The impact of contact dermatitis: a case series from the National Institute for Occupational Health (NIOH)

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ABSTRACT

Background: Occupational contact dermatitis (OCD), a commonly diagnosed occupational disease, has the potential to have negative psychosocial, vocational and financial outcomes. Workers’ compensation can ameliorate some of the financial loss. Little is known about these outcomes in South African cases of OCD.

Methods: This was a cross sectional study, using qualitative and quantitative methods, of patients diagnosed at the Dermatology Clinic of the National Institute for Occupational Health (NIOH) in Johannesburg. All patients’ records for the period October 2006 to March 2008 were reviewed and the patients were asked to participate in a telephone interview. The cases were followed up at the Compensation Commissioner’s office to evaluate the status of their claims.

Results: One hundred and twenty-nine patients were seen at the Clinic during the study period and 128 were included in the review. Ninety-three patients participated in the telephone interview, 47 of whom had been diagnosed with occupational contact dermatitis. There was a recurring theme that people felt embarrassed by the condition and that it “affected [their] lives too much.” Vocational impact included “job insecurity”, “difficulty completing work” and “stigmatisation from fellow workers and the employer.” Nine of the 47 participants (19.1%) interviewed and diagnosed with occupational skin disease had lost income. Twenty-four of the 47 (51.1%) patients with occupational skin disease had made out-of-pocket medical payments. The median out-of-pocket payment per month for all participants was R260 (range R20-R900) over a median duration of 15.9 months (range 1-36 months). Sixty-four patients (50%) were diagnosed with occupational contact dermatitis and hence were potentially eligible for workers’ compensation. An important finding was that only eight had been resolved: six of the 64 had received compensation; a further two cases had been repudiated.

Conclusion: Contact dermatitis was associated with negative psychosocial and vocational impacts and financial loss. Fewer than expected compensation claims had been resolved.

Keywords: occupational skin disease, compensation, allergic contact dermatitis, irritant dermatitis, quality of life

BACKGROUND

The two most common types of occupational contact dermatitis (OCD) are irritant contact dermatitis (ICD) and allergic contact dermatitis (ACD).1 The diagnosis of occupational contact dermatitis depends on factors such as the nature of the rash, the occupational exposure, the anatomical site, improvement of the rash when not at work, and the results of investigations such as skin patch testing.2,3 ACD can have a latent period of weeks to years after first exposure2,4 but ICD can occur without latency.5

OCD is one of the most frequently diagnosed occupational diseases and may require expert assessment to diagnose and manage the condition. Consequently, the National Institute for Occupational Health (NIOH) has established a Dermatology Clinic to attend to these cases. The Clinic is situated at the NIOH in Johannesburg. The referral base
PSYCHOSOCIAL IMPACT OF DERMATITIS

Embarrassment and social avoidance

“It (the skin dermatitis) affected me greatly. I was too embarrassed by what people said. I could not touch my wife.”

“This skin problem makes me very embarrassed at work and home.”

“People stare at me all the time. This is very embarrassing.”

“I have waited three years that is too long. It has affected my life too much. It is embarrassing.”

“This condition has affected me too much. It has changed my life. I cannot touch metals and it is very embarrassing to be with people.”

Self-consciousness

“This skin condition makes me very uncomfortable. People stare at me and look at me funny.”

Personal relationships

“It has affected my life too much. It affects my work and my family life. I have being waiting too long. It is too frustrating.”

“It also affected me at home. I was embarrassed to touch my wife.”

“This skin problem is very embarrassing. People are too scared to touch me.”

Box 1. The psychosocial impact of dermatitis on participants

VOCATIONAL IMPACT OF DERMATITIS

“I could not work and stayed out of work a lot. They (the employer) told me that I was just lazy and that if I did not work I should leave. This made me so emotional.”

“I was told to get another job if I could not continue to work in the workshop.”

“It affected how I do my work a lot. And people would just look at me all the time.”

“The skin condition is very embarrassing. It has also affected my work too much.”

“I am still in the same job and the problem is still the same. I cannot leave the job. The skin problem affects my work”

“The company has a policy of no work, no pay. I have to work even if I cannot. It has being very difficult for me. The skin problem affects me too much.”

“It has affected my income. If I do not work I do not get paid. I have to work even when it is too painful to work.”

“The skin problem did not affect my work at all.”

