Published in final edited form as:

Gen Hosp Psychiatry. 2004 ; 26(4): 269–276. doi:10.1016/j.genhosppsych.2004.04.004.

The work impact of dysthymia in a primary care population

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Abstract

Physicians regard individuals with dysthymia as having relatively normal levels of functioning. This study examines in detail the work impact of dysthymia in a population of employed primary care patients. As part of an observational study conducted between 2001 and 2003 in clinics associated with three health plans in Massachusetts, we compared 69 patients diagnosed with DSM-IV dysthymia without concurrent major depressive disorder to 175 depression-free controls. Patients were employed at least 15 h per week, had no immediate plans to leave the labor market, and no major comorbid medical conditions. We assessed work absences and productivity loss due to on-the-job performance limitations (“presenteeism”). Patients with dysthymia, compared with controls, had less stable work histories and a greater frequency of significant problems at work. While absence rates were not significantly different (1.2 vs. 0.74 days, $P < .09$), individuals with dysthymia experienced significantly greater on-the-job productivity loss (6.3% vs. 2.8%, $P < .0001$). Dysthymia is an unrecognized cause of work impairment that has long-term negative consequences for individuals and their employers. The persistence of dysthymia with its serious impact on work functioning calls out for the development of new interventions.

Keywords

Dysthymia; Economic issues; Mood disorders; Outcome studies; Primary care; Work productivity

1. Introduction

A growing body of research now shows that, among working age adults, depression is a leading source of disability and diminished work productivity [1–5]. The recent National Comorbidity Survey [6] replication found that of the nearly 30+ million adults with lifetime prevalence of major depressive disorder (MDD) in the United States, 59% of individuals were severely impaired in their ability to perform social roles and, on average, were unable to work 35 days in the past year. Recently, researchers surveyed a representative household sample and, based on results, estimated that depression is responsible for an estimated \$44 billion per year in medical costs (\$12 billion) and lost productive work time (\$32 billion), i.e., time unable to go to work and time at work unable to perform the job. This amount is three to four times greater than the losses attributed to adults without depression [7]. Figures such as these have fueled concerns about the cost and impact of depression on US workers and the economy. In an effort to help employers understand depression and develop appropriate responses, the American Psychiatric Association and several employer organizations have created a partnership (National Partnership of Workplace Mental Health), which will serve as an informational and collaborative resource for employers and clinicians [8].

In this study, we focus on the work impact of dysthymia. While functional and productivity losses associated with MDD have been described to date, little is known about the impact of dysthymia. Historically, it has been viewed as one of a number of subthreshold or characterologic conditions having fewer symptoms than MDD and assumed to have less functional impairment [9,10]. Dysthymia is now considered a chronic ongoing mood disorder that is common, morbid, and treatable. In the clinical literature most individuals (50–75%) with dysthymia have recurrent episodes of MDD [9–13].

The psychosocial and clinical consequences are well-documented [11,12,14]. For example, research shows that, compared with controls, fewer individuals are married or employed. They also have a higher likelihood of having comorbid psychiatric diagnoses and problems with substance abuse. Despite these known consequences, studies indicate that individuals with dysthymia are frequently undertreated [15].

Few studies have assessed the work experiences of adults with dysthymia. What little evidence there is suggests that dysthymia results in a substantially impaired ability to perform activities at home and at work. The Epidemiological Catchment Area study found that 29% of patients with dysthymia obtained from a general medical sample had chronic restriction of their activity, including 16% who reported at least one bed day in the previous week and an average of 3 disability days per 90-day interval [16]. Stewart and colleagues [7] provide the most comprehensive review of the cost of lost productive work time for employees with dysthymia. Using the Primary Care Evaluation of Mental Disorders (PRIME-MD) as a classification tool [17], they estimated that 3.6% of US employees met the criteria for a diagnosis of dysthymia. Average lost productive work time (including absence hours and hours of productivity loss on the job) with dysthymia was 3.3 h per week compared to an expected 1.5 h for employees without depression or dysthymia.

