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Title: Nurses' illness perceptions during presenteeism and absenteeism

Abstract

Background: Presenteeism has been linked with lost productivity, impaired health and absence. Whilst much research has focused on types of diseases associated with presenteeism and absenteeism, there has been little investigation into the role of individuals' illness perceptions in these episodes.

Aims: To assess how illness perceptions vary between presenteeism and absenteeism episodes.

Methods: A cross-sectional questionnaire was distributed to ward-based nurses working with older adults. Data on illness perceptions during presenteeism and absenteeism episodes were collected. Data were analysed via the Paired-Samples *t*-test, Wilcoxon test, and McNemar test.

Results: 270 cases were analysed (88% response rate). Compared with presenteeism, illnesses during absenteeism were thought to affect lives more ($p < .001$), to have more serious symptoms ($p < .001$), to be more concerning ($p = .003$), more likely to be treated ($p = .009$), more infectious ($p < .001$), and perceived as more legitimate reasons for absenteeism ($p < .001$). Treatment was considered more effective during absenteeism ($p < .001$), whilst workability was better during presenteeism ($p < .001$). Presenteeism was perceived as harmful and absenteeism beneficial for illness. Individuals attended work when presenteeism was expected to be less harmful ($p < .001$) and avoided work when absenteeism was expected to be more beneficial for illness ($p < .001$).

Conclusions: Illness perceptions varied significantly between presenteeism and absenteeism episodes and should be included in models of illness behaviour. Findings also highlight that

policy may influence illness behaviour and that nurses may attend work despite concerning levels of illness.

Key words: Absenteeism; sick leave; presenteeism; nurses; illness behaviour.

Introduction

Definitions of presenteeism vary but most commonly it refers to where individuals attend work despite feeling sufficiently ill to take sickness absence [1]. Research has identified some factors that influence presenteeism and absenteeism. Various health-related, attitudinal, organisational, and individual factors appear to be implicated [2], but a lack of clarity regarding the aetiological factors associated with absenteeism and presenteeism remains.

As presenteeism and absenteeism are usually instigated by sickness, research has often focused on the role of health and disease. Often, less healthy workers report increased absenteeism and presenteeism [2, 3]. Disease-specific factors have also been studied, with the most consistent finding being that greater symptom severity often results in absenteeism [4]. Some categories of disorders, such as musculoskeletal disorders (MSDs) and common mental disorders (CMDs) appear to result in presenteeism more frequently than absenteeism [5], as do diseases classified as chronic as opposed to acute [5, 6]. Findings that link chronic disease with absenteeism, rather than presenteeism, have also been presented [7]. The impact of treatment on presenteeism and absenteeism choices is also still unclear [7, 8].

Presenteeism and absenteeism decisions may also be influenced by individuals' own appraisal of illness [9]. Despite their potential relevance, presenteeism studies that include illness perceptions have been limited and findings have been mixed.

Individuals who experienced longer lasting illnesses have described these as a less legitimate reason for absenteeism than shorter illnesses [10] but also as conditions that often necessitated absenteeism [11]. Perceived contagion can encourage absenteeism [12] although workers may attend work with such conditions [13]. Disabling symptoms [14] and believing one is 'too poorly' to cope with work tasks has been associated with absenteeism [15]. However, reduced workability has also been linked with more frequent presenteeism [16]. Finally, believing that presenteeism is dangerous for ones' health has been associated with

increased absenteeism and reduced presenteeism [17]. Despite this, attendance requirements can result in presenteeism even when considered negative for health [15].

The existing knowledge base is derived from qualitative studies that explored reasons for illness behaviour, and quantitative studies that identified the correlates of presenteeism and absenteeism frequency. Individuals' illness perceptions during specific presenteeism and absenteeism episodes have not previously been compared quantitatively; this may foster a better understanding of what drives such decisions and is the aim of the current study. Such findings would also provide a better understanding of individuals' health state when attending work ill.

Methods

A paper-based questionnaire was distributed to ward-based nurses in two hospitals in Malta that specialise in the care of older adults. The organisations' sickness absence policy required sick leave of any duration to be supported by certification from a medical doctor. To maximise the response rate, questionnaires were distributed by hand to on-duty qualified nurses. Nursing assistants, and qualified nurses who had worked in the organisations hosting the research for less than one year, were excluded from the study.

The questionnaire asked individuals to reflect upon the last time that they had attended work whilst ill and the last time they had avoided work whilst ill, during the preceding 12 months. The questionnaire contained two identical sections; one referred to participants' illness perceptions during their last episode of presenteeism, and the other the last episode of absenteeism.

Participants were first asked to identify the perceived categories of illness experienced during these episodes. Categories mirrored those identified by the Department for Work and Pensions (UK) [18]. Two types of variable were derived; whether the individual experienced

a specific category of illness (1) or not (0); and the number of illnesses reported during each illness episode.

Perceptions were measured via the Brief Illness Perception Questionnaire (B-IPQ) [19]. The B-IPQ has good psychometric properties [20] and contains eight single-item questions, all of which are measured on an eleven-point scale (0 – 10). Six items measured cognitive illness representations: identity (symptoms severity); timeline (length of illness); consequences (impact of illness on life); personal control (ability to control illness); treatment control (control of illness via treatment); and coherence (ability to make sense of illness). Two items measured emotional representations: emotional response (experience of negative emotions); and concern (about illness). Finally, illness cause was measured by an open-ended question that asked participants to list up to three perceived causes of their illness in order of importance. The first cause was categorised as being an organisational cause (1), or as a cause unrelated to one's work (2). The B-IPQ item on treatment control was modified and included a section where participants could indicate if they had not received treatment.

Additional illness perceptions included contagion, which was measured via a single-item measure, "How contagious was your illness?" and rated on an eleven-point scale ranging from "absolutely not contagious (0)" to "extremely contagious (10)". Absence legitimacy was rated via the question, "Do you believe that your co-workers would have considered your illness as a valid reason for you to take sick leave?" Responses ranged from "absolutely not (0)" to "definitely (10)". Workability was rated via the following question: "How would you rate your workability when attending with this health issue/s compared with your life-time best?" [21]. Responses ranged from "completely unable to work (0)" to "workability at life-time best (10)".

Participants were asked to reflect upon how they had expected that attending and avoiding work could have affected their illnesses during their last episode of presenteeism

and absenteeism. The questions posed within the presenteeism-related section included, “What impact did you expect attending work when unwell would have on your illness?” and “had you instead chosen to stay home, what impact did you expect this would have had on your illness?” Similar questions were posed for absenteeism episodes. All questions were measured on a 5-point scale: very harmful (1); harmful (2); no effect (3); beneficial (4); very beneficial (5).

Demographic information including age, gender, grade (charge nurse or nurse), employment (full time or part-time / reduced hours) and position (relief staff or fixed on a ward) were collected. Data were analysed using IBM SPSS Statistics 22. Questionnaires with substantial missing data were discarded. For small amounts of missing information mean substitution was applied.

Presenteeism and absenteeism data from the B-IPQ, as well as the measures of contagion, illness legitimacy, and workability, were analysed for significant difference ($p < 0.05$) via the Paired-Samples t test. Differences in the expected health impacts of absenteeism and presenteeism were analysed via the Wilcoxon test. Finally, the presence or absence of common categories of illness, the taking of treatment, and the cause of illness were analysed with the McNemar test [22].

The study received ethical approval from the Research Ethics Committee of the Faculty of Medicine & Health Sciences, University of Nottingham.

Results

Out of a population of 410 nurses, the researcher managed to contact and invited 321 to participate in the study; 283 questionnaires were returned (88% response rate). Thirteen questionnaires were not analysed due to missing data. Analyses were thus conducted on a total of 270 cases (66% of the population). Most participants were female (72%) with a mean

age of 38.4 (SD = 12.9). Most worked full-time (97%), had a fixed position on a ward (90%), and did not hold a charge position (77%).

McNemar tests ($N = 270$) indicated that MSDs ($p < .05$), CMDs ($p < .05$), and headaches and migraines ($p < .05$) were more frequently reported during presenteeism than absenteeism episodes (Table 1). Digestive illnesses ($p = .001$), infectious diseases ($p < .05$) and post-operative recovery ($p < .05$) were more frequent during absenteeism than presenteeism. During presenteeism, individuals reported a mean of 1.88 illnesses ($SD = 1.22$), and during absenteeism a mean of 1.80 ($SD = 1.28$). A Paired-Samples t test indicated that the number of illnesses during these two episodes were not significantly different, $t(269) = 1.05$, $p = \text{NS}$, $d = .06$.

Insert Table 1 here

Paired-Sample t tests indicated that of the measured illness perceptions, only workability ($p < .001$) was significantly higher during presenteeism than absenteeism (Table 2). Conversely, during absenteeism, B-IPQ consequences ($p < .001$), identity ($p < .001$) and concern ($p < .01$) scales were significantly higher, indicating that illnesses affected lives more, had more symptoms, and were of more concern, respectively. Illnesses were also significantly more contagious ($p < .001$) and presented a more legitimate reason for absenteeism ($p < .001$) during absenteeism than presenteeism.

Insert Table 2 here

While 74% of individuals received treatment during presenteeism, 82% did so during absenteeism. A McNemar test demonstrated that this difference was significant ($p < .01$). A Paired-Samples t test was conducted to compare the extent to which individuals who received treatment during both presenteeism and absenteeism felt this would help their illness (B-IPQ treatment control). Significantly lower mean scores of 5.98 ($SD = 2.49$) during presenteeism

versus 6.67 (SD = 2.47) during absenteeism episodes, indicated that treatment was more helpful during absenteeism, $t(183) = -3.67, p < .001, d = -.28$.

For each illness episode, participants were asked to reflect upon how they had expected their chosen illness behaviour (e.g., presenteeism) to impact upon their illness, and how the alternative illness behaviour (e.g., absenteeism) may have impacted, had this instead been chosen. During both episodes, most participants expected that attending work when ill would impact their illness negatively. Significantly more participants expected such attendance to be harmful or very harmful when they instead engaged in absenteeism (86%) than when they engaged in presenteeism (73%), $z = -5.18, p < .001, r = -.31$. During both episodes, most participants expected that avoiding work whilst ill would be beneficial for their illness. Significantly more participants expected that avoiding work could have been beneficial or very beneficial for their illness when they chose absenteeism (88%) than when they instead engaged in presenteeism (78%), $z = -5.31, p < .001, r = .32$.

During periods of presenteeism, 75% reported that the primary cause of this episode was an organisational one, whilst 25% reported a non-organisational reason. During periods of absenteeism, 79% reported that the main cause of their illness was organisational. The McNemar test explored the difference in frequency of organisational versus non-organisational causes during periods of presenteeism and absenteeism. No significant difference was found.

Discussion

Illness perceptions varied between presenteeism and absenteeism episodes. Whilst workability was believed to be better during presenteeism, illness during absenteeism was characterised by greater consequences, more symptoms, greater concern, increased contagion, and greater absence legitimacy. Disease types also varied between the episodes.

Individuals engaged in presenteeism when it was believed to be less harmful for illness and engaged in absenteeism when it was expected to be more beneficial.

Our study is the first to use a quantitative research methodology to compare illness perceptions between specific presenteeism and absenteeism episodes. This is useful as previous quantitative studies typically analyse the correlates of presenteeism frequency, providing limited information on nurses' perceptions during these episodes. Presenteeism is known to be prevalent in nurses [26] and this study is the first to analyse this behaviour via a quantitative research approach in a healthcare setting in Malta. There were several limitations. Illness perceptions were measured retrospectively. Future studies might consider using a diary approach to record illness perceptions. Perceptions were measured via single-item scales; it is possible that low levels of reliability influenced the findings [27]. However, these enabled brevity in questionnaire length which may have improved response rates. The sample was also limited to nurses working with older adults in Malta, limiting generalisability. Finally, workers away from work due to long-term illness were excluded.

Studies have previously highlighted that certain types of illness may be more commonly associated with either presenteeism or absenteeism. The identified link between presenteeism, MSDs and CMDs in the present study mirrors previous findings [5]. It has been suggested that such findings may reflect the often recurrent and chronic nature of these disorders [6]. The current findings do not support this, with the B-IPQ timeline variable indicating that the length of conditions was not significantly different between presenteeism and absenteeism episodes. Rather, findings suggest that factors such as reduced symptom severity, greater workability and reduced absence legitimacy may be more important in fostering presenteeism. Workability [15] and beliefs that illness was less severe or less visible [23], have previously been found as drivers of presenteeism.

As previously highlighted, greater contagion [12] appeared to encourage absenteeism rather than presenteeism and may have contributed to digestive and infectious diseases being most prevalent during absenteeism. As policy dictated that sick leave had to be certified by a doctor, digestive and infective illnesses may have been viewed as more 'legitimate' reasons for absence, particularly as infection control policy discouraged attendance with such illnesses. Had nurses wanted to use sick leave for reasons other than illness, citing digestive symptoms may have been preferable as they are not easily corroborated by signs and investigations.

The study highlighted that during presenteeism, workers were less concerned about their illnesses and reported that illness had less of an impact upon their lives than during absence episodes. These issues do not appear to have attracted much previous research. However, the limited evidence that is available suggests that experiencing a greater number of symptoms is linked with experiencing greater illness-related concerns and consequences [19]. Furthermore, those less concerned by illness are more likely to return to work following absenteeism [24].

Presenteeism was largely considered harmful to illness, whereas absenteeism was believed to be beneficial. As individuals traditionally avoid work to facilitate recovery, the finding was not surprising; however, instances of presenteeism being considered as beneficial for health have also been reported [10]. The study revealed that most participants attended when this was expected to be less harmful, and avoided work when this was expected to be more beneficial. It has previously been reported that those who believed presenteeism to be harmful also engaged in less frequent presenteeism and more absenteeism [17]. Our findings support this.

Individuals were less likely to receive treatment during presenteeism, and of those who received treatment during both types of episodes, this was considered more effective

during absenteeism. Whilst treatment may aid attendance when ill [9], the greater frequency of treatment during absence is likely related to the greater experienced symptoms and concerns during these periods. Treatment was also considered less effective during presenteeism, which may also have affected its uptake. This may be due to the high percentage of reported organisational causative agents and the perception that presenteeism was harmful. In fact, whilst symptoms were lower during presenteeism than absenteeism, personal control and workability were still quite low during presenteeism, whilst illness-related emotion was high. As nurses had to obtain certification from a doctor in order to avail of absenteeism, this may have led to better treatment options during these periods.

In conclusion, the findings highlight that individuals' illness appraisals may be relevant in determining illness behaviours. This suggests that models of illness behaviour may benefit from including illness perceptions. In terms of implications for practice, employers need to be aware that nurses may partly base their illness behaviours on their own illness appraisals; proactive measures to identify poorly nurses should be taken, including those that enquire about employees' perceptions. The study also highlights the high prevalence of conditions such as MSDs and the high level of some negative perceptions during presenteeism. Preventative steps are required to tackle the high frequency of organisational causative agents. Nurses should also be dissuaded from attending work when workability is perceived to be poor given that presenteeism in nurses has been linked with patient falls, medication errors and quality of care [25]. Better access to occupational health services may lead to better clinical outcomes, improved perceptions of illness-related control and fewer future presenteeism and absenteeism episodes. And finally, the findings highlight the possible influence of organisational policy when employees make decisions about presenteeism and absenteeism.

Key learning points:**What is already known:**

- There is a lack of research on influence of illness perceptions on presenteeism and absenteeism decisions.

What this study adds:

- Illness perceptions varied between presenteeism and absenteeism. These include perceived illness type, symptom severity, levels of concern, effect on daily living, infectiousness, absence legitimacy, workability, and treatment control.
- Participants generally considered presenteeism as negative, and attended work when this was considered less harmful, rather than beneficial.
- The findings also suggest that organisational policy influenced presenteeism and absenteeism decisions.

Impact on practice and policy:

- Proactive preventative health measures and better access to occupational health services are important to tackle presenteeism.

Competing interests: None declared

Funding: This work was supported by the University of Malta

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Table 1: Illness prevalence during last presenteeism and absenteeism episode.

Illness	Never experienced illness (%)	Experienced only during SP (%)	Experienced only during SA (%)	Experienced during both SP and SA (%)	<i>p</i> -value
MSDs	94 (35)	55 (20)	31 (12)	90 (33)	*
Respiratory disease	166 (61)	32 (12)	40 (15)	32 (12)	NS
CMDs	195 (72)	31(12)	14 (5)	30 (11)	*
Fatigue	199 (73)	30 (11)	18 (7)	23 (9)	NS
Headache	200 (74)	32 (12)	15 (6)	23 (9)	*
Menstrual symptoms	218 (81)	21 (8)	15 (6)	16 (6)	NS
Digestive disease	219 (81)	4 (1)	34 (13)	13 (5)	***
Injury	244 (90)	9 (3)	9 (3)	8 (3)	NS
Infectious disease	250 (93)	3 (1)	12 (4)	5 (2)	*
Post-operative	255 (94)	2 (1)	10 (4)	3 (1)	*

* $p < .05$; ** $p < .01$; *** $p < .001$; $N = 270$; SP, sickness presenteeism; SA, sickness absenteeism; MSDs, Musculoskeletal Disorders; CMDs, Common Mental Disorders.

Percentages do not always total 100 due to rounding

Table 2: Illness perceptions during last presenteeism and absenteeism episodes.

Variable	Presenteeism		Absenteeism		<i>t</i> test		
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>	<i>d</i>
Consequences ¹	5.13	2.22	6.27	2.49	-7.15,	***	-.43
Timeline ¹	4.72	2.88	4.84	2.98	-.66	NS	-.04
Personal control ¹	4.39	2.26	4.70	2.71	-1.87	NS	-.11
Identity ¹	5.11	2.41	5.87	2.35	-5.17	***	-.32
Concern ¹	5.88	2.89	6.39	2.78	-.2.97	**	-.18
Coherence ¹	7.14	2.40	7.43	2.25	-1.81	NS	-.11
Emotion response ¹	6.07	2.84	6.32	2.81	-1.36	NS	-.08
Contagion	1.62	2.42	2.87	3.22	-6.13,	***	-.37
Legitimacy	6.51	3.15	7.71	2.78	-6.04	***	-.37
Workability	5.03	2.13	3.46	2.52	8.46	***	.51

* $p < .05$; ** $p < .01$; *** $p < .001$; $N = 270$; *M*, Mean; *SD*, Standard Deviation, *t*, test value; *p*, significance value; *d*, effect size

¹ Brief Illness Perceptions Questionnaire (B-IPQ) scales