In that study it was found that among workers with a pain intensity score ≥7, 23% had long-term sickness episodes compared with 15% among those who reported a score of 4 on pain intensity. In this study we used the WAS as a health measure, which showed a similar result, in that individuals who reported a low WAS also had a higher mean number of sickness absence days, both S-Days and N-Days.

In this study group, which consisted of workers with work-related neck or UE disorder, 69% were women. Women also reported that work stress was the single most common cause of their work-related symptoms, with 38%. Men reported that heavy manual work was the most common cause of their neck or UE disorder. When looking at what type of intervention was performed, the most common for both men and women were physical interventions, about 35%. In this study we stratified the study population into age and WAS groups as it is know that both age and work ability are linked to sickness absence (17-19). In the different WAS groups the highest proportion of interventions were found in the excellent (WAS 10) group. As a higher level of work ability are protective for sickness absence, the interventions in this group could have a lower chance of reducing sickness absence compared to the groups with

lower work ability. Similar reasoning can be made with regards to the different age groups where interventions made in the youngest age group might not have the same effect as in the older age group with regards to the interventions effect on sickness absence. From the available data we cannot in detail describe the types of interventions that were made or the decision-making process for selecting a certain intervention. Previous studies have suggested that multidisciplinary approaches can be beneficial, especially if the workplace is involved (9-11).

Quantile regression analysis was used to not only investigate the effect of workplace interventions on the whole group but also to investigate when they were effective. The quantile analysis showed that the intervention had an effect on sickness absence when sickness absence was not short and not long. The analysis showed an effect of the intervention on sickness absence between 24 and 90 N-Days, but not for fewer or additional days. A previous study divided sickness absence into three time periods, early (≤14 days), medium–late (15–90 days) and late (≥90 days) for return to work, using the same data source on registered sickness absence as in this study (28). This can be interpreted to mean that workplace interventions used in this study were effective in reducing medium long (medium–late) sickness absence but not short (early) or longer (late) periods of sickness absence.

Strengths, limitations and methodological considerations

This study has several strengths. It is prospective, it is based on a representative sample of the Swedish working population, and as we used both self-reported and sickness absence from official registries, nearly all episodes of sickness absence are included. Some weaknesses of the study include the use of self-reporting by means of telephone interview. As there is no objective measure (except sickness absence), we cannot appraise the seriousness of the disorders, whether interventions have been made or not, or whether the workers are exposed

to work factors which are considered risk factors for neck and upper extremity disorders. Also there are some concerns with using administrative data as there is no information on reliability and no control variables are used (29). In this study, we performed statistical analysis of several stratified sub groups. As this leads to multiple tests there is a possibility that the findings were due to chance. However all tests were based on the pre-planned hypothesis and no post-hoc test were made (30). Another methodological aspect of this study, like all studies of sickness absence, is that it took place in a national context. Very few studies of sickness absence have investigated whether the national context plays a role in the results (31). It should be stressed that the results of this study are found in the Swedish setting and might differ from other countries, as compensation for sickness absence varies between countries. The registry measure of sickness absence from the LISA registry covers all cause sickness absence, and in this study, we cannot distinguish between different causes. The use of the self-reported measure on work-related sickness absence make it possible, to some extent, to compare the self-reported sickness absence and the registered all-cause sickness absence. In future research, studies investigating how workplace intervention can be used to reduce neck and UE disorders are needed and also, how measures of work ability can be used in determining for who these interventions might be effective in preventing sickness absence.

Conclusion

The findings in this study suggest that workplace intervention can reduce sickness absence for workers with neck or upper extremity disorders only if the intervention improves the disorder. The interventions were most effective in reducing medium long sickness absence periods. This information can be useful for occupational health professionals when recommending work place interventions for reducing the risk of sickness absence.

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Table 1. Charectaristics of the study population. Workers with work related disorders (N=11 287).

	Female				Male			
	No Neck or UE		Neck or UE		No Neck or UE		Neck or UE	
Age category N (%)	5201	%	1205	%	4336	%	545	%
16-29 years	755	-14	95	-8	646	-15	55	-10
30-49 years	2575	-50	656	-54	2257	-52	290	-53
50-64 years	1871	-36	454	-38	1433	-33	200	-37
Work ability score								
Total N=884 (%)	2497		598		2110		268	
1-7 (Moderate, poor)	544	-22	158	-26	483	-23	75	-28
8-9 (Good)	893	-36	207	-35	769	-36	100	-37
10 (Excellent)	1060	-42	233	-39	858	-41	93	-35

Table 2. Self-reported cause of work related neck and upper extremity disorder, N=1750, several alternatives were possible.

Work place factor N (%)	Female		Male	
	1205		545	
Vibration	8	(1)	22	(4)
Repetitive work	209	(17)	101	(18)
Heavy manual work	263	(22)	148	(27)
Computer work	296	(25)	91	(17)
Harassments	19	(2)	2	(0)
Work stress	461	(38)	141	(26)
Other	127	(10)	63	(12)

Table. 3 Description of workers who reported that they received a work-place intervention, N=622 workers with self-reported neck pain. Workers who also reported work ability score (WAS), N=306.

	Female (%)		Male (%)	
Age category N (%)	451	(37)	171	(31)
16-29 years	22	(23)	16	(29)
30-49 years	261	(40)	99	(34)
50-64 years	168	(31)	56	(28)
Work Ability Score (WAS), all	225	(38)	81	(28)
1-5 (Poor)	13	(29)	3	(19)
6-7 (Moderate)	43	(38)	12	(20)
8-9 (Good)	69	(33)	29	(29)
10 (Excellent)	100	(43)	37	(40)
Type of intervention				
Physical	153	(34)	60	(35)
Organization	59	(13)	18	(10)
Work method	83	(18)	47	(27)
Education	41	(9)	16	(9)
Safety equipment	44	(10)	16	(9)
Personal support	49	(11)	19	(11)
Other	47	(10)	13	(8)
Improvement after intervention	296	(66)	118	(69)

Table 4. Sickness-absence in the study group, registered Net days >14 days (N-Days) and Self-reported (S-Days). N=1750 workers with self-reported work related neck and UE disorders, workers who also reported work ability score (WAS) N=884

	N-Days		S-Days	
	Mean	sd	Mean	sd
Female	17	57	65	88
Male	9	41	49	79
WAS 10 Excellent	8	33	34	62
WAS 8-9 Good	9	36	45	73
WAS 6-7 Moderate	14	45	58	86
WAS 1-5 Poor	50	96	149	97

Table. 5 Difference in self-reported sickness absence last 12 months (S-Days) by receiving intervention or not. Of the workers with self-reported work related neck and UE disorders N=394 reported sickness absence. Of the workers who also reported work ability score (WAS) N= 181 reported sickness absence.

	Intervention				
	Yes		**No**		
	N	**Mean S-Days**	**N**	**Mean S-Days**	**P***
All	134	63	260	58	0.48
Female	108	66	184	64	0.55
Male	26	48	76	43	0.83
16-29 years	4	5	20	15	0.27
30-49 years	71	48	131	50	0.93
50-64 years	59	84	109	75	0.31
WAS 10 Excellent	17	38	30	34	0.96
WAS 8-9 Good	16	48	39	46	0.32
WAS 6-7 Moderate	21	72	28	54	0.41
WAS 1-5 Poor	10	188	20	129	0.14

Wilcoxon Rank Sum Test ***=**two tailed

Table 6. Difference in one-year registered sickness absence Net days >14 days (N-Days) by reporting workplace intervention or not. N=1655 workers with self-reported work related neck and UE disorders. Workers who also reported work ability score (WAS) N=819.

	Intervention				
	Yes		**No**		
	N	**Mean N-Days**	**N**	**Mean N-Days**	**P***
All	621	11	1034	16	0.40
Female	450	13	695	19	0.47
Male	171	6	339	10	0.32
16-29 years	38	2	101	7	0.33
30-49 years	359	13	541	15	0.92
50-64 years	224	9	392	18	0.31
WAS 10 Excellent	137	5	175	10	0.48
WAS 8-9 Good	98	6	200	10	0.17
WAS 6-7 Moderate	55	15	101	15	0.89
WAS 1-5 Poor	16	50	37	48	0.50

Wilcoxon Rank Sum Test *****=two tailed

Table 7. Difference in sickness absence self-reported days during the last 12 months by reporting improvement after workplace intervention or not. N=119 workers with self-reported work related neck and UE disorders, workers who also reported work ability score N=58.

	Improvement				
	Yes		**No**		
	N	**Mean S-Days**	**N**	**Mean S-Days**	**P***
All	88	54	31	93	**<0.05**
Female	69	44	26	56	0.08
Male	19	37	5	70	0.45
WAS 10 Excellent	12	47	2	5	0.32
WAS 8-9 Good	10	41	5	70	0.54
WAS 6-7 Moderate	14	69	6	88	0.91
WAS 1-5 Poor	4	190	5	188	0.98

Wilcoxon Rank Sum Test ***=**two tailed

Table 8. Difference in one year registered sickness-absence Net days >14 days (N-Days) by reporting improvement after workplace intervention or not. N=556 workers with self-reported work related neck and UE disorders, workers who also reported work ability score N=276.

	Improvement				
	Yes		**No**		
	N	**Mean N-Days**	**N**	**Mean N-Days**	**P***
All	413	8	143	18	**<0.05**
Female	295	9	110	21	**<0.05**
Male	118	6	33	6	0.34
WAS 10 Excellent	89	4	31	6	0.78
WAS 8-9 Good	67	5	21	11	**<0.01**
WAS 6-7 Moderate	40	12	13	26	0.81
WAS 1-5 Poor	8	64	7	41	0.90

Wilcoxon Rank Sum Test ***=**two tailed