Box 2. The vocational impact of dermatitis on participants

VOCATIONAL IMPACT OF DERMATITIS

Includes a wide variety of industry-based occupational health services, medical practitioners and self-referrals. At the time of the study reported here, the Clinic operated once a month and was staffed by a medical scientist (immunologist) and a specialist dermatologist with an interest in occupational skin diseases. The medical scientist was experienced in skin patch testing and had extensive knowledge of the industries and agents causing work-associated skin diseases.

Skin diseases have the potential to reduce the quality of life of individuals and their families. Psychosocial, vocational and financial domains may be affected, and these often overlap.6 The psychosocial effects include poor self-image and impaired interpersonal relationships. OCD may reduce work productivity, result in unwanted job changes, impede promotion at work, and contribute to absenteeism and presenteeism.8,9 Direct financial losses as a consequence of the disease arise from out-of-pocket payments for medication and for accessing treatment.6,7 In South Africa, workers’ compensation of OCD is provided for by the Compensation for Occupational Injuries and Diseases (COID) Act of 1993. The benefits in terms of the Act can ameliorate some of the financial loss due to OCD as they include medical aid and monetary payments.

Little is known about the negative impact of OCD on employees in South Africa. In addition, the workers’ compensation experiences of these cases are likely to be poor.8 Hence, this study was designed, which aimed to describe aspects of the psychosocial, vocational and financial outcomes of patients seen at the NIOH Dermatology Clinic, to describe compensation outcomes, and to identify possible barriers to successful compensation.

METHODS

This was a cross-sectional study using quantitative and qualitative methods.

Subjects

All 129 patients seen at the NIOH dermatology clinic from October 2006 to March 2008 were eligible for the study. One hundred and twenty-eight of these had medical records complete enough for inclusion. The diagnosis was made by a specialist dermatologist. Cases thought to have ACD were patch-tested (n=96), but those exposed to an established skin irritant were not.

Data collection

Diagnostic information and contact details were collected from the medical records of the 128 cases. Subsequently, questionnaires were telephonically administered by the first author to all cases who could be contacted (n=93). The questionnaire contained both closed-ended and open-ended questions, and covered current occupational status and occupational exposures; financial losses due to the skin disease; the impact of the disease on personal lives and vocation; and

Allergic contact dermatitis

Photo courtesy of Anna Fouie, NIOH
experience with the Compensation Commissioner’s office. The conversation was captured verbatim.

The status of claims of 64 cases submitted to the Compensation Commissioner’s office was established by reviewing the electronic records at the Commissioner’s office in Pretoria. Additionally, these records were reviewed to identify missing compensation documents.

Data analysis
Analysis was done using STATA 10. Means are presented where the data were normally distributed and medians and ranges where the data were skewed. Univariate analysis using logistic regression was done to identify predictors of compensation outcome. Multivariate analysis was not appropriate due to the small number of resolved compensation claims. The findings from the open-ended questions in the telephone interview were analysed using qualitative techniques: the responses were coded and grouped into themes.

The study was approved by the Human Research Ethics Committee of the University of the Witwatersrand, Johannesburg (certificate clearance number M080410).

RESULTS
Ninety-three (72.7%) of the 128 cases reviewed were male. Psychosocial, vocational and financial impacts are discussed for the 93 contactable cases, and compensation information for the 64 (50.0%) of the 128 who were diagnosed with OCD, as these were potentially eligible for compensation. Allergic contact dermatitis (ACD) was diagnosed in 35 of the 64 cases (54.7%) and irritant contact dermatitis in the remaining 29 (45.3%). In the 64 cases submitted to the Commissioner, 54 (84.4%) underwent skin patch tests. Thirty-three (61.1%) of these were positive, 15 (27.8%) were negative, and six (11.1%) were equivocal.

Psychosocial aspects (measured qualitatively) and financial impacts overlap and, although they are treated separately in the following sections, the shared aspects of the different domains of life are demonstrated by the quotes used to illustrate each domain.

Psychosocial impact
The patients were affected by their skin disease even if it was not related to their occupation. Themes that emerged included embarrassment and social avoidance, self-consciousness, and a negative impact on personal relationships. Box 1 displays a series of quotes from the telephone interviews, illustrating the effects of the skin disease on the participants’ psychosocial well-being. The overall findings indicated that having a skin condition had a negative effect on the psychosocial well-being of some participants, but this was contradicted by one person who said: “It has not affected me that much. I would not say that it was a big problem.” One participant reflected that her life at work only improved once she was moved to an office job: “I was shifted to an office job. I am much happier now. I cannot complain. I was paid out and I am happy.”