Previous research on the work consequences of dysthymia has focused on population-based samples. In this study, we assess the impact of dysthymia on work and productivity in a sample of employed patients who were seen by physicians in primary care clinics. This is typically a less healthy population due to their healthcare utilization. Additionally, we use new productivity loss assessment metrics, which provide an in-depth assessment of work problems.

2. Methods

We present baseline data from employed adults with dysthymia and a healthy control group, who enrolled in the Health and Work Study (HWS: National Institutes of Health RO1MH58243 [18]). The HWS is a longitudinal observational study that assesses the impact of depressive disorders on multiple aspects of patient employment and estimates the relative contribution of patient characteristics and work environment on job outcomes.

2.1. Study setting and patients

In the study sample, there were 69 patients with dysthymia, a subgroup of eligible depressed patients recruited for the larger HWS study, and 175 nondepressed controls. Between February 2001 and March 2003, subjects were recruited from primary care physician (PCP) offices in Massachusetts who were affiliated with the Tufts Health Plan, the Fallon Clinic, or Harvard Pilgrim Health Care. Eligibility for the study did not require that patients be insured by these health plans.

Eligible patients were 18–62 years old and working-forpay at least 15 h/week. Patients eligible for the depression group had a positive office screening result for dysthymia, MDD, or double depression (both MDD and dysthymia) according to the PC-SAD questionnaire, which has sensitivity of 87% and specificity of 95% [19]. The PC-SAD, a 37-item self-administered screening tool, provides a DSM-IV symptom count and diagnosis of MDD and dysthymia. It has been shown to have comparable diagnostic accuracy to that of the Prime-MD-PHQ (PHQ) [19].

Ineligible patients were (a) planning to retire within 2 years; (b) receiving disability benefits; (c) either actively alcoholic or drug abusing; (d) currently pregnant or had delivered a baby within the past 6 months; (e) diagnosed with bipolar disorder; (f) unable to speak and/or read English; (g) and/or diagnosed with 1 or more of 12 potentially seriously disabling medical conditions (e.g., angina, congestive heart failure, stroke, diabetes, chronic obstructive lung disease). Patients were not excluded because they reported lifetime alcoholism, long-term/chronic depression (those with 4 MDD episodes in their lifetime plus their first diagnosis more than 10 years ago), anxiety, or other comorbid medical conditions.

2.2. Screening and recruitment procedures

This study's protocols were reviewed by the Tufts-New England Medical Center Human Investigations Review Board (IRB) and by the IRBs of the participating sites. Accordingly, during routine scheduled office visits, patients were approached by a study representative and invited to complete a self-administered study screening form (PC-SAD). Completed screenings were electronically scanned and scored on-site. By the end of the day of the visit,

the PCPs received a full report on all patients screening positive whether or not they were eligible for the study. The PCP completed a brief patient history including medical contraindications to inclusion in the study and confirmed the depression screener diagnosis. Included in the screener was a question assessing the patient's suicidal risk. If a patient responded positive to this item, the patient's physician was immediately notified and informed of the patient's risk assessment.

Within a week after the screening, patients who were not excluded received a mailing consisting of a baseline questionnaire, consent form, explanatory materials, and an optout postcard. Next, to assess eligibility further, an interviewer attempted to contact patients by phone. Patients declining the phone interview or unreachable after at least 10 tries were invited via phone message or mail to complete the baseline questionnaire and consent form anyway. An investigator then reviewed baseline responses to assess eligibility. The telephone and/or baseline screeners included the PHQ-9 derived from the PRIME-MD for assessing MDD, dysthymia, and bereavement items. The PHQ-9 is a brief, validated questionnaire for assessing current MDD, which is based on the PRIME-MD [20].

