The workload of GPs:
consultations of patients with psychological and somatic problems compared

Else M Zantinge, Peter FM Verhaak, Jan J Kerssens and Jozien M Bensing

ABSTRACT

Background
GPs report that patients' psychosocial problems play a part in 20% of all consultations. GPs state that these consultations are more time-consuming and the perceived burden on the GP is higher.

Aim
To investigate whether GPs' workload in consultations is related to psychological or social problems of patients.

Design of study
A cross-sectional national survey in general practice, conducted in the Netherlands from 2000–2002.

Setting
One hundred and four general practices in the Netherlands.

Method
Videotaped consultations (n = 1392) of a representative sample of 142 GPs were used. Consultations were categorised in three groups: consultations with a diagnosis in the International Classification of Primary Care chapter P 'psychological' or Z 'social' (n = 138), a somatic diagnosis but with a psychological background according to the GP (n = 309), or a somatic diagnosis and background (n = 945). Workload measures were consultation length, number of diagnoses and GPs' assessment of sufficiency of patient time.

Results
Consultations in which patients' mental health problems play a part (as a diagnosis or in the background) take more time and involve more diagnoses, and the GP is more heavily burdened with feelings of insufficiency of patient time. In consultations with a somatic diagnosis but psychological background, GPs more often experienced a lack of time compared to consultations with a psychological or social diagnosis.

Conclusion
Consultations in which the GP notices psychosocial problems make heavier demands on the GP's workload than other consultations. Patients' somatic problems that have a psychological background induce the highest perceived burden on the GP.

Keywords
general practice; mental health; referral and consultation; time factors; workload.

INTRODUCTION

Mental health problems of patients cover a substantial part of the total spectrum of problems a GP has to manage. Although the proportion of psychological or social diagnoses among all diagnoses in general practice is relatively small (about 8%[1]), GPs report that patients' psychosocial problems play a part in 20% of all consultations.[2,3] GPs complain about the workload that patients' mental health problems induce: consultations with patients with psychosocial problems may be more time-consuming[4–7] and the perceived burden is higher.[8,9]

The increasing workload in general practice is a 'hot topic' the world over. Morrison and Smith introduced a dramatic metaphor of workload in general practice:

> *'Across the globe, doctors feel like hamsters on a treadmill, that must run faster just to stand still'.*[10]

One of the reasons for this negative feeling on the part of GPs is the increasing dissatisfaction with the amount of time doctors can spend with their patients.[10] Although there is no clear evidence for an objective increase in the workload, feelings of dissatisfaction and lack of time are recognised by many doctors in many countries.[11,12–14]

We will focus on GPs' investment of time and feelings of insufficiency of patient time in consultations with patients with mental health problems. The background to this subject is that

***EM Zantinge**, MSc, researcher; **PFM Verhaak**, PhD, research coordinator; **JJ Kerssens**, PhD, senior researcher; **JM Bensing**, PhD, director, NIVEL, Netherlands Institute for Health Services Research, Utrecht, The Netherlands.*

Address for correspondence
Mrs E M Zantinge, NIVEL, PO Box 1568, 3500 BN Utrecht, The Netherlands. E-mail: e.zantinge@nivel.nl

Submitted: 13 April 2004; **Editor's response:** 18 June 2004; **final acceptance:** 12 November 2004.

©*British Journal of General Practice* 2005; **55:** 609–614.

dealing with patients' psychosocial problems is an essential part of the GP's job, although these problems are perceived as being very demanding. In a previous article we demonstrated that patients with psychological or social problems make greater demands on their GPs than other patients; they tend to contact their general practice twice as often as other patients.[15]

In this article, we explore the GP's workload during consultations. We consider three categories of consultations:

- consultations in which a psychological or social diagnosis has been made;
- consultations with a somatic diagnosis, in which the GP has assessed the background of the patient's problems as psychological; and
- consultations with a somatic diagnosis in which patients complaints have been attributed to physical factors.

