Evaluation of doctor–worker encounters in occupational health: an explanatory study

H. N. Plomp
Department of Social Medicine, Vrije Universiteit, Van der Boechorststraat 7, 1081 BT Amsterdam, The Netherlands

In this paper workers' evaluations of various types of doctor–worker encounters in occupational health (the open consultation hour, required visits after absence from work and visits for periodic medical examination) are described and explored. The aim was a better understanding of the consultation processes and its determinants in the field of occupational health. Semistructured interviews were conducted in a sample of 313 employees. Quantitative and qualitative analyses were carried out in order to explain the variations in the outcome parameters. The quantitative analysis showed that workers' evaluation of their encounter with the occupational physician was rather indeterminate and only correlated positively with the variable 'meeting workers' expectations'. The qualitative analysis generated a classification of the variety of workers' expectations. In the Role Differentiation Model this classification of workers' expectations is related to three specific role aspects: the expert-, the counsellor- and the mediator-role aspect. The model assumes that the occupational physician should be able perform the behavioural requirements of these role aspects, in order to meet the expectations of the workers in various situations. The Role Differentiation Model is a hypothetical model, partly based on the outcome of the study, which explains the variation in workers' evaluations and could also be used to develop practice guidelines.

Key words: Consultation process; evaluation; occupational health services; occupational physician; Role Differentiation Model; satisfaction.

INTRODUCTION

Patient satisfaction is an important indicator of the quality of the consultation process in medicine.¹ It has been extensively studied, especially in the field of general practice. The main determinants appear to be: affective behaviour of the physician, provision of information and meeting of patient's expectations.² Patient satisfaction showed hardly any relationship to the quality of the professional–instrumental behaviour of the physician as assessed by colleagues;³ however, it is an important prerequisite for the efficacy of the services: patient satisfaction is strongly associated with patients' compliance with therapy and recommendations made by the therapist and with the willingness of the patient to provide information.⁴

Surprisingly, hardly any substantial research on the doctor–patient relationship has been carried out in the field of occupational health⁵ since, just in this field, there are specific factors that obviously affect the doctor–patient relationship negatively: the lack of a free doctor choice, the double loyalty of the occupational physician who works under authority of the company but also has an obligation to individual patients⁶ and, as a consequence of this, workers attend for work requirements, not as a result of their own initiative.

AIMS AND OBJECTIVES

The object of this study was to achieve a better understanding of the consultation processes in the field of occupational health. The first objective was to describe employees' evaluation of their most recent visit to the occupational physician in their company during the last year. The following types of worker–doctor encounters were discerned: the open consultation hour, required visits after absence from work and visits for periodic
Therefore statistical associations were calculated between national physician and employees refer to activities that working conditions and health risks; influence in the evaluation scores and the following independent variables: employees' judgement of the occupational physician (on the following aspects: medical expertise; understanding workers; being informed about work, work conditions and health risks; influence in the company), the reason for and intervention during the visit (not obtained for visits for periodic medical examinations) and workers' expectations of visits. Qualitative analysis was conducted on the clarification employees gave for their evaluation of the doctor-worker encounter, as written down literally by the interviewer.

MATERIALS AND METHODS

Data were collected in three different Dutch companies which differed with respect to size (3,478, 2,618 and 443 workers), type of OHS (corporate OHS in which the staff has the status of employee, or combined OHS in which the staff operates as an external adviser) and branch (metallurgic, chemical, textile). In each company, three or four categories of workers were defined on the basis of type of work and working conditions (for example in the chemical company: production, maintenance and research and development). From these categories, one or two 'functional units' (i.e., a group of employees working under one supervisor) were selected at random. All employees of a selected unit, from work-floor to the highest management level, were included in the study and invited for an interview. In addition to employees from the functional units, a number of employees were selected from files of workers with partial disabilities or at least 30 days absence during the previous year; they were considered to have had more experience with work-related health problems which might affect their utilization and evaluation of the OHS. The category of workers selected in this way represented approximately 30% of the samples in each company. The sample characterizes the variation in health status and working conditions in the companies included in the study. The response rate was over 90% in each company. More details about the sample procedure have been published elsewhere.

In total, 313 semistructured interviews were completed. Of the 313 workers interviewed, 141 reported a visit during the open consultation hour of the occupational health service in their company in the year before the interview; 55 were requested to attend the OHS because of absence from work and 90 participated in a periodic medical examination organized by the OHS. The visit was then evaluated with the question: 'Were you satisfied with this visit? (positive, moderate, negative). Clarifications given to this question which could not be classified in the pre-scheduled categories were written out and analysed as qualitative data.