Vocational impact
The themes that emerged are shown in Box 2 and included “job insecurity”, “difficulty completing work” and “stigmatisation from fellow workers and the employer.” Some participants felt that their job security was threatened because the skin condition impacted on their ability to complete work-related tasks. This was sometimes interpreted by the employer as unwillingness by the worker to do their work properly or as laziness. In some cases, workers were asked to leave their employment if they felt that they could not perform their tasks to the satisfaction of the employer. It should be noted that negative vocational experiences were not universal. One subject stated that: “The skin problem did not affect my work at all.”

Financial considerations
“I feel that the company is delaying this whole process (of the claim being settled). I am sure I didn’t get promoted because of my skin and my salary did not increase.”

There was a feeling among some of the participants that they were being deliberately disadvantaged by the employer and that this would then have an impact on their finances.
because it would, for example, result in them not receiving promotions and salary increases.

Ninety-three cases participated in the telephone interview; 91 (97.8%) of whom were able to indicate how their disease impacted on them financially. Forty-five of these 91 (49.5%) were diagnosed with an occupational skin disease. Table 1 illustrates the financial outcomes of employees diagnosed with a skin disease by whether or not it was related to their occupation. Missing out on promotion and out-of-pocket payments did not differ significantly between the two groups (chi-square test: p > 0.05).

Compensation outcomes

Only eight of the 64 submitted cases (12.5%) were resolved at the time of the visit to the Compensation Commissioner’s office for the review of compensation status. Six (9.4%) had received compensation and two (3.1%) had been repudiated. This is despite a long period since diagnosis of OCD for most cases: the median duration from diagnosis of OCD to the examination of the Compensation Commissioner’s records was 19 months (range 4-29 months). The univariate analysis identified some factors associated with claim resolution but the associations were not significant, probably because of the small number of claims resolved. A case was more likely to be resolved if the skin patch test was positive [OR 3.57 (95% CI 0.39-32.96)], if it originated from a large industry [OR 1.41 (95% CI 0.80-2.47)]; or if the worker was skilled or a professional compared to being unskilled [OR 4.30 (95% CI 0.80-23.25)]. Two of the resolved cases were still working for the same employer and three were still exposed to the same agent suspected of causing the dermatitis.

The general experience of people with the Compensation Commissioner’s office was negative. The following two quotes encapsulate this experience:

“I called them (the Commissioner’s office) but they kept saying that they would call me back. They never did.”

“I waited three years and still did not get my money.”

The Compensation Commissioner’s office indicated that the most important reason for a claim not being settled was outstanding documents. Table 2 shows the category of documents outstanding and the proportion of the 64 cases reviewed that fell into these categories (data are according to the electronic records of the Compensation Commissioner’s office).

In 33 cases (52.4%), the employer claimed to have submitted the necessary documents but there was no evidence in the files that the employer had submitted the documents for 25 of these cases (76%).

DISCUSSION

This series of cases of contact dermatitis identified negative impacts of the disease and tardy resolution of compensation claims with outstanding claim documents being the norm.

Psychosocial outcomes

Occupational or non-occupational skin disease affected workers similarly. Patients stated that the disease affected their self-images, and their relationships with their families and people in general. There was a recurring theme that people felt embarrassed by the condition and that it “affected [their]

Table 1. Financial outcomes of participants diagnosed with skin disease

<table>
<thead>
<tr>
<th>Diagnosed with occupational skin disease N=45</th>
<th>Diagnosed with non-occupationally-related skin disease N=46</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participants who reported loss of income due to their skin disease</td>
<td>24 53.3</td>
<td>22 47.8</td>
</tr>
<tr>
<td>Participants who indicated they had missed out on promotion due to their skin disease</td>
<td>8 17.8</td>
<td>6 13.1</td>
</tr>
<tr>
<td>Participants who indicated they made medical out of pocket payments related to their skin disease</td>
<td>24 25.8</td>
<td>32 34.4</td>
</tr>
</tbody>
</table>

Table 2. Numbers and proportions of documents that had not been captured on the electronic database at the Commissioner’s office