Distinctions are made between objective measures of time investment and the GP's subjective perception of insufficiency of time. We aim to compare the GP's workload in consultations with patients with psychological or social problems to the workload in other consultations. We investigate whether consultations involving psychological/social problems take more time and whether the GP manages more problems at once. Additionally, we examine whether the GP is more heavily burdened with feelings of insufficiency of patient time in a psychological/social consultation than in other consultations.

Several authors have demonstrated in earlier research that patient characteristics such as sex, age, type of health insurance, ethnicity, education, and employment status may influence a GP's workload;[8,16,17] such factors are, therefore, included in the analysis.

METHOD

The data for this study were collected within the framework of the Second Dutch National Survey of General Practice, conducted in the Netherlands from 2000 to 2002.[18] A national representative sample of 195 GPs from 104 general practices participated in the National Survey. Of these 195 GPs, 142 gave permission to record consultations over 1 or 2 days, principally meant to determine the GP's style of communication.

The sample of 142 GPs is representative for the Dutch population of GPs with regard to age, sex, education, length of residence, degree of urbanisation, and number of working hours.[19] Patients were asked permission to record their consultation by video when they arrived at the general practice. Of the patients, 11.9% refused to participate in the video recording. After obtaining informed consent of GPs and patients, 2111 consultations were videotaped, which was roughly 15 consultations per GP. After each consultation, the GP completed a registration form about the consultation and the patient.

Measures

Consultations of all adult patients (aged 18 years or over) were included in this study. In each consultation, one or more diagnoses of the patient was coded according to the International Classification of Primary Care (ICPC).[20] Additionally, in each consultation the GP assessed to what extent psychological aspects played a part in the presentation of the patient's complaints. These assessments were graded on a 5-point scale, ranging from 1 ('psychological aspects play no part at all') to 5 ('psychological background'). For analysis, consultations were categorised as follows:

- consultations in which the patients received one or more diagnoses in ICPC chapter P 'psychological' or Z 'social' (n = 138);
- consultations with a somatic ICPC diagnosis, but a psychological background (scores 4 or 5 on the scale, complaints have mainly a psychological background, n = 309); and
- consultations with a somatic ICPC diagnosis and a somatic background (scores 1, 2 or 3 on the scale, n = 945).

Diagnoses in ICPC chapters P or Z were clustered; these diagnoses are not considered to be somatic. Furthermore, there are only 22 consultations with social diagnoses; such a small number makes distinction between psychological and social diagnoses difficult.

Consultation length, expressed in minutes to two decimal places, was measured afterwards by video observers. Interruptions, such as telephone calls, were subtracted from the total consultation time. GPs

How this fits in

GPs state that consultations with patients with psychosocial problems are more time-consuming and the perceived burden on the GP is higher than for those consultations for patients without psychosocial problems. In particular, consultations with patients with somatic problems but where psychological aspects play a part in the background induce the highest workload for the GP.

recorded the diagnoses of the patients in each consultation. The total number of diagnoses per consultation was calculated afterwards. After each consultation, GPs registered their assessment of insufficiency of time — the subjective workload measure — expressed as 'yes' (insufficient time) or 'no' (sufficient time).

Patient information including age, sex, type of insurance, ethnic background, work situation, and education was gathered from a registration form that was sent to all patients on the lists of the participating practices.

Statistical analysis

After exclusion of consultations concerning patients younger than 18 years and consultations without a registered diagnosis, 1392 of 2111 consultations were suitable for our analyses. Comparison of the patient characteristics between the different groups of patients was made by a χ^2 and *t*-test. Pearson's correlations and η were used to describe interrelations between the workload indicators.