Patients were asked to complete mail surveys every 6 months for 18 months. A \$20 cash incentive was provided with the baseline survey and \$10 was offered for each follow-up. We used a modified Dillman technique to encourage responses [21]. After complete description of the study to the subjects, written informed consent was obtained.

2.3. Patient characteristics

We report demographic characteristics including age, years of education, gender, race/ethnicity, and marital status. Social support was measured using the Medical Outcomes Study (MOS) Social Support scale [22]. Mental health and physical health were measured using the 12-item short form (SF-12) Mental and Physical Component Summary score (MCS, PCS). The MCS and PCS variables are derived from the SF-36 and scores range from 10 (worst health) to 70 (best health) [23]. We also report patients' PHQ-9 depression symptoms and severity scores [20,24]. To further assess health status, patients were asked about various chronic conditions, as well as their history of taking medication for emotional problems and current use of antidepressants. Utilization was measured by a series of questions inquiring about the number and duration of hospital visits and the number of visits to a healthcare provider for emotional problems.

2.4. Work

We report variables for work history, current work situation, and multiple work performance and productivity metrics. For life-time work history we included nine items that asked about number of jobs since the age of 18; if as a result of physical health or emotional problems, the patient had ever made any of the following career changes: changed occupation or employers; changed employment status (e.g., full-time to part-time, part-time to temporary work); became self-employed rather than work for someone else; taken a lower paying job; or stopped working for 1 month or longer due to their health.

Current work situation included the following variables: occupation, weekly work hours, median income (gender adjusted), years on the job, company size, percent selfemployed,

and percent with more than one job. Occupation is coded according to the six-digit 1990 Standard Occupational Classification (SOC) procedure [25]. Codes are based on detailed responses to standard open-ended questions. Codes are grouped into 1 of 23 major occupational groups and three composite categories representing (a) managers, professionals, and technicians; (b) sales, service, and support; and (c) construction, production, repairs, and transportation. Performance and productivity was assessed using several methods. Presenteeism, defined as lost productivity while on the job, was assessed using the Work Limitations Questionnaire (WLQ), a reliable and valid self-report survey for patient and employee populations, including groups with depression [4,26]. The WLQ scales measure the percentage of time in the prior 2 weeks that the employee was limited while on the job. The WLQ assesses limitations performing each of four specific job components. These are: the job's mental and interpersonal component (e.g., doing work carefully, concentrating on work, and meeting with people); physical component (e.g., walking to different locations and staying in the same position); time component (e.g., working required hours and working without stopping to take breaks or rests); and output component (e.g., handling the workload and finishing work on time).

The WLQ data were used to generate three different levels of information:

1. Percentage of productivity lost due to health problems (presenteeism). Productivity loss measured by the WLQ is reflected by scores on the WLQ Productivity Loss Index [27]. The Index is a weighted sum of WLQ scale scores. Weights are regression coefficients obtained from modeling the relationship of WLQ scale scores to actual productivity. The Index score corresponds to the estimated reduction in output per hour compared to healthy employee benchmarks. Output loss in dollars is calculated by the percentage of hour's reduction multiplied by annual salary.
2. Impaired performance at the job-level. The WLQ provides information on the frequency of limitation performing specific components of job roles. Its 25 items are scored on a 0% (limited none of the time) to 100% (limited all of the time) scale. Item scores within scales are averaged to create four scales. Scale scores indicate the percentage of time in the prior 2 weeks the respondent was limited performing each of the four job components (time management, physical demands, mental and interpersonal demands, and output demands).
3. Impaired performance at the task-level. Scores for specific items are reported on a 0–100 scale.

An add-on module to the WLQ captures time missed from work (absenteeism). Items ask: "In the past two weeks, how many full workdays did you miss because of your health or medical care" and "In the past two weeks, what was the total number of days you missed part of a workday because of your health or medical care." While a full workday missed is given the value of 1, a part day is .5. The total number of days missed is reported. Additionally, days are converted to hours based on reported usual work hours. The percentage of productivity loss due to work absences is the number of missed work hours divided by the number of usual hours worked.