RESULTS

Workers' evaluation

Table 1 shows workers' evaluation of different types of encounters: 64.5% gave a positive evaluation of the visits brought on their own initiative to the open consultation hour. The required visits after absence were evaluated less positively; half of these workers gave a negative evaluation. The visits to the occupational physician for periodic medical examination were evaluated most positively: 73.3% were satisfied with this type of visit.

Significant differences in workers' evaluations were found for different types of impairments or requests representing the reason for the visit (Anova p < 0.01): 82% of interviewed workers were satisfied if they came to the occupational physician because of an acute impairment (injuries or minor ailments), while only 45% of those who came for other non-acute impairments (more chronic or work-related) were satisfied. Visitors to periodic medical examination who claimed to have had no health problem at the time of their visit, evaluated their visit more positively as compared with those who reported having a health problem (76.5% and 63.3%). Moreover and not surprisingly, workers' evaluations of the encounter with the occupational physician were statistically significantly more positive if the result met the expectations of the worker. This was found for spontaneous visits (Kendall = 0.36, p < 0.01), for required visits (Kendall = 0.31, p < 0.01) and for periodic medical examinations (Kendall = 0.54, p < 0.01). However, as shown more extensively in the next section, expectations diverged considerably. The higher association for periodic medical examinations might be explained by the fact that the expectations concerning this type of encounter are rather global ('If it does not help it does not harm'; 'lowering uncertainty') and relatively easy to fulfil. The relatively low association with the required visits can be attributed to the fact that workers often did not have any expectation at all or thought that the encounter had no advantage for them personally, while
Table 2. Quotations from workers' positive and negative evaluations of different types of encounters with the occupational physician

<table>
<thead>
<tr>
<th>Type of encounter</th>
<th>A. Positive evaluations</th>
<th>B. Negative evaluations</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Spontaneous open consultation hour visit</td>
<td>Employee a.a.1.: 'I went to see him because of an infection in my ear; it's easy, you can just walk in. With the medicine he gave me it cleared up'.</td>
<td>Employee a.b.1.: 'I came because I'd been bitten by a dog ... but he said that I should go to my family doctor for that kind of thing ... perhaps it was naive of me to go to him for that; it didn't help me much though at the time'.</td>
</tr>
<tr>
<td></td>
<td>Employee a.a.2. (had painful ankles after a sports accident): 'I was afraid I wouldn't be able to play football again; ... he explained very clearly what was the matter and that if I took it easy it would be alright again. I was so relieved, because I really thought I would never be able to play football again'.</td>
<td>Employee a.b.2. (came because of 'painful joints'): 'he gave me an elastic bandage and some ointment ... but it didn't solve the problem'.</td>
</tr>
<tr>
<td></td>
<td>Employee a.a.3. (came because of a cold): 'You feel a different person when you come out ... because of course you are worried; you hear of people who collapse on the spot if they feel a bit dizzy'.</td>
<td>Employee a.b.3.: 'I had something in my eye and it was very painful ... the treatment wasn't very successful ... I ended up seeing the eye specialists'.</td>
</tr>
<tr>
<td></td>
<td>Employee a.a.4.: 'I had an upset stomach and I was given some pills to take ... I threw them away, but I was glad to have the letter for my boss saying that I should be allowed to eat when I'm working'.</td>
<td>Employee a.b.4. (was short of breath): 'He said, if you have problems again come and see me again, then we can sort it out together. I don't think there's much point in that because it is the doctor's job to keep people at work, so I'd rather go to my family doctor'.</td>
</tr>
<tr>
<td>B. Required visit after absence</td>
<td>Employee b.a.1.: 'I didn't think it would be any good, but I do think it's reasonable that the company knows why I was ill'.</td>
<td>Employee b.b.1.: 'I didn't know why I had to come, but I think it was because I've been absent for some time ... I didn't feel up to it; the doctor can't do anything about it afterwards'.</td>
</tr>
<tr>
<td></td>
<td>Employee b.a.2. (partially on a disability pension): 'I was doing shift-work and he was able to get me off it'.</td>
<td>Employee b.b.2.: 'The occupational physician is there for problems at work ... I've got problems at home; that's nothing to do with him. So my visit didn't have any result, but I didn't expect any either'.</td>
</tr>
<tr>
<td></td>
<td>Employee b.a.3.: '. . . they want to know what's wrong and why you are ill . . . I think it's a good thing that they check up on people'.</td>
<td>Employee b.b.3.: 'I had to tell him what was wrong . . . I didn't think there was much point in that . . . I've got my own family doctor for this kind of thing'.</td>
</tr>
<tr>
<td></td>
<td>Employee b.a.4.: 'I didn't think it would help much in my case; but it's the occupational physician's job to find out why people are ill'.</td>
<td>Employee b.b.4.: 'For the time being I could start working half-time again ... my boss didn't agree; he didn't need me any more. That kind of advice from the OHS is just a farce, and it's no good to me at all'.</td>
</tr>
<tr>
<td>C. Visit for periodic medical examination</td>
<td>Employee c.a.1.: 'I often have the feeling I'm a bit wound up . . . don't sleep well and have high blood-pressure ... then it's good to know whether you're doing too much'.</td>
<td>Employee c.b.1.: 'I told him I had problems with my back and hip, but the occupational physician didn't react; that's probably not so important for the company'.</td>
</tr>
<tr>
<td></td>
<td>Employee c.a.2.: 'Nowadays we have to weld synthetic materials and they say it gives off mustard gas . . . I don't know how that affects a person's health'.</td>
<td>Employee c.b.2.: 'Because I had to move away from A, I had big problems at home; my wife couldn't settle down here at all and I couldn't cope with my work. The occupational physician didn't react at all'.</td>
</tr>
<tr>
<td></td>
<td>Employee c.a.3.: 'He can find something wrong with you even though you feel perfectly well'.</td>
<td>Employee c.b.3. (a person on a disability pension (full certification)): 'There was never really anything wrong with me; if the result is the same as in my case then there are lots of people walking around with something wrong with them'.</td>
</tr>
</tbody>
</table>

