

Patient Perception, Preference and Participation

Are GP patients' needs being met? Unfulfilled information needs among native-Dutch and Turkish-Dutch patients

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ARTICLE INFO

Article history:

Received 9 August 2011

Received in revised form 7 November 2012

Accepted 11 November 2012

Keywords:

Doctor–patient communication

Intercultural communication

Information needs

Observation study

ABSTRACT

Objective: This study aims to assess unfulfilled information needs of native-Dutch and Turkish-Dutch general practitioner (GP) patients in the Netherlands. In addition, the relation between perceived and recorded information provision by GPs is studied.

Methods: Unfulfilled information needs of native-Dutch ($N = 117$) and Turkish-Dutch patients ($N = 74$) were assessed through pre- and post-consultation questionnaires. Audiotapes of GP consultations were made to code GPs' information provision.

Results: Turkish-Dutch patients experience more unfulfilled information needs than native-Dutch patients, in particular those who identify equally with Dutch and Turkish culture. Overall, perceived information provision is hardly related to recorded information provision.

Conclusion: GPs insufficiently provide Turkish-Dutch patients and, to a lesser extent, native-Dutch patients as well, the information they need.

Practice implications: GPs should be trained in giving adequate, tailored information to patients with various ethnic and cultural backgrounds.

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1. Introduction

Previous literature suggests that doctors underestimate their patients' need for information [1–3] while patients generally desire as much information about their condition as possible [4–10]. Consequently, unfulfilled information needs for different types of patients have been reported [11–18]. For example, cancer patients report unmet information needs on severity of the disease, prognosis and treatment alternatives [19] and GP patients report unmet needs on risks and benefits of treatments [18]. Thus, it seems that physicians should provide their patients with more or different information than they, on average, do, to meet their patients' information needs.

Up till now, research is lacking regarding ethnic minority patients' information needs. Therefore, it is unclear whether previous study findings can be generalized to ethnic minority patients. The scarce research on this topic is unfortunate given the fact that in today's multicultural society, medical encounters between GPs and patients from different ethnic backgrounds are

not only common, but also less adequate than encounters between doctors and patients from the same background [20].

A few studies suggest that ethnic minority patients might prefer less information than native patients. For instance, cancer-diagnosed Asian patients reported lower information needs than native-British patients [21] and non-Swiss patients reported lower information needs when the news was bad [22]. However, since these studies measured information needs with a single item, it is unknown what specific information needs ethnic minority patients have. A Dutch qualitative study indicates that Turkish-Dutch GP patients feel they receive too little explanation on the diagnosis, further research and medication [23]. Another Dutch study revealed that native-Dutch patients primarily want information on the diagnosis, while Turkish-Dutch patients report higher need for information on prevalence, physical examination, medical terms and procedures at other care givers [24]. However, since both Dutch studies involved quite small samples, it is unknown whether these findings can be generalized.

Given the scarcity of findings on ethnic minority patients' information needs, this study aims to provide more insight into differences in information needs between native-Dutch and Turkish-Dutch patients and to examine to what extent their needs are being met during GP consultations. Additionally, the relationship between perceived and recorded information provision is examined, in order to gain insight into the extent to which unfulfilled needs are due to deficiencies in GPs' information

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provision. Turkish-Dutch patients are compared to native-Dutch patients because they are the largest minority group in the Netherlands (almost 400,000) [25] and are the least oriented toward Dutch society compared to other large minority groups [26]. Additionally, more Turkish-Dutch patients visit the GP than native-Dutch patients and they also visit the GP more often, even patients who rate their health as good [27,28]. Thus, it is particularly relevant to study whether information needs of Turkish-Dutch patients are being met.

Lower language proficiency is found to correlate with negative experiences and less satisfaction with primary care among ethnic minority patients [29,30]. Therefore, language proficiency might confound their (perceived) unfulfilled information needs. As previous literature suggests that language proficiency and cultural views are stronger predictors of patient satisfaction than ethnic background per se [31], this study includes acculturation levels (i.e. language proficiency and cultural identification) of Turkish-Dutch patients.

In sum, the aim of this study is twofold: (1) to assess (unfulfilled) information needs of native-Dutch and Turkish-Dutch patients, and (2) to assess the relationship between perceived information provision and recorded information provision.

2. Methods

2.1. Procedure

Eleven GPs (seven men, four women) working in six practices in three multicultural cities in the Netherlands participated. All patients in the waiting room were asked to participate by research assistants during three to ten days per practice. To be included patients should have an appointment with the GP for themselves and be able to read in Dutch or Turkish or be accompanied by someone who could read in these languages. After signing the informed consent form in the waiting room, participants were given a pre- and post-consultation questionnaire (available in Dutch and Turkish). When patients had too little time to finish the post-questionnaire, they were allowed to fill out the questionnaire at home. Consultations of participating patients were audiotaped by the GP. The study was approved by the ethical committee of the Amsterdam School for Communication Research ASCoR.