2.5. Statistical analysis

Enrolled patients and refusers were compared based on screener data using a *t* test. Demographics on the baseline were compared between the two study groups (nondepressed control and dysthymia) using two-tailed *t* tests. We used linear regression to compare the two groups for all outcome measures. To determine whether measures of presenteeism and absenteeism were still significant after controlling for relevant demographics (age, gender, and medical comorbidities), we conducted multiple regressions adjusted by individual's age, gender and chronic disease count. A *t* test was conducted to determine the significance of the difference between the two groups. Stata 7.0 [28] was used for all analyses.

2.6. Response

A total of 14,268 screeners were completed in physician's offices. Of individuals screened 8237 (58%) were randomly excluded controls and 4124 (29%) did not meet the initial screening criteria (e.g., employment, over age 62). Of the remaining 1907 individuals (13%), 642 (34%) were found to be ineligible and 599 (31%) did not complete the screening process (leaving eligibility unknown). Six-hundred and forty-two (34%) were confirmed to be fully eligible; 574 (85%) were enrolled and 98 (15%) refused. We tested for differences between enrolled patients and refusers. We found no statistically significant differences with regard to employment status, PCS and MCS scores, number of dysthymia or MDD symptoms, or diagnoses between enrolled patients and refusers ($P > .05$). Refusers, however, were younger and more were males ($P < .05$). The following analysis includes only patients in the dysthymia and control groups (and not the 98 with MDD or 104 with double depression reported in another article [18]. Because of the large number of potential controls, we used a random sample of 10%.

3. Results

3.1. Patient characteristics

Compared to the nondepressed controls, the dysthymia group had a smaller percentage of men (19 vs. 28, $P < .12$), less married individuals (41 vs. 65, $P < .02$), a lower mean education level (14.7 years vs. 15.3, $P < .03$) and lower median annual income (\$35,000 vs. \$45,800, $P < .01$). The dysthymia group had significantly lower levels of social support than controls ($P < .001$) (Table 1).

3.2. Health characteristics and utilization

Using the PHQ-9, the mean number of depression symptoms in the dysthymia group was 2.8 out of a possible 9. The group's depressive symptom severity (PHQ-9 severity mean = 9.7 vs. 2.8 for the control group) was much greater ($P < .0001$). The dysthymia group also had a greater physical health burden than controls. While more severe comorbid medical conditions were excluded, nonetheless, the average number of comorbid medical conditions (e.g., allergies, musculoskeletal, pain) was 1.7 in the dysthymia group compared to 1.0 in the controls ($P < .0001$). Compared to controls, mean PCS-12 scores (47.5 vs. 51.8, $P < .0001$) and mean MCS-12 scores (38.2 vs. 51.9, $P < .0001$) were lower indicating poorer health within the dysthymic group (Table 2).

More patients with dysthymia were taking prescribed antidepressant medication (46% vs. 9%, $P < .0001$). Two thirds had taken medication for an emotional problem in the past, (61% vs. 24%, $P < .0001$). In the prior 3 months, the dysthymia group had three times the number of visits with a health professional for a personal or emotional problem ($P < .0001$), and 45% vs. 18% had had at least one visit. This included a twofold number of PCP visits than controls separate from mental health providers. More patients with dysthymia than controls had visits for emotional problems in the past 3 months. Visit rates were higher for each of the following providers: PCPs ($P < .0001$); psychiatrists ($P < .0001$); social workers ($P < .01$) or counselors ($P < .003$) (Table 2).

Few patients reported that their PCPs asked them about work (dysthymia vs. controls, 28% vs. 9%; $P < .001$) or advised them to cut back on their work time or effort (16% vs. 6%; $P < .03$) (Table 2). There were no significant differences in health status or utilization between individuals with dysthymia whether they were currently on antidepressant medication or not (data not shown).