Multilevel regression analysis was performed to calculate differences in workload measures. The research design involves a two-stage sampling frame (first stage GPs, second stage consultations per GP) giving rise to possible cluster effects.[21] Cluster effects are present when consultations within GPs are correlated compared with consultations between GPs, and can be measured by means of the intraclass correlation coefficient (ICC).[22] Consultation length (ICC = 0.13), number of diagnoses per consultation (ICC = 0.07), and assessment of insufficiency of time (ICC = 0.09) all had statistically significant ICCs ($P<0.05$; an ICC of 0.15 is considered quite high[23]). In order to account for these cluster effects, a special form of linear regression analysis — multilevel (or hierarchical linear) modelling — was applied. The multilevel model takes into account the cluster effects that are present in the data and adjusts the standard errors of the estimated coefficients accordingly.[23] Just as is the case in traditional regression analysis, covariates can be included in the multilevel model to correct for confounding variables. Data were analysed in this way, using MlWin software.[24] For consultation length and number of diagnoses per consultation, multilevel linear regression models were analysed; for the assessment of the insufficiency of time (yes/no) a multilevel logistic model was used. Patient characteristics that showed a significant attribution to the regression model ($P\leq0.01$) were included as covariates.

RESULTS

Table 1 presents patient characteristics, sorted by consultation. Sex was the only factor showing a significant difference between the consultations. In consultations with a somatic diagnosis but psychological background, there were more female patients compared with other consultations.

Table 2 presents correlations between the different measures of workload. All workload indicators are related to each other: the longer consultations take, the more GPs assess consultation time as insufficient. GPs make more diagnoses in longer consultations, and tend to perceive consultation times as insufficient more often when they make more diagnoses.

Table 3 shows differences in workload measures between the three categories of consultation, following multilevel linear regression analysis. Patients' age and sex were included as covariates.

Consultations with patients with a psychological or

Table 1. Patient characteristics in consultations with psychological/social diagnoses, consultations with somatic diagnoses but a psychological background and somatic consultations.

Patient characteristics	Consultations with psychological/ social diagnoses	*n*	Consultations with somatic diagnoses, psychological background	*n*	Consultations with somatic diagnoses, somatic background	*n*
Mean age (SD)	47.15 (14.71)	138	49.94 (16.35)	309	49.81 (18.01)	945
Female (%)	63.0[a]	138	70.6[a]	309	59.3[a]	945
Public insurance (%)	78.3	138	71.2	309	70.6	945
Non-Western nationality (%)	5.4	111	5.4	258	4.7	790
Unemployed (%)	2.5	121	3.0	265	1.3	828
Education (%):		109		259		774
None	0.9		3.1		1.0	
Primary school	20.2		18.9		20.5	
Secondary school	63.3		59.1		60.9	
Higher vocational training/university	15.6		18.9		17.6	

[a]*Significant P<0.01. SD = standard deviation.*

Table 2. Correlations (Pearson's R and η) between the indicators of workload.

	Consultation length	Number of diagnoses
Number of diagnoses	0.24[a,b]	n/a
Consultations with insufficient time	0.28[a,c]	0.15[a,c]

n = *1392.* [a]*Two-tailed significance P<0.01;* [b]*Pearson's R;* [c]η.

social diagnosis took, on average, 3.6 minutes longer than consultations with a somatic diagnosis and background. Consultation time was also significantly longer (by 2.4 minutes) when a somatic diagnosis was made but the background of the patient's complaints was psychological, when compared with wholly somatic consultations. Patients received more diagnoses, on average, in consultations with psychological or social diagnoses in comparison with other consultations. In consultations with psychological/social diagnoses or a psychological background, GPs more often considered the available patient time to be insufficient — 14.0% and 11.4% of the consultations, respectively — compared to completely somatic consultations (4% insufficient time).

Table 4 presents the results of multilevel logistic regression analysis to predict the GP's assessment of insufficiency of consultation time both from the diagnosis category of the consultations and from the other workload measures 'consultation length' and 'number of diagnoses'.

The odds ratios in Table 4 show that a longer consultation and a greater number of diagnoses increase the probability that a GP will regard consultation time as insufficient. A consultation with a somatic diagnosis but psychological background is still a significant predictor for an assessment of insufficient consultation time when the consultation length and number of diagnoses are added to the regression model, but the significance of the effect of a psychological or social diagnosis on GPs' assessment of time insufficiency disappears. Evidently, the fact that the consultation takes more time and contains more problems is sufficient to explain an evaluation of insufficient time, whereas the mere fact that there is a psychological or social diagnosis is not. A consultation with a somatic diagnosis but a psychological background, on the other hand, shows a significant contribution to GPs' assessment of insufficient time.