2.2. Participants

For this study two samples were used: sample one with pre- and post-consultation questionnaires, and sample two with pre- and post-consultation questionnaires and audiotapes. Of all 476 eligible patients (sample 1: 130; sample 2: 346), 338 consented to participate (71% total; sample 1: 87.8%; sample 2: 63.8%). Of the 338 patients who consented, 82 did not return the post-consultation questionnaire and 21 questionnaires contained too many missing values. Moreover, in the second sample 41 audiotapes were not applicable for analyses, because the consultations were only partly audiotaped by the GP or contained too much noise. In total, sample one consisted of 62 patients (35 native-Dutch, 27 Turkish-Dutch) and sample two of 129 patients (82 native-Dutch, 47 Turkish-Dutch). Nine Turkish-Dutch patients in sample 2 wanted to participate with the questionnaires but without audiotape. These patients were taken in sample one. Thus, total sample to analyze unfulfilled information needs (study aim 1) consisted of 82 native-Dutch and 74 Turkish-Dutch patients ($N = 156$). Of these patients, 11 (9.4%) native-Dutch and 9 (12.2%) Turkish-Dutch patients filled out the post-questionnaire at home. Since these patients did not differ from the patients that filled out the questionnaire at the GPs' office, all patients are taken together in the analyses. Total sample size to investigate the relationship

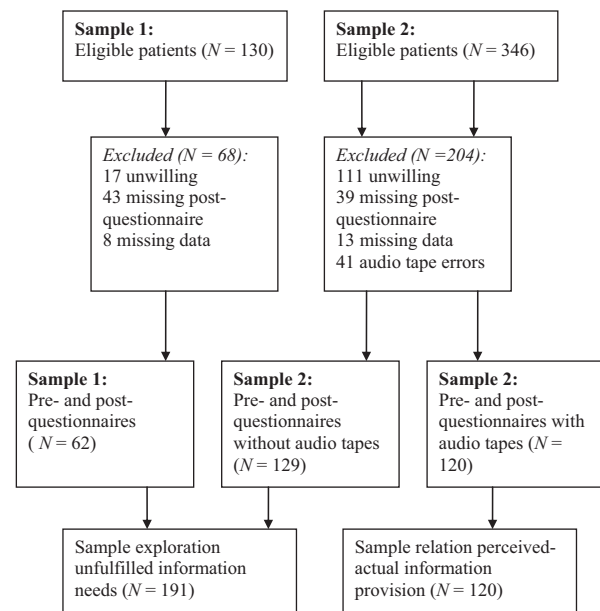


Fig. 1. Response diagram for the two samples.

between self-reported and recorded information provision (study aim 2) consisted of 82 native-Dutch and 38 Turkish-Dutch patients ($N = 120$). Fig. 1 shows the flow chart for both samples.

2.3. Measures

2.3.1. Pre-consultation questionnaire

2.3.1.1. Socio-demographic variables. To establish the ethnicity of respondents, the ethnicity definition of the Dutch Central Bureau of Statistics was used [32]. Respondents with both parents born in the Netherlands were categorized as native-Dutch; respondents who are born in Turkey and/or have at least one parent born in Turkey were categorized as Turkish-Dutch. Other variables assessed were gender, age, educational level and health status, the latter being measured with a single item assessing how patients perceive their health, with a 5-point scale, ranging from “(1) poor” to “(5) excellent”.

2.3.1.2. Acculturation. For Turkish-Dutch patients group identification and language proficiency were assessed. Group identification was measured by Stevens et al.'s ethnic identity measure [33]. Patients could indicate the extent to which they feel they belong to the Dutch and Turkish culture on a 5-point scale, ranging from “(1) totally disagree” to “(5) totally agree”. The two items are uncorrelated ($r = -.02$, ns), indicating two independent measures of group identification. A self-developed identification score was measured by subtracting the score on Turkish culture from Dutch culture, resulting in scores between -4 and 4 . Based on Harmsen's [31] division of three cultural views groups (traditional, partly traditional/modern, modern), three groups were formed: patients with equal (-1 to 1), more Dutch ($2-4$) and more Turkish (-2 to -4) identification.

As previous research has indicated high correlations between patients' self-report, interviewers' assessment and GPs' assessment of ethnic minority patients' language proficiency [34], language proficiency of the Dutch language was measured by a single self-report item assessing the extent to which patients think they have command of the Dutch language (5-point scale, ranging from “(1) not at all” to “(5) excellent”).

2.3.1.3. Information needs. Based on the important questionnaire of the QUOTE^{communication} [35], and various information needs scales [6,36,37], patients rated the importance of nineteen different information topics for their health problem on a 5-point scale, ranging from “(1) not at all important” to “(5) extremely important”. Items covered basic medical information such as the diagnosis, symptoms and cause as well as more specific information such as consequences for daily life, psychological aspects and medication use. Principal component analyses showed different patterns across the groups. For native-Dutch patients two components were found, for Turkish-Dutch patients three were found. Screen plots for both groups showed that a single factor matches best, but regarding the different patterns analyses are conducted on item level.

2.3.2. Post-consultation questionnaire

2.3.2.1. Information provision. The information provision was measured on the same nineteen items as for information needs in the pre-consultation questionnaire. Patients had to indicate the extent to which the issue was discussed during the consultation on a 5-point scale ranging from “(1) not at all discussed” to “(5) extensively discussed”.

2.3.3. Observational measures

2.3.3.1. Information provision during consultation. The frequency of which seventeen out of the nineteen information items of the questionnaires were addressed during the consultation, were coded. Since the questionnaire items “information on all possible treatments” and “self-treatment” could both concern “treatment without medication” and “treatment with medication”, only the last two information topics were coded from the audiotapes. Coding was done directly from audiotape. Only utterances in which the information topics were addressed were coded. When utterances addressed more than one topic, utterances were split into parts and coded for the topics that were addressed. For each utterance it was coded which person addressed the information, either the GP, patient or another person. Total amount of utterances addressing one of the information items was counted per consultation for all parties together. The first author coded all 151 consultations and recoded 23 randomly selected consultations (15%) one month after the first round. Additionally, the second author coded the same 23 consultations. Intracoder and intercoder reliability were measured for the categories that took up more than 2% of all coded utterances [38]. Intracoder reliability (Mean Pearson's r .96; range .93–.98) and intercoder reliability (Mean Pearson's r .78; range .56–.93) were sufficient to good.