Others considered it reasonable that the doctor would want to be informed about their illness (see section B, Table 2). In contrast to what was found in studies regarding the doctor–patient relationship in general practice, there was no significant association with workers' satisfaction and their judgement of the affective behaviour of the occupational physician (Kendall $p < 0.05$) (here measured as workers' perception of the ability of the occupational physician to understand workers) or with the workers general attitude towards the occupational physician (measured on the aspects medical expertise, being informed about work, working conditions and health risks and perceived influence in the company). Only the scores for the question 'Do you trust the occupational physician?', corresponded with the evaluation of the periodic medical examination (Kendall $= 0.27$, $p < 0.05$).

All associations were controlled for the variable 'company' which did not change the statistical significance or direction of correlations as reported. This implies that...
company or OHS-characteristics do not have a direct effect on the correlates of workers' evaluation of their encounter with the occupational physician.

Qualitative analysis

An analysis on qualitative data was carried out to explain the apparently large variation in workers' evaluations of their encounters with the occupational physician. Qualitative data focus on 'ordinary events in natural settings' and 'are fundamentally well suited for locating the meanings people place on events'. Qualitative data are presented in Table 2 which contains a selection of the literally formulated judgements of workers which often imply a clarification as well as an expectation of the encounter. For each type of encounter, an equal number of positive and negative judgement quotations has been chosen. By comparing the cases, a conceptual (theory) centred approach was adopted in order to identify common factors that could explain the variety in evaluations. The first step in the analysis was a comparison of the positive and negative judgements for each section in Table 2; this indicated that fulfilment of the expectation was the main predictor of the judgement. In the next step the various expectations were compared and interpreted; expectations varied for each type of encounter.

This variation is covered in the following classification of workers' expectations of their encounters with the occupational physician.

Medical intervention for specific impairments. Quotation a.a.1 in Table 2 can be classified in this category. There was a limited, clearly described medical impairment (infection in the ear) and the patient was looking for effective treatment; the patient was satisfied because he got what he expected. In quotations a.b.1, a.b.2 and a.b.3 the expectation was also to receive treatment for a specific limited impairment, but in these cases the expectations were not fulfilled and the evaluation was therefore negative.

Supportive intervention, including recognition and supplying additional information to quiet patient's uncertainty, unrest or anxiety about symptoms when a specific diagnosis cannot be made. Quotation a.a.3 can be classified in this category: the employee was satisfied because he felt relieved after the visit since he had worried about symptoms; so also was the employee in quotation a.a.2 who was afraid he would not be able to play football any more, and so were the employees in quotations c.a.1 and c.a.3. If anxiety is not relieved or even not noticed, a negative evaluation can follow as in quotations a.b.4, c.b.1 and c.b.3.

Work-directed interventions such as assessments or advice regarding work ability and health risks. Quotation a.a.4 belongs to this category because the employee received support for a privilege (eating in working time) that he obviously was not able to acquire himself. The same occurred in quotation b.a.2, while in c.a.2 and c.a.3 the workers feared health risks from their work and thought these risks were monitored by the periodic medical examinations. If work-related interventions were not considered to be effective or did not take place as expected, evaluations were negative as in quotations b.b.4, c.b.1 and c.b.3. If the employee had no specific expectation of the visit and was required to visit the occupational physician, the case was also classified in the category 'work-directed interventions'. For the most part, the reason for requesting attendance was simply to assess work ability and to eventually find work that fits the absent worker. Workers who felt that this was a justifiable motive for being requested to attend the OHS, evaluated the encounter with the occupational physician positively (quotation b.a.1 and b.a.4), while those who did not feel that the motive was justifiable evaluated the encounter negatively (b.b.1–3). If the workers themselves do not have a motive for going to the occupational physician and the reason for being requested is not clear, they might become suspicious, start speculating about the reasons and evaluate the encounter negatively.