DISCUSSION

Summary of main findings

These findings demonstrate that consultation time increases when the GP diagnoses psychological or social problems. Additionally, our results show that a psychological or social diagnosis is not the only distinctive factor associated with longer consultations; even in the case of somatic diagnoses, consultations take more time when the GP evaluates the background of the patients' complaints as being psychological. In consultations in which the GP made a psychological or social diagnosis, the patient received more diagnoses than in consultations with only somatic diagnoses. The GP more often experienced a lack of time in consultations involving patients' mental health problems (whether they exist as the focus of the consultation or are in the background). Accordingly, in consultations with a somatic diagnosis but psychological background, GPs more often experienced a lack of time than in consultations with a psychological or social diagnosis.

Consultation length, number of diagnoses, and assessment of insufficiency of time are all significantly interrelated, even though the correlation coefficients are not very high. Consultations labelled as insufficient in terms of consultation time are related both to the problems of patients and to a longer consultation time and a greater number of diagnoses. Due to the cross-sectional design of the study, causes and effects of the relationships between the workload measures are unclear.

Table 3. Mean consultation length, mean number of diagnoses and percentage of assessments of insufficient patient time in three categories of consultations, calculated by multilevel models.

Workload measure	Consultations with psychological/ social diagnoses (*n* = 138)	Consultations with somatic diagnoses, psychological background (*n* = 309)	Consultations with somatic diagnoses, somatic background (*n* = 945)
Mean consultation length (minutes)	12.65[a]	11.48[a]	9.06[a]
Mean number of diagnoses	1.60[a]	1.34	1.29
Assessments of insufficient time (%)	14.00	11.39	4.03[a]

[a]*Significant P<0.01 different from the other two consultation categories.*

Strengths and limitations of this study

The Second Dutch National Survey of General Practice obtains representative measures of general practice care in the Netherlands. The video registration is a good method to gather information about GP consulting in a natural setting. The design of the Dutch National Survey makes it possible to integrate information about the consultations with detailed patient characteristics, as obtained from all listed patients. However, there are some methodological considerations and limitations to mention. Of the GPs who participated in the study, 27% did not obtain informed consent to videotape their consultations. This might induce a bias in the selected group of GPs. Perhaps the participating GPs are more interested in communication (the principal focus of the video registration) and accordingly more psychosocially oriented. These concerns are strongly contradicted by how representative the participating GPs are of all Dutch GPs, making a selection bias less likely.

Additionally, because of the limited number of consultations involved in this study, no distinctions are made between subcategories of psychological and social problems. Finally, the characteristics and the personal approach of GPs concerning psychosocial care of patients have not been taken into consideration in this study; a future paper will explore extensively GPs' influences on psychosocial care.

Comparison with existing literature

Earlier research has also demonstrated that consultation length increases where the mental health problems of patients are concerned,[4–7] but the distinction between consultations with a psychological or social diagnosis and a psychological background is new in this paper. Considering the results, the question arises: why do consultations including mental health problems of patients take more time and induce more feelings of insufficient time with the patient than 'somatic' consultations?

These results show that more patient problems are dealt with in longer consultations. Other authors have also demonstrated that the number of topics affects the length of consultations: Carr-Hill *et al* found a correlation of 0.16.[7] Another explanation is found in the complexity of the problems; mental health problems could be more complicated to diagnose and treat. One of the difficulties is that psychological and social problems are frequently expressed in somatic symptoms and complaints[25] as, for example, is often the case with unexplained medical complaints. These kind of problems are difficult to deal with because of their ambiguous and unclear character; this might increase the GP's perceived burden.