2.4. Analyses

To measure unfulfilled information needs, quality impact indices (QIIs) were calculated based on studies using QUOTE questionnaires [14,39]. Categories 1 and 2 (“not at all discussed” and “a bit discussed”) of the perceived information provision scale were recoded as low information provision, and category 3, 4 and 5 (“fairly discussed” to “extensively discussed”) as high information provision. The fraction (%/100) of patients who reported low information provision was multiplied by the mean importance score on the information item (mean importance score \times proportion low information provision) to calculate QIIs.

Differences in background characteristics were assessed with chi-square tests or independent samples t -tests, where appropriate. Differences between patient groups on information needs and unfulfilled information needs were assessed with multilevel analyses (ANCOVAs) using linear mixed models with group as

fixed effect and GP as random effect. Patients' age, gender and health status were taken as covariates, testing main effects and interactions between group and these background characteristics. The intercept of the information item was allowed to vary over GPs, taking into account the hierarchical structure of the data. One-way ANOVAs were performed to assess within-group differences for identification among Turkish-Dutch patients. The relation between self-reported and recorded information provision was assessed with Pearson correlation coefficients. Bivariate correlations were performed since the sample size was too small to perform multivariate analyses.

3. Results

3.1. Patient sample

Table 1 gives an overview of the total sample. 57 out of 74 Turkish-Dutch patients are born in Turkey, 16 in The Netherlands and have at least one parent born in Turkey (one patient did not report own country of birth). Since no significant differences were found between these patients in their needs the group is taken as one.

The native-Dutch group consisted of more women than men, while the Turkish group was equally distributed. Moreover, Turkish-Dutch patients were younger and reported poorer health status than native-Dutch patients. The groups did not differ significantly in their educational level and health problems, classified with ICPC classification [40]. In both groups the majority reported problems with the locomotor system and general complaints such as flu and common cold. In addition, Turkish-Dutch patients reported to go to the GP for psychological problems five times more often than native-Dutch patients. Table 1 gives an overview of the health problems per patient group.

In terms of acculturation, Turkish-Dutch patients reported more identification with Turkish culture than with Dutch culture (see Table 1) and reported relatively high Dutch language proficiency ($M = 3.6$ on a 1–5 scale; $SD = 1.1$).

3.2. Consultation characteristics

No significant differences between consultations with native-Dutch and Turkish-Dutch patients were found in consultation length, amount of talk of GPs and patients and frequency in which patients brought company with them. Native-Dutch patients were generally accompanied by their partner, while Turkish-Dutch patients were generally accompanied by a child or another person than their partner.

3.3. Information needs

Turkish-Dutch patients reported higher information need than native-Dutch patients on prognosis ($F(1,126.21) = 6.04$, $p < .05$), prevalence ($F(1,139) = 5.03$, $p < .05$), physical examination ($F(1,133.78) = 6.55$, $p < .05$), explanation of medical terms ($F(1,133.66) = 8.59$, $p < .01$), alternative medicine ($F(1,130.61) = 6.54$, $p < .05$) and procedures at other hospital/other caregivers ($F(1,130) = 4.45$, $p < .05$). No significant interaction effects were found between group and background characteristics on information needs.

When dividing Turkish-Dutch patients into three groups (more Dutch, equal and more Turkish identification), significant differences were found on causes ($F(2,51) = 5.51$, $p < .01$), prognoses ($F(2,49) = 3.47$, $p < .05$), physical examination ($F(2,51) = 3.23$, $p < .05$), treatment with medication ($F(2,52) = 3.61$, $p < .05$), medication use ($F(2,52) = 4.53$, $p < .05$) and self-treatment ($F(2,52) = 4.05$, $p < .05$). Patients with more Dutch identification

Table 1
Sample characteristics.

Patients' characteristics	Native-Dutch (N = 117)	Turkish-Dutch (N = 74)
Sex**		
Men	33 (28.2%)	36 (48.6%)
Women	84 (71.8%)	38 (51.4%)
Age***		
Mean age in years (SD)	48.2 (17) ^a	37.4 (13.5)
Education		
Low	43 (36.8%)	23 (31.5%)
Intermediate	51 (43.6%)	41 (56.2%)
High	23 (19.7%)	9 (12.3%)
Health status*		
Poor	29 (26.1%)	27 (38.0%)
Moderate	55 (49.5%)	35 (49.3%)
Good	27 (24.3%)	9 (12.7%)
Self-reported health problems		
General problems	17 (14.5%)	9 (13.8%)
Tractus digestivus	10 (8.5%)	6 (9.2%)
Eye	4 (3.4%)	2 (3.1%)
Ear	2 (1.7%)	1 (1.5%)
Tractus circulatorius	11 (9.4%)	1 (1.5%)
Locomotor system	28 (23.9%)	13 (20%)
Nervous system	1 (0.9%)	2 (3.1%)
Psychological problems	2 (1.7%)	6 (9.2%)
Tractus respiratorius	13 (11.1%)	3 (4.6%)
Skin	10 (8.5%)	8 (12.3%)
Endocrine problems/metabolism/nutrition	1 (0.9%)	0 (0%)
Urine	0 (0%)	1 (1.5%)
Genitals women	7 (6%)	1 (1.5%)
Genitals men	1 (0.9%)	0 (0%)
Unknown	8 (6.8%)	6 (9.2%)
Company during consultation		
Alone	85 (76.6%)	50 (69.4%)
Partner	14 (12.6%)	7 (9.7%)
Child	8 (7.2%)	10 (13.9%)
Parent	4 (3.6%)	2 (2.8%)
Other	0 (0%)	3 (4.2%)
Dutch language proficiency		
Mean overall scores (SD)		3.6 (1.1)
Mean scores first/second generation		3.3 (1.1)/4.4 (0.6)
Identification Dutch culture		
Mean overall scores (SD)		2.9 (1.2)
Mean scores first/second generation		2.7 (1.2)/3.5 (1.2)
Identification Turkish culture		
Mean overall scores (SD)		3.7 (1.2)
Mean scores first/second generation		3.8 (1.0)/3.5 (1.6)