<table>
<thead>
<tr>
<th>Document type</th>
<th>Outstanding documents N=64</th>
</tr>
</thead>
<tbody>
<tr>
<td>Document type</td>
<td>n</td>
</tr>
<tr>
<td>WCL 1 (Employer’s report of an occupational disease)</td>
<td>46</td>
</tr>
<tr>
<td>WCL 14 (Notice of an occupational disease and claim for compensation)</td>
<td>46</td>
</tr>
<tr>
<td>WCL 22 (First medical report in respect of an occupational disease)</td>
<td>49</td>
</tr>
<tr>
<td>WCL 26 (Progress medical report in respect of an occupational disease)</td>
<td>48</td>
</tr>
<tr>
<td>Dermatology report</td>
<td>54</td>
</tr>
<tr>
<td>WCL 10 (The exposure history)</td>
<td>55</td>
</tr>
<tr>
<td>Results of special investigations</td>
<td>47</td>
</tr>
<tr>
<td>Final medical report</td>
<td>50</td>
</tr>
<tr>
<td>National identity document</td>
<td>48</td>
</tr>
<tr>
<td>Salary advice slip</td>
<td>47</td>
</tr>
</tbody>
</table>
lives too much.” There were no differences between men and women in their perceptions of how their skin disease had affected them. This is in contrast to a study in Cape Town, published in 2000, where Jobanputra and Bachmann reported that women experienced more psychosocial consequences than men, and that having a skin condition affected women more in terms of self-esteem, clothing choice and anxiety.9 The psychosocial impacts highlight the importance of not neglecting the “softer” issues in occupational health.

Vocational impact
A work-related condition such as OCD can reduce productivity which increases workers’ vulnerability. Several participants indicated that they were told to find another job when they complained that they could not work under the conditions that caused or aggravated their skin condition. This creates a dilemma for workers where rates of unemployment are high, and may force them to remain in employment despite the impact on their health, with negative medical and psychosocial consequences.10

Generally, OCD does not prevent people from working but it can make working very difficult, and the disease contributes to absenteeism and presenteeism in the workplace;11 affected workers may be present at work but may perform sub-optimally. This may impact negatively on the morale of co-workers, and overall productivity.11

Financial outcomes
Collection of data on financial losses was limited by the long delay (up to two years) between the participants initially being seen at the Clinic and the study being conducted. Participants could not always recall how much or for how long they had spent money on medical care related to their skin condition. The assessment of financial expenditure was further limited because hidden costs, such as those for transport, loss of potential income due to lost promotion opportunities at work, and loss of wages due to reduced productivity as a result of presenteeism and absenteeism, were not quantified.

The percentage of cases who reported loss of income was very similar between the OCD cases and the non-OCD cases, highlighting that the impact of a skin disease is not limited to it being occupationally related. Twenty-four participants (25.8%) diagnosed with OCD and 32 with non-OCD (34.4%) indicated they had had to make out-of-pocket payments for medical expenses. The median out-of-pocket payment was R187 per month over 24 months for cases diagnosed with OCD. At face value this may not appear to be a large amount of money but when one considers that the majority of cases were unskilled workers with low salaries, the amount could have had a significant financial impact. The undocumented expenditure, such as transport costs, would have compounded this impact.

The economic burden of skin diseases has not been established in South Africa but the costing of the burden of skin disease could help strengthen the case for primary prevention in the occupational setting, which should reduce expenditure on secondary and tertiary costs and compensation claims.12

Compensation outcomes
One function of the compensation system is to partially protect workers from financial loss with a temporary or permanent payment.13 The cost of medical treatment for occupational diseases should be covered by the compensation system; if this does not happen, occupational disease can have a significant impact on the finances of individuals.12,13

In 2006, Lazarov et al. reported that only 24.3% of OCD cases (n=70) in their study received compensation.14 The low number of cases compensated raises concerns about the process of submission and adjudication of claims under the COID Act.