This complexity of patients' problems may also fit in with the finding that somatic problems in a psychosocial context, in particular, go hand in hand with more feelings of insufficiency of consultation time. An alternative perspective is that it is not patients' problems that influence the GP but, on the contrary, the GP that influences patients' problems presented in practice. As other authors have also argued, it seems plausible that where the doctor takes more time for the consultation, patients are able to discuss more problems, and possibly do so in more depth.[26,27] This increases the chance that psychosocial aspects of the patients' problems are part of the consultation. However, a longer consultation time does not obviously implicate higher patient satisfaction: Cape showed that patient satisfaction was not significantly associated with real consultation length, but only with patient-estimated consultation length.[28]

Another subject for discussion is the surprising result that it is in those instances when the consultation lasts longer, that the GP is more likely to assess the consultation time as being insufficient. This result can partly be attributed to the topics raised during longer consultations (more complex problems) or the number of diagnoses (more topics at once), but there is also an independent effect. A possible explanation is that feelings of insufficiency of time can be caused by the consultation time itself. Paradoxically, a consultation time that is longer than expected or planned beforehand by the GP can, perhaps, be a stressful event in itself, and give rise to more feelings of insufficiency of consultation time. This agrees with a previous study that demonstrated that longer consultations are associated with more dissatisfaction on the part of the GP about the duration of the consultation.[6]

Table 4. Odds ratios and confidence intervals of 'GPs assessment of insufficiency of consultation time', calculated by a multilevel logistic regression model.

	Assessment of insufficiency of time	
Variable	Odds ratio	95% CI
Type of consultation:		
Somatic diagnosis, somatic background	1[a]	
Psychological or social diagnosis	1.88	0.98 to 3.62
Somatic diagnosis, psychological background	2.06[b]	1.23 to 3.45
Consultation length (minutes)	1.19[c]	1.13 to 1.24
Number of diagnoses	1.59[b]	1.19 to 2.14

n = 1392. [a]Reference group; [b]Significant (P<0.05); [b]Significant (P<0.01); [c]Significant (P<0.001).

Implications for clinical practice and future research

We can conclude that consultations in which the GP notices psychosocial problems make heavier demands on the GP's workload than other consultations. Somatic problems that have a psychological background, in particular, induce a higher perceived burden on the GP. As previous research has demonstrated, Dutch GPs have stated that psychological or social factors play a part in 20% of all consultations.[2,3] This results in a higher workload for the GP in one in five consultations — a substantial contribution. For future research, we would recommend to distinguish between different mental health problems to explore the fluctuations in workload it might induce.

In an international context, the proportion of consultations involving patients' mental health problems might differ, depending on the health system and the role assigned to the GP. Financial support can be one of the ways to compensate a higher workload in cases of psychosocial care. Besides a discussion about the task profile of a GP, special attention to psychosocial care and medically unexplained complaints in vocational training might be supportive to reduce the GP's perceived burden.

Funding body

The study is part of the Second Dutch National Survey of General Practice (DNSGP-2), mainly sponsored by the Dutch Ministry of Health[18]

Competing interests

None

Acknowledgements

This study was carried out in accordance with Dutch privacy legislation. Privacy rules and regulations were deposited at the Dutch Data Protection Authority. The authors are grateful for the support of the general practices and patients who participated in the DNSGP-2, and the research staff of the DNSGP-2.