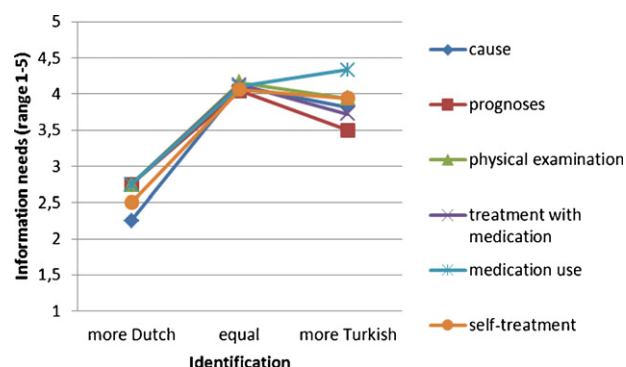
Note: Language proficiency and identification are measured with a 1–5 scale, with 5 as highest score.

* $p < .05$; ** $p < .01$; *** $p < .001$.

reported the lowest information needs on all topics. Patients with equal identification reported the highest information needs on all topics, except for medication use for which patients with more Turkish identification reported higher information needs (see Fig. 2). Language proficiency was weakly associated with information needs, i.e. better Dutch proficiency was related to higher need for information on prognoses ($r = .3$, $p < .05$) and risks of no treatment ($r = .3$, $p < .05$).

3.4. Unfulfilled information needs

Table 2 shows mean QIIs per information item per group. Based on the criteria used in the QUOTE system (with 4-item scale) [14,39], QIIs above 0.4 were considered as moderately in need for improvement, and QIIs above 1.2 as importantly in need for improvement (one third of the patients reporting low information provision on an important item). Table 2 shows that QIIs are

**Fig. 2.** Information needs per identification group for Turkish-Dutch patients.

moderate for typical biomedical information such as diagnosis, symptoms and seriousness. These information needs were reasonably fulfilled during the consultation according to both patient groups. However, for most other types of information relatively large QIIs were found. Overall, native-Dutch patients experienced less unfulfilled information needs than Turkish-Dutch patients. For native-Dutch patients lower QIIs were found than for Turkish-Dutch patients on information on prognosis ($F(1,126.21) = 6.04$, $p < .05$), prevalence ($F(1,139) = 5.03$, $p < .05$), physical examination ($F(1,133.78) = 6.55$, $p < .05$), medical terms ($F(1,133.66) = 8.59$, $p < .01$), alternative medicine ($F(1,130.61) = 6.54$, $p < .05$) and procedures at hospital/others ($F(1,130) = 4.45$, $p < .05$). No significant interaction effects were found between group and background characteristics on information needs.

When dividing Turkish-Dutch patients in identification groups, significant differences were found on causes ($F(2,51) = 5.51$, $p < .01$), prognoses ($F(2,49) = 3.47$, $p < .05$), physical examination ($F(2,51) = 3.23$, $p < .05$), treatment with medication ($F(2,52) = 3.61$, $p < .05$), medication use ($F(2,52) = 4.53$, $p < .05$), and self-treatment ($F(2,52) = 4.05$, $p < .05$). Patients with equal identification reported the highest unfulfilled information needs while patients with more Dutch identification reported the lowest unfulfilled information needs. Information needs were best met for patients who feel they belong to either the Dutch or Turkish culture. It should be noted though that these differences are based on small

Table 2
Mean Quality Impact Indices (QIIs) per information topic.

Category (scale 0–5)	Native-Dutch (N = 117)	Turkish-Dutch (N = 74)
Diagnosis	.38	.35
Cause	.65	.67
Symptoms	.42	.46*
Seriousness	.55	.54
Prognosis	.72	.68
Prevalence	1.08	1.36***
Physical examination	1.07	1.22***
Treatment options	1.03	1.07
Treatment risks	1.97	2.10
Consequences of no treatment	2.26	2.37
Treatment with medication	1.21	1.21
Medication use	1.65	1.73
Treatment without medication	2.18	2.10
Explanation medical terms	1.98	2.29*
Alternative medicine	2.00	2.49**
Further research	1.52	1.56
Procedures at hospital/others	2.16	2.53*
Consequences for daily life	1.94	1.98
Self-treatment	1.45	1.42

Note: Higher quality impact indices mean more unfulfilled information needs. QIIs above 0.4 are considered as moderately in need for improvement; QIIs above 1.2 are considered as importantly in need for improvement.

* $p < .05$; ** $p < .01$; *** $p < .001$.

Table 3

Correlation between self-reported and actual information provision.