All OCD cases seen in this cohort were diagnosed with OCD by a specialist dermatologist with extensive expertise in occupational dermatology. Despite this, two claims were rejected by the Compensation Commissioner and 56 cases were still pending at the time of the study, with a median of 21 months after the diagnosis. There are several factors that could explain this: first, the compensation officers...
who screen cases may not understand why certain cases that do not fulfil all the criteria on a checklist may still be eligible; second, a positive skin patch test is requested by the Commissioner’s office to assist in making a diagnosis of CD and, if the results are not in the file, the clerks may erroneously exclude a case. The skin patch test is not indicated in irritant dermatitis.15

The number of cases compensated in this study is very low when compared to some studies. For example, in 1995 Holness et al. reported that 87% of cases (n=230) were resolved successfully in their study.16 Carman et al. report that, on average, 12.3% of cases submitted to the Commissioner’s office from 1999 to 2005 were finalised but the data were not disaggregated according to acceptance or rejection of a claim.17

The main reason cited by the Commissioner’s office for failure to finalise claims was that there were outstanding documents. A comparison of the records of the Commissioner’s office and the NIOH records of forms submitted showed that 25 cases (44.6%) were pending because the employer had not submitted the necessary documents (WCL 1). Failure by the employer to submit the necessary documents exacerbates the existing backlog at the Commissioner’s office and results in “inefficient compensation, thereby prejudicing workers who had an occupational injury or disease.”18

The COID Act (amended, 1997) stipulates that, as part of the compensation process, the employer needs to submit a WCL 1 form on behalf of the employee.19 The compensation process thus hinges on the employer being responsive in submitting the necessary documentation. There were instances where the employer was contacted and had indicated that they had not submitted the WCL 1 forms because they did not agree with the NIOH dermatologist’s diagnosis of OCD.

This is a contravention of the COID Act on the part of the employer. The COID Act (amended, 1997) makes provision for either fining or imprisoning the employer for failing to comply with the Act.19 However, the enforcement of the Act is problematic due to resource constraints.20

The median time (19 months) from submission to assessment of a claim was long, yet the majority of claims had not been resolved. The Taylor Report (2002) states that the main reason for the compensation system failing is that the Commissioner had failed to administer the Compensation Fund properly.18

In the 2007/2008 annual report of the Compensation Fund, the Commissioner reported that there were administrative shortfalls within the Compensation Fund administration.20 A range of challenges to the management of the Fund are listed and these include human resource challenges, ineffective technology utilisation and failure to decentralise services.20 These and other shortfalls need to be addressed if workers are not to be prejudiced.

Limitations
Only one dermatologist saw patients at the NIOH Dermatology Clinic. Cases may thus have been misclassified. The advantage of having the same person, however, is that there is consistency in the criteria used to make the diagnosis of OCD.

This was a retrospective review with a long delay between the time that cases were diagnosed at the NIOH and the review of the records. Patients interviewed may not have been able to accurately recall the information that they were asked to provide. Additionally, validated questionnaires with standard quality of life questions were not used; their use would have improved comparison with other studies. It is possible that some participants were reluctant to discuss financial matters with an interviewer unknown to them.

The researcher had access to only the electronic records at the Commissioner’s office. The electronic records could not be verified against hard copies that this office may have received. It is thus not clear if documents submitted were received but not captured on the electronic system.

The unexpectedly small number of resolved cases resulted in low statistical power for identifying barriers to claim resolution.

CONCLUSION
OCD is chronic in nature, may have a poor prognosis, and has a significant impact on the psychosocial, financial and occupational dimensions of affected people.

The compensation outcome of OCD cases seen at the NIOH Dermatology Clinic was unsatisfactory. The two most important factors that contributed to the poor outcome were

Irritant contact dermatitis
the failure of the employer to submit documents to the Commissioner’s office, and the failure of the Commissioner to process claims efficiently and timeously.

The findings of this study highlight three important public health considerations. First, primary prevention is necessary to avoid the negative consequences of dermatitis. Second, the psychosocial and financial impact of skin diseases on workers is important, even if the disease is not occupational. Third, a well-functioning compensation process is needed to help protect workers from the financial burden of OCD.

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CONFLICT OF INTEREST
The authors declare that they have no conflict of interest.

LESSONS LEARNED
1. Skin disease can have negative psychosocial, vocational and financial impacts, whether the disease is occupationally related or not.
2. Occupational skin disease may lead to loss of income due to days off work, failure to be promoted or out-of-pocket payments for health care.
3. There was a general dissatisfaction among patients with the Compensation Commissioner’s handling of compensation claims.
4. The compensation process failed to protect the majority of workers from the financial losses caused by occupational skin disease.

REFERENCES