Generally workers' expectations correspond with a specific type of impairment that represents the reasons for the doctor–worker encounter: medical interventions are expected for specific medical impairments, supportive intervention for non-specific impairments and at least work-directed interventions for impairments that are supposed to be work-related.

The role differentiation model

The most plausible explanation for the greater variability of evaluations of doctor–patient encounters in occupational health as compared with the field of the general practice, could be the more complex professional role the occupational physician has to perform which implies a larger variety of expectations of him. If this assumption is true, it implies the necessity of the greater behavioural repertoire of the occupational physician which is expressed in the Role Differentiation Model, as presented in Table 3. In this model three fundamental role aspects are included: the role of an expert, counsellor and mediator. These role aspects are derived from the classification of workers' expectations and corresponding impairments.

• In cases of an acute, specific impairment when a medical intervention is expected by the patient, the instrumental behavioural aspects are decisive for workers' evaluation of the encounter. The occupational physician is primarily approached and evaluated as an medical expert.

• If a worker fears the impact of an impairment that is not obvious or is not acute, the affective behaviour of the doctor is essential for his satisfaction. Affective behaviour refers to the quality of the interaction with the patient as characterized by verbal and non-verbal empathy. The occupational physician is primarily approached as a counsellor and evaluated on his empathic qualities.
Table 3. Role differentiation model for the evaluation of worker-doctor encounters in occupational health services

<table>
<thead>
<tr>
<th>Type of impairment/expected interventions</th>
<th>Role aspects of occupational physician</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute specific impairment (injury, minor ailment)/adequate medical, technical intervention</td>
<td>Expert</td>
</tr>
<tr>
<td>Non-acute, not obvious but more complex impairment/reassurance, recognition, support, advice, information</td>
<td>Counsellor</td>
</tr>
<tr>
<td>Work-related impairment/adaption of work, work relief, return to work, assessment, information, support</td>
<td>Mediator</td>
</tr>
</tbody>
</table>

- If an impairment is considered work-related because it is thought to be caused by working circumstances or to have an impact on the work ability, the positional behavioural aspects of the company physician as part of his professional role become the predominant factor in workers' evaluation of the encounter. Positional aspects refer to situations in which the occupational physician transacts with the company to advocate a client's case in the company, or vice versa, to serve the company's interests in regard to the workers. Relevant questions in this role aspect are: to what extent is the occupational doctor able to influence management and to what extent and according to which procedure will the company be provided with personal information. In questions of work ability the occupational physician is mainly considered a mediator between the company and individual employees and evaluated on his influence within the company, perceived independence, devotion to moral standards and dedication to workers' interests.9

The role aspects discerned require quite different abilities and should be applied when adequate. Also, workers themselves distinguish different aspects in the roles the occupational physician has to fulfill, as illustrated by the following quotation taken from the interviews: 'Do I trust him? . . . depends on why you go and see him.'

**DISCUSSION AND CONCLUSIONS**

Workers' evaluation of their encounter with the occupational physician in this study were somewhat variable. Evaluation was neither associated with the perceived affective behaviour of the occupational physician, as often demonstrated in field of the general practice, or with the general attitude towards him. The only significant association holding for the different types of encounters occurred with the variable 'meeting workers' expectations of the encounter'. The qualitative analysis suggests that workers have a greater variety of expectations of occupational physicians as compared with their expectations of general practitioners because the role of the occupational physician is more differentiated. This is mainly due to the role of mediator that results from the occupational physician's position in the enterprise and relationship to management. From the workers' perspective the occupational physician as a mediator has to handle different, possibly conflicting interests and for that reason the worker may take a cautious and calculating approach to him.

In the Role Differentiation Model, three role aspects of the professional role of the occupational physician were discerned: the role of expert, counsellor and mediator between company and individual worker. Each role aspect corresponds to a specific set of behavioural requirements. The basic assumption of the model is that the consultation processes the doctors have to perform in occupational health can be better understood and performed by discerning different role aspects. The Role Differentiation Model is a hypothetical model, constructed in an inductive way and based on data from a single country. It should be explored and tested in other situations. The model not only explains how workers evaluate the consultation processes, it is also helpful for organizing and teaching the consultation process in occupational health.

The consultation process, which has been called 'the central act in medicine'1 and apparently is determined differently in occupational health than in curative medicine, urgently deserves more attention.

**REFERENCES**