Category	Native-Dutch (N=82)			Turkish-Dutch (N=38)		
	Self-reported info provision M (SD)	Actual info provision M (SD)	r	Self-reported info provision M (SD)	Actual info provision M (SD)	r
Diagnosis	4.0 (1.0)	2.8 (1.9)	.08	3.7 (1.1)	2.1 (2.1)	.39 [*]
Cause	3.7 (1.0)	2.5 (2.3)	.13	3.2 (1.2)	1.8 (1.9)	.07
Symptoms	3.9 (1.0)	7.4 (3.9)	.24 [*]	3.2 (1.2)	7.5 (4.4)	.22
Seriousness	3.8 (1.0)	0.4 (1.0)	.18	3.1 (1.1)	0.4 (0.9)	.24
Prognosis	3.7 (1.2)	0.4 (0.8)	−.01	3.4 (1.3)	0.4 (0.9)	.05
Prevalence	2.9 (1.4)	0.1 (0.4)	.08	3.0 (1.4)	0.2 (0.4)	.43 [*]
Physical examination	3.0 (1.5)	1.5 (1.5)	.28 [*]	3.2 (1.5)	1.4 (1.7)	.29
Treatment risks	2.3 (1.5)	0.5 (0.8)	.12	2.1 (1.4)	0.4 (0.8)	.03
Consequences of no treatment	2.1 (1.5)	0.2 (0.6)	−.05	2.2 (1.5)	0.2 (0.5)	.01
Treatment with medication	2.8 (1.5)	2.8 (3.0)	.49 [*]	2.6 (1.4)	3.6 (3.5)	.43 [*]
Medication use	2.5 (1.6)	0.5 (1.1)	.39 [*]	2.2 (1.4)	1.0 (1.4)	.33 [*]
Treatment without medication	2.2 (1.6)	2.2 (2.4)	.18	1.8 (1.3)	1.9 (2.2)	.15
Explanation medical terms	1.9 (1.4)	0.0 (0.2)	.06	2.0 (1.3)	0.0 (0.2)	.15
Alternative medicine	1.4 (0.9)	0.0 (0.1)	−.05	1.9 (1.3)	0.0 (0.0)	.00 ^a
Further research	2.6 (1.5)	1.5 (1.9)	.28 [*]	3.1 (1.5)	1.5 (1.9)	.25
Procedures at hospital/others	1.5 (1.1)	0.7 (1.2)	−.05	1.4 (1.0)	1.3 (1.9)	.57 [*]
Consequences for daily life	2.1 (1.4)	0.4 (0.8)	.23 [*]	2.4 (1.5)	0.6 (1.0)	−.09

Note: Scales are different; self-reported information provision is measured on a scale from 1 to 5, amount of utterances is measured as frequency.

^{*} $p < .05$.

^a No cases to perform correlation.

numbers of patients per group. Dutch language proficiency was related to unfulfilled information needs on prognoses ($r = .3$, $p < .05$) and risks of no treatment ($r = .3$, $p < .05$).

3.5. Self-reported information provision versus recorded information provision

In both groups, symptoms, diagnosis, treatment with medication, treatment without medication and cause of the health problem were most frequently addressed during the consultation. Prevalence, consequences of no treatment, explanation of medical terms and alternative medicine were the least addressed. Except for medication use no differences were found in the recorded information provision. In consultations with Turkish-Dutch patients medication use was significantly more addressed than with native-Dutch patients ($t(118) = -2.1$, $p < .05$).

Table 3 shows that patients in both groups rated information on prognosis, seriousness, prevalence, treatment risks, consequences of no treatment, medical terms, alternative medicine, consequences for daily life and psychological aspects as rather extensively discussed, while in fact these topics were hardly discussed during the consultation. On the other hand, information on symptoms was the most frequently discussed in all groups, but was not reported as being discussed more than the other topics. For around half of the information items hardly any correlation was found between self-reported and recorded information provision (see Table 3). Most significant correlations were moderate, ranging from around .3 to .5. Two strong correlations were found: for Turkish-Dutch patients on procedures at hospital/other caregivers ($r = .57$, $p < .05$), for native-Dutch patients for treatment with medication ($r = .49$, $p < .05$).

4. Discussion and conclusion

4.1. Discussion

In line with previous research [24], results of this study show that Turkish-Dutch patients report higher needs for information on prognosis, prevalence, physical examination, medical terms, alternative medicine and procedures at other hospital/other caregivers than native-Dutch patients. Turkish-Dutch patients also experience more unfulfilled information needs. This might

be explained by the fact that the recorded information provision by the GP is similar between the two groups, while Turkish-Dutch patients have higher (and other) information needs than their native-Dutch counterparts. Thus, despite the increasing attention that is given to tailoring doctor-patient communication to the specific needs of patients [35], GPs do not adjust the information provision to specific characteristics and needs of the patients. This finding corresponds with results of previous research [41,42]. In addition, native-Dutch patients also experience some unfulfilled information needs. In both groups, information needs that are insufficiently met are needs that go beyond purely biomedical information, such as treatment options without medication, explanation of medical terms and procedures at other caregivers.

A noticeable result concerns the information provision on medication use, which is discussed more often with Turkish-Dutch than with native-Dutch patients, while Turkish-Dutch patients, in particular those with equal identification, still express a large unmet need for information about treatment with medication and medication use after the consultation. This result might be related to study findings, showing that clinicians more frequently prescribe medication to non-Western patients than to native-Dutch patients [43,44]. The commonly noted higher demand for drug treatment by non-Western patients, might explain why this topic is more frequently discussed during GP consultations. Future research should be conducted to gain more insight into this topic and on which initiative (i.e. the GP or the patient) medication use is discussed.