3.3. Work history

There were large and significant differences with regards to work history (Table 3). The individuals with dysthymia compared to the controls, had more frequent occupational and employer changes ($P < .0001$). They reported that health issues had caused them to move from full-time to part-time employment ($P < .0003$); part-time to temporary work ($P < .05$); to take lower paying jobs ($P < .003$) and had a history of stopping work for >30 days or longer secondary to physical or emotional problems ($P < .003$). Those with dysthymia also reported having more jobs since age 18 (7 vs. 6), but this difference was not significant ($P < .06$). There were no differences within the dysthymia group between individuals who reported a history of stopping work and those who had not.

3.4. Current work

There were no significant differences on any of the current work status variables (Table 4). For both dysthymic and control groups, the occupational distribution in our sample was skewed toward managers, professional, and technical workers (dysthymia, 52% vs. controls, 60%). Forty percent of the dysthymic and 35% of the control group held sales, service, or support occupations. The remainder of the sample (5% vs. 8%) had construction, production, repair, and transportation occupations. Patients in both groups worked 39 h per week on average. None of the above differences were statistically significant. The number of years on the job, percentage self-employed, and those with more than one job were not significantly different between the two groups.

In the 6 months prior to baseline, more of those in the dysthymic group cut back on their work hours (41% vs. 11%, $P < .0001$) and needed more breaks at work (25% vs. 9%, $P < .01$). While differences were not significant, more individuals with dysthymia modified their work schedules (22% vs. 10%, $P < .09$) and/or worked from home (10% vs. 4%, $P < .10$) (data not shown).

3.5. Work performance and productivity

Work loss related to presenteeism (percentage decreased productivity) as measured by the WLQ was substantial. According to the WLQ Productivity Loss Index, on-the-job productivity loss for dysthymia vs. controls was 6.3% vs. 2.8% ($P < .0001$). The output lost (productivity loss times average yearly salary) was significant (dysthymia vs. control, \$2890 vs. \$1292, $P < .01$) (Table 5).

We found that the dysthymia group was significantly more impaired with regard to performing time management, mental-interpersonal job demands, and output demands (irrespective of whether the individual reported ever stopping working for an emotional reason or not). In the prior 2 weeks, patients with dysthymia were limited on average one fourth of the time with regard to their ability to manage each of these job components. Controls reported rates of 2.8%, which is about 40% the rate of the dysthymic group ($P < .0001$). For example, when asked about “difficulty getting going easily at the beginning of the workday,” 62% of the dysthymia group reported none of the time or only a slight bit of the time compared to 88% in the control group. Similarly when asked about having “no difficulty working without taking breaks” the frequencies were, 65% for dysthymia vs. controls 93%; and 60% of the dysthymia group compared to 91% of the control group had “no difficulty keeping their mind on their work” or had “no difficulty thinking clearly at work.” However, the two groups were not significantly different with regard to performing their physical job tasks ($P > .45$ for WLQ Physical) (Table 5).

While the total number of days missed from work was greater among patients with dysthymia, the difference was not significant (1.2 vs. 0.74 days, $P < .09$). Time lost due to work absences was also not significantly different between the two groups (10.8% vs. 7.5%, $P < 0.25$)

4. Discussion

To our knowledge, this is the first study to examine in detail the substantial work loss among employed primary care patients with dysthymia. Patients with dysthymia had three times the rate of current productivity loss and impaired work performance as well as a greater frequency of recently having cut back hours at work compared to nondepressed controls. Our results are similar to Stewart et al.'s [7] global assessment of a population-based survey of equal number of individuals. Focusing on a primary care population we used slightly different metrics and measures as well as more in-depth assessments. While individuals with dysthymia did not differ significantly in their work absences from controls, they had more difficulty performing tasks while at work. As in the Stewart study presenteeism accounted for over three quarters of lost productive work time in both the dysthymic and control groups.

Put in perspective, using data from a previous study [18], individuals with dysthymia had significantly less on-the-job productivity loss and less impaired work performance compared to those currently in an episode of MDD. The more severe the depressive symptomatology the worse the job performance; however, the chronic persistence of depressive symptoms in dysthymia has a substantial impact on both the psychosocial and work lives of individuals.

They go to work and work the same number of hours as relatively healthy employees in our sample, but they are impaired in their performance. In addition, compared to controls, the significantly poorer work history with more job upheaval and lower median income are equivalent to those experiencing a current episode of MDD.

Dysthymia is well described in the literature [11,14,29] as having an onset early in life, a chronic course of subthreshold depressive symptoms, and a tendency toward intermittent episodes of MDD. Confirming prior work [15], in our study individuals with dysthymia had significantly less education and social support (including fewer being married) than controls, as well as frequent prior episodes of MDD. Not surprisingly, we find they have poorer physical and mental health status and a higher number of visits to health care providers for treatment of emotional problems.

While results from previous quality improvement studies of depression in primary care have shown modest gains in employment status following a decrease in depressive symptoms [3,30], there are no treatment studies examining work outcomes for individuals with dysthymia. Our results show that while physicians do a better job of asking individuals with dysthymia about work, compared to nondepressed controls, less than a quarter of the those with dysthymia reported having their physicians ask about work. Physicians may not perceive a connection among subthreshold depressive symptoms, treatment, and work functioning. If physicians focus on work absences or disability days they would miss detecting the functional impairments of individuals with dysthymia. This provides an opportunity for physicians and others in the treatment system to detect, treat, and monitor improvement in subthreshold depressive symptoms as part of addressing the impact on a patient's employment and quality of life. Such studies of improved work performance through improved treatment remain to be undertaken.

This study's limitations include that it is based on cross-sectional data largely using self-report and a relatively small sample. We attempted to minimize self-report issues by using survey instruments that have been validated for groups with depression and by including questions that are both evaluative ("difficulty") and report of events (e.g., job loss, and income level). We are unable to test the impact on work of the relative chronicity of the disorder versus symptom severity. Finally, we considered the possible impact of multiple comparisons on our results. We noted that most of the differences have *P* values consistently $<.01$ and therefore meet the more stringent criteria for tests of multiple comparisons.

Dysthymia is not a benign condition. Work impairment is both a sign and an outcome of depression in its severity and chronicity (dysthymia). The chronicity of depressive symptoms is well known; however, the extent of work impairment reminds us of the importance of recognizing and addressing the impact of such a persistent condition on their lives. Perhaps the recognition that even "milder," yet chronic symptoms of depression produce disabling effects in the workplace will accelerate efforts to help employers provide the support that these workers need. Adequate treatment by the health system is an essential first (but not final) step in this process. The challenge remains as to how to develop realistic plans to help employees with chronic health issues in general, and those with dysthymia in particular, to help them manage their work problems and sustain their productivity. As it

stands the picture is bleak. Little is being done to prevent or better manage the impact of dysthymia on employment.

Acknowledgments

This study was sponsored by the National Institute of Mental Health R01 MH 58243 and the Tufts-NEMC General Clinical Research Center funded by the National Center for Research Resources M01RR00054.

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Table 1

Patient characteristics

	Controls (<i>n</i> = 175)	Dysthymics (<i>n</i> = 69)	<i>P</i> value
Mean age (y)	41	40.0	.48
Male (%)	28	19	.12
White (%)	93	90	.45
Married (%)	65	41	.02
Mean years of education (y)	15.3	14.6	.03
Median annual income ^a (\$)	45,800	35,000	.01
Social support (mean level)	79.2	57.4	.001

^a Adjusted for age and gender.