REFERENCES

1. Meijer SA, Zantinge EM, Verhaak PFM, *et al. Evaluatie versterking eerstelijns GGZ. Tweede Interim Rapportage.* [*Evaluation of the empowerment of primary mental health care.*] Second interim-report. Utrecht: NIVEL, 2003.
2. Visscher A, Laurant M, Schattenberg G, Grol R. *De rol van de huisarts in zake geestelijke gezondheidszorg.* [*GPs' role in mental health care.*] Nijmegen: Centre for Quality of Care Research, UMC St Radboud, 2002.
3. Verhaak PFM. *Mental disorder in the community and in general practice: doctors' views and patients' demands.* Avebury: Aldershot, 1995.
4. Howie JG, Porter AM, Heaney DJ, Hopton JL. Long to short consultation ratio: a proxy measure of quality of care for general practice. *Br J Gen Pract* 1991; **41:** 48–54.
5. Deveugele M, Derese A, van den Brink-Muinen A, *et al.* Consultation length in general practice: cross sectional study in six European countries. *BMJ* 2002; **325:** 472.
6. Andersson SO, Ferry S, Mattson B. Factors associated with consultation length and characteristics of short and long consultations. *Scand J Prim Health Care* 1993; **11:** 61–67.
7. Carr-Hill R, Jenkins-Clarke S, Dixon P, Pringle M. Do minutes count? Consultation lengths in general practice. *J Health Serv Res Policy* 1998; **3(4):** 207–213.
8. Bruijnzeels M, Hoop T de, Swart W, Voorham A. *Etnische herkomst van patiënten en werkbelasting van de huisarts.* [Ethnic background of patients and the burden of GPs.] *Huisarts Wet* 1999; **46:** 254–258.
9. Scott A, Wordsworth S. The effects of shifts in the balance of care on general practice workload. *Fam Pract* 1999; **16(1):** 12–17.
10. Morrison I, Smith R. Hamster health care. *BMJ* 2000; **321:** 1541–1542.
11. Mechanic M. How should hamsters run? Some observations about sufficient patient time in primary care. *BMJ* 200; **323:** 266–268.
12. Bailie R, Sibthorpe B, Douglas B, *et al.* Mixed feelings: satisfaction and disillusionment among Australian GPs. *Fam Pract* 1998; **15:** 58–66.
13. Huby G, Gerry M, McKinstry B, *et al.* Morale among general practitioners: qualitative study exploring relations between partnership arrangements, personal style, and workload. *BMJ* 2002; **325:** 140.
14. Sibbald B, Enzer I, Cooper C, *et al.* GP job satisfaction in 1987, 1990 and 1998: lessons for the future? *Fam Pract* 2000; **17:** 364–371.
15. Zantinge EM, Verhaak PFM, Bensing JM. The workload of general practitioners: patients with psychological and somatic problems compared. *Fam Pract* 2005; **22(3):** 293–297.
16. Groenewegen PP, Hutten, JBF, van der Velden, K. List size, composition of practice and general practitioners' workload in the Netherlands. *Soc Sci Med* 1992; **34(3):** 263–270.
17. Whynes D, Baines D. Predicting activity and workload in general practice from the demographic structure of the practice population. *J Health Serv Res Policy* 1996; **1(3):** 128–134.
18. Westert GP, Schellevis FG, Bakker DH, *et al.* Monitoring health inequalities through general practice: the Second Dutch National Survey of General Practice. *Eur J Pub Health* 2005; **15(1):** 59–65.
19. Brink-Muinen A van den, Dulmen AM, Schellevis FG, Bensing JM. *Oog voor communicatie: huisarts-patiënt communicatie in Nederland.* [*View on communication: Doctor-patient communication in general practice in the Netherlands.*] Utrecht: NIVEL, 2004.
20. Lamberts H, Wood M. *International classification of primary care.* Oxford: Oxford University Press, 1987.
21. Cochrane WG. *Sampling techniques.* New York: Wiley, 1977.
22. Searle SR, Casella G, McGullogh CE. *Variance components.* New York: Wiley, 1992.
23. Goldstein H. *Multilevel statistical models.* New York: Halsted, 1995.
24. Rasbash J, Woodhouse G. *MLN command reference.* London: Institute of Education, University of London, 1995.
25. Schulberg HC, McClelland M, Burns BJ. Depression and physical illness: the prevalence, causation and diagnosis of comorbidity. *Clin Psychol Rev* 1987; **7:** 145–167.
26. Ridsdale L, Carruthers M, Morris R, Ridsdale J. Study of the effect of time availability on the consultation. *J R Coll Gen Pract* 1989; **39:** 488–491.
27. Howie J. Comment: do minutes count for quality in the general practice consultation? *J Health Serv Res Policy* 1998; **3(4):** 213–214.
28. Cape J. Consultation length, patient-estimated consultation length, and satisfaction with the consultation. *Br J Gen Pract* 2002; **52:** 1004–1006.