Most correlations between self-reported and recorded information provision are not significant. It is known that accurately recalling information after a consultation is difficult for patients [45] and that asking patients to report what has been said during the consultation is not always a reliable method for finding out what has actually been said. Therefore, we included observational data in our study. Future research is recommended to investigate whether other communication measures besides frequency of utterances will yield the same pattern of low correlations or will yield different results.

Turkish-Dutch patients with equal identification with Dutch and Turkish culture report the highest information needs and consequently, the highest unfulfilled needs. This finding is in line with Harmsen et al. [31], who found that ethnic minority patients

with partly modern/traditional cultural views report more negative experiences with their GP than patients with either more traditional or more modern cultural views. Possibly, better language proficiency affects patients' experiences negatively when patients have equal identification with both their country of origin and their host country. Future research should study these relationships in more detail.

4.1.1. Study limitations

The number of rejected audiotapes is unfortunate, but among the same range as in other studies among ethnic minority patients using observational data [46–48]. As the patients with unusable audiotapes did not differ from patients with adequate audiotapes on age, gender or race in these studies, there is no reason to assume differences in this sample. However, to increase the sample size of this study, we deemed it necessary to collect data on a second occasion. As it is difficult to reach Turkish-Dutch patients, the sample size remains somewhat small and therefore, caution should be employed in generalizing our results to other Turkish-Dutch patients. Despite the small sample sizes, significant differences are found. Since findings correspond with other research on unfulfilled information needs (see discussion earlier), it is reasonable to assume that these differences do actually exist in the population. It must be noted, however, that the possibility of a type 1 error exists. Therefore, it is advised to replicate the study with larger samples of Turkish-Dutch patients in future research.

Since the groups could not be randomly assigned and the patient groups differ on age, gender and health status, ANCOVAs might be problematic [49] because group differences in (unfulfilled) information needs can be partly affected by these background variables. According to Miller and Chapman [49], ANCOVAs can be appropriate with non-random groups when the independent variable and covariates are unrelated. As the proportion of men and women is currently equal among non-Western migrants in the Netherlands [50], it is unlikely that differences between native-Dutch and Turkish-Dutch patients could be due to gender. However, non-Western migrants are younger than the native Dutch population [51] and they also report lower health status. Therefore, future research in which Turkish-Dutch patients and native-Dutch patients are matched on age and health status should be carried out.

Additionally, more Turkish-Dutch patients reported psychological problems than native-Dutch patients. Since previous studies in for instance oncology indicate that psychological functioning influences the amount and type of desired information [14,52], GP patients dealing with psychological problems may have different information needs than patients with non-psychological problems. Also, it is found that ethnic minority patients have trouble expressing emotional distress during medical interactions [53] and at the same time, health care providers tend to ignore a high percentage of their patients' emotional cues and concerns [54]. As a consequence, psychosocial encounters between GPs and Turkish-Dutch patients may lead to more unfulfilled information needs. As no research has yet been done on comparing ethnic minority patients' expression of psychosocial concerns with native patients in relation to fulfillment of information needs, future studies should investigate this topic with larger samples.

Finally, patients who were willing to participate could have had less concerns with communicating with their GP, and GPs who participated could have been more interested in and aware of ethnic differences in the communication process, resulting in a biased sample. Thus, results of this study might paint a more positive picture than will be found among a more representative sample and, possibly, unfulfilled information needs might be even larger in reality.

4.2. Conclusion

Several studies have found that ethnic minority patients report lower mutual understanding and lower satisfaction with medical communication than native patients [55–57]. In line with this, the current study shows that Turkish-Dutch patients experience more unfulfilled information needs than native-Dutch patients, indicating that GPs do not sufficiently tailor the consultation to the information needs of these patients.

4.3. Practice implications

As unfulfilled information needs can hinder informed decisions, GPs should be trained in tailoring information to the specific needs of their patients. Considering the results of this study, interventions aimed at tailoring the information provision may be most effective when they are designed to educate GPs in cultural differences in information needs and in the extent to which different types of information should be addressed.

Conflict of interest statement

None declared.

Acknowledgements

The authors wish to thank all patients and GPs for their participation in this study. Also, many thanks go to Jane van der Vloodt for her contribution to the data collection and to Wouter Weeda for his help with the statistical analyses.

References

- [1] Fallowfield L, Ford S, Lewis S. No news is not good news; information preferences of patients with cancer. *Psychooncology* 1995;4:197–202.
- [2] Waitzkin H. Doctor-patient communication: clinical implications of social scientific research. *J Amer Med Assoc* 1984;252:2441–6.
- [3] Zemencuk JK, Feightner JW, Hayward RA, Skarupski KA, Katz SJ. Patients' desires and expectations for medical care in primary care clinics. *J Gen Intern Med* 1998;13:273–6.
- [4] Davis MA, Hoffman JR, Hsu J. Impact of patient acuity on preference for information and autonomy in decision making. *Acad Emerg Med* 1999;6:781–5.
- [5] Nease RF, Blair Brooks WB. Patient desire for information and decision making in health care decision: the autonomy preference index and the health opinion survey. *J Gen Intern Med* 1995;10:593–600.
- [6] Beisecker AE, Beisecker TD. Patient information-seeking behaviors when communicating with doctors. *Med Care* 1990;28:19–28.
- [7] Ende J, Kazis L, Ash A, Moskowitz MA. Measuring patients' desire for autonomy: decision making and information-seeking preferences among medical patients. *J Gen Intern Med* 1989;4:23–30.
- [8] Sutherland HJ, Llewellyn-Thomas HA, Lockwood GA, Trichter DL, Till JE. Cancer patients: their desire for information and participation in treatment decisions. *J R Soc Med* 1989;82:260–3.
- [9] Blanchard CG, Labrecque MS, Ruckdeschel JC, Blanchard EB. Information and decision-making preferences of hospitalized adult cancer patients. *Soc Sci Med* 1988;27:139–45.
- [10] Waitzkin H. Information giving in medical care. *J Health Soc Behav* 1985;26:81–101.
- [11] Jones R, Pearson J, McGregor S, Harper Gilmore W, Atkinson JM, Barrett A, et al. Cross-sectional survey of patients' satisfaction with information about cancer. *Brit Med J* 1999;319:1247–8.
- [12] Tsuchiya M, Horn SA. An exploration of unmet information needs among breast cancer patients in Japan: a qualitative study. *Eur J Cancer Care* 2009;18:149–55.
- [13] Turner S, Maher EJ, Young T, Young J, Vaughan Hudson G. What are the information priorities for cancer patients involved in treatment decisions? An experienced surrogate study in Hodgkin's disease. *Br J Cancer* 1996;73:222–7.
- [14] Van Weert JCM, Jansen J, De Bruijn G, Noordman J, Van Dulmen S, Bensing JM. QUOTE^{chemo}, a patient-centred instrument to measure quality of communication preceding chemotherapy treatment through the patient's eyes. *Eur J Cancer* 2009;45:2967–76.
- [15] Kjekshus I, Dagfinrud H, Mowinckel P, Uhlig T, Kvien T, Finset A. Rheumatology care: involvement in medical decisions, received information, satisfaction

- with care, and unmet health care needs in patients with rheumatoid arthritis and ankylosing spondylitis. *Arthritis Rheum* 2006;55:394–401.
- [16] Wachters-Kaufmann C, Schuling J, The H, Meyboom-de Jong B. Actual and desired information after a stroke. *Patient Educ Couns* 2005;56:211–7.
 - [17] Koning CJM, Maillé AR, Stevens I, Dekker FW. Patients' opinions on respiratory care: do doctors fulfill their needs? *J Asthma* 1995;32:355–63.
 - [18] Ford A, Schofield T, Hope T. Are patient's decision-making preferences being met? *Health Expect* 2003;6:72–80.
 - [19] Hack TF, Degner LF, Parker PA. SCRN communications team. The communications goals and needs of cancer patients: a review. *Psychooncology* 2005;14:831–45.
 - [20] Schouten BC, Meeuwesen L. Cultural differences in medical communication: a review of the literature. *Patient Educ Couns* 2006;64:21–34.
 - [21] Kumar DM, Symonds RP, Sundar S, Ibrahim K, Savelyich BSP, Miller E. Information needs of Asian and White British cancer patients and their families in Leicestershire: a cross-sectional survey. *Br J Cancer* 2004;90:1471–8.
 - [22] Langewitz W, Nübling M, Weber H. Hospital patients' preferences for involvement in decision-making. *Swiss Med Wkly* 2006;136:59–64.
 - [23] Vink M, van der Heijden H, Wiese I, van Eerd I. De dokter begrijpt het niet. Onderzoek naar de ervaringen van migranten met de huisartsen in Amsterdam. [The doctor does not understand, research on the experiences of migrants with GPs in Amsterdam] Amsterdam: Amsterdams patiënten/consumenten platform (APCP) 2002.
 - [24] Schinkel S, Schouten BC, van Weert JCM. Communicatie met Nederlandse en Turkse patiënten in de huisartsenpraktijk: een exploratief onderzoek naar verschillen in informatie- en participatiebehoeften [Communication with Dutch and Turkish general practitioner patients: an exploratory study on differences in information and participation preferences]. *Tijdschrift voor Communicatiewetenschap [J Comm Sci]* 2010;38:63–79.
 - [25] Central Bureau of Statistics. Bevolking; generatie, geslacht, leeftijd en herkomstsgroepering [Population; generation, sex, age and land of origin] Downloaded on 6.7.10 from [http://statline.cbs.nl/StatWeb/publication/?DM=SLNL&PA=37325&D1=a&D2=0&D3=0&D4=0&D5=0-4,137,152,215,232&D6=0,4,9,\(1-1\)-I&HDR=G2,G1,G3,T&STB=G4,G5&VW=T](http://statline.cbs.nl/StatWeb/publication/?DM=SLNL&PA=37325&D1=a&D2=0&D3=0&D4=0&D5=0-4,137,152,215,232&D6=0,4,9,(1-1)-I&HDR=G2,G1,G3,T&STB=G4,G5&VW=T).
 - [26] Dagevos J. Perspectief op integratie: over de sociaal-culturele en structurele integratie van etnische minderheden in Nederland [perspective on integration: on the social-cultural and structural integration of minorities in the Netherlands]. Den Haag: Wetenschappelijke Raad voor het Regeringsbeleid; 2001.
 - [27] Uiters E, Devillé WLJM, Foets M, Groenewegen PP. Use of health care services by ethnic minorities in the Netherlands: do patterns differ? *Eur J Public Health* 2006;14:388–93.
 - [28] Devillé W, Uiters E, Westert G, Groenewegen P. Perceived health and consultation of GPs among ethnic minorities compared to the general population in the Netherlands. In: Westert GP, Jabaaij L, Schellevis FG, editors. *Morbidity, performance, and quality in primary care*. Oxon: Radcliff Publishing; 2006. p. 85–96.
 - [29] Pippins JR, Alegría M, Haas JS. Association between language proficiency and the quality of primary care among a national sample of insured Latinos. *Med Care* 2007;45:1020–5.
 - [30] Jacobs E, Chen AHM, Karliner LS, Aggar-Gupta N, Mutha S. The need for more research on language barriers in health care: a proposed research agenda. *Milbank Q* 2006;84:111–33.
 - [31] Harmsen JAM, Bernsen RMD, Bruijnzeels MA, Meeuwesen L. Patients' evaluation of quality of care in general practice: what are the cultural and linguistic barriers? *Patient Educ Couns* 2008;72:155–62.
 - [32] Central Bureau of Statistics. Standard definitie allochtonen [Standard definition migrants] index, vol. 10. 2000. p. 24–5.
 - [33] Stevens GWJM, Pels TVM, Vollebergh VAM, Crijnen AAM. Patterns of psychological acculturation in adult and adolescent Moroccan immigrants living in the Netherlands. *J Cross Cult Psychol* 2004;35:689–704.
 - [34] Schouten BC, Meeuwesen L, Tromp F, Harmsen HAM. Cultural diversity in patient participation: the influence of patients' characteristics and doctors' communicative behaviour. *Patient Educ Couns* 2007;67:214–23.
 - [35] Van den Brink-Muinen A, Verhaak PFM, Bensing JM, Bahrs O, Deveugele M, Gask L, et al. Doctor–patient communication in different European health care systems: relevance and performance from the patients' perspective. *Patient Educ Couns* 2000;39:115–27.
 - [36] Rüdell K, Myers L, Newman S. Preferences for involvement in medical decision making: Comparing British and German views. *Psychol Health Med* 2006;11:171–89.
 - [37] Coulter A, Entwistle V, Gilbert D. Sharing decisions with patients: is the information good enough? *Brit Med J* 1999;318:318–22.
 - [38] Van Weert JCM, Van Dulmen S, Bär P, Venus E. Interdisciplinary preoperative patient education in cardiac surgery. *Patient Educ Couns* 2003;49:105–14.
 - [39] Brouwer W, Sixma H, Triemstra M, Delnoij D. Kwaliteit van zorg rondom een staaroperatie vanuit het perspectief van patiënten: meetinstrumentontwikkeling [Quality of care surrounding cataract operation through the patients' eyes: development of a measurement instrument]. Nivel: Utrecht; 2006.
 - [40] Bentsen BG. International classification of primary care. *Scand J Prim Health Care* 1986;4:43–50.
 - [41] Rosenberg E, Richard C, Lussier M, Abdool SN. Intercultural communication competence in family medicine: lessons from the field. *Patient Educ Couns* 2006;61:236–45.
 - [42] Wachtler C, Brorsson A, Troein M. Meeting and treating cultural difference in primary care: a qualitative interview study. *Fam Pract* 2005;23:111–5.
 - [43] Uiters E, Van Dijk L, Devillé W, Foets M, Spreeuwenberg P, Groenewegen PP. Ethnic minorities and prescription medication; concordance between self-reports and medical records. *MNC Health Serv Res* 2006;6:115–22.
 - [44] Hogenhuis CC, Grigoryan L, Numans MM, Verheij TJM. Differences in antibiotic treatment and utilization of diagnostic tests in Dutch primary care between natives and non-Western immigrants. *Eur J Gen Pract* 2010;16:143–7.
 - [45] Roter DL, Hall JA. Doctors talking with patients/patients talking with doctors: improving communication in medical visits, 2nd ed., Westport: Praeger Publishers; 2006.
 - [46] Gordon HS, Street RL, Sharf BF, Soucek J. Racial differences in doctors' information-giving and patients' participation. *Am Cancer Soc* 2006;107:1313–20.
 - [47] Cooper LA, Roter DL, Johnson RL, Ford DE, Steinwachs DM, Powe NR. Patient-centered communication, ratings of care, and concordance of patient and physician race. *Ann Intern Med* 2003;139:907–16.
 - [48] Johnson RL, Roter D, Powe NR, Cooper LA. Patient race/ethnicity and quality of patient–physician communication during medical visits. *Am J Public Health* 2004;94:2084–90.
 - [49] Miller GA, Chapman JP. Misunderstanding analysis of covariance. *J Abnorm Psychol* 2001;110:40–8.
 - [50] Gijsbert M, Huijink W, Dagevos J. Jaarrapport integratie 2011. Den Haag: Sociaal Cultureel Planbureau; 2012.
 - [51] Central Bureau for Statistics. Jaarrapport integratie 2010. Den Haag/Heerlen: Central Bureau for Statistics; 2010.
 - [52] Wong F, Stewart DE, Dancy J, Meana M, McAndrews MP, Bunston T, et al. Men with prostate cancer: influence of psychological factors on informational needs and decision making. *J Psychosom Res* 2000;49:13–9.
 - [53] De Maesschalck S, Deveugele M, Willems S. Language, culture and emotions: exploring ethnic minority patients' emotional expressions in primary health care. *Patient Educ Couns* 2011;84:406–12.
 - [54] Butow P, Bell M, Goldstein D, Sze M, Aldridge L, Abdo S, et al. Grappling with cultural differences: communication between oncologists and immigrant cancer patients with and without interpreters. *Patient Educ Couns* 2011;84:398–405.
 - [55] Harmsen JAM. When cultures meet in medical practice: improvement in intercultural communication evaluated. PhD Thesis. Rotterdam: Erasmus University; 2003.
 - [56] Van Wieringen JC, Harmsen JA, Bruijnzeels MA. Intercultural communication in general practice. *Eur J Public Health* 2002;12:63–8.
 - [57] Stronks K, Ravelli A, Reijneveld S. Immigrants in the Netherlands: equal access for equal needs? *J Epidemiol Community