Table 2

Health status and healthcare utilization

	Controls (n = 175)		Dysthymia (n = 69)		P value
	Mean	(CI)	Mean	(CI)	
PCS (0–100 better health)	51.8	(50.7–52.9)	47.5	(45.2–49.9)	.0001
MCS (0–100 better health)	51.9	(50.6–53.1)	38.0	(36.1–40.1)	.0001
PHQ-9 (no. of symptoms)	0.4	(0.2–0.5)	2.8	(2.2–3.3)	.0001
PHQ-9 severity (0–27)	2.8	(2.4–3.2)	9.7	(8.6–10.8)	.0001
No. of chronic conditions	1.0	(0.9–1.2)	1.7	(1.4–2.1)	.0001
	%	(CI)	%	(CI)	
Currently on depression medication (%)	9	(4.8–13.4)	46	(34.5–58.3)	.0001
History of medication for emotional problems (%)	24	(17.7–30.3)	61	(49.3–72.5)	.0001
Doctor ask about work (%)	9	(5.0–13.8)	28	(16.9–38.1)	.001
Doctor advise to cut back (%)	6	(2.3–9.3)	16	(7.2–24.6)	.03
Health care utilization					
In past 3 months no. of visits for emotional problems to:					
PCP (%)	26		58		.0001
Psychiatrist (%)	1		16		.0001
Psychologist (%)	3		11		.06
Counselor (%)	3		18		.003
Social worker (%)	<1		9		.01
Total no. of visits to all providers, mean (CI)	1.4	(1.0–1.9)	4.0	(2.3–5.6)	.0001

CI = confidence interval.

Table 3

Work history

	Controls (<i>n</i> = 175)	Dysthymia (<i>n</i> = 69)	<i>P</i> value
Occupation changes (%)	8	38	.0001
Employer changes (%)	14	39	.0001
Full-time to part-time (%)	2	19	.0003
Self-employment (%)	2	10	.02
Part-time to temporary work (%)	2	10	.05
Took lower-paying job (%)	5	21	.003
Ever stopped working for >30 days (%)	15	33	.003
No. of jobs since age 18	6	7	.06

Table 4**Current work**

	Controls (<i>n</i> = 175)	Dysthymia (<i>n</i> = 69)	<i>P</i> value
Occupation			.20
Managers, Professional, Technical (%)	60	52	
Sales, Service Support (%)	35	40	
Construction, Production, Repairs (%)	5	8	
Years on job			.18
1 year (%)	27	32	
2–4 years (%)	25	31	
5–10 years (%)	18	17	
>10 years (%)	29	21	
Company size (no. of employees)			.54
<25 (%)	26	22	
25–99 (%)	15	24	
100–999 (%)	26	28	
000 (%)	33	25	
No. of hours worked per week	39	39	.95
Self-employed (%)	13	11	.53
Respondents with more than one job (%)	18	26	.13

Table 5

Current work and work functioning

	Controls (<i>n</i> = 175)		Dysthymia (<i>n</i> = 69)		<i>P</i> value
	Mean	(CI)	Mean	(CI)	
Productivity lost (Presenteeism, %) ^a	2.8	(2.1–3.4)	6.3	(5.3–7.2)	.0001
Output lost (\$)	1292	(859–1726)	2890	(1955–3824)	.01
WLQ - Physical ^a	14.7	(11.0–18.5)	17.3	(11.7–23.0)	.45
WLQ - Time ^a	10.7	(7.6–13.7)	25.9	(21.3–30.6)	.0001
WLQ - Mental ^a	10.6	(7.8–13.4)	25.8	(21.6–30.0)	.0001
WLQ - Output ^a	8.7	(5.4–12.0)	23.0	(18.1–28.1)	.0001
Total days missed in past 2 weeks (%) ^a	0.74	(0.4–1.1)	1.2	(0.8–1.7)	.09
Total productivity loss due to work absences (%) ^a	7.5	(4.4–10.6)	10.8	(6.1–15.50)	.25

CI = confidence interval.

^a Adjusted for age, gender, and no. of chronic medical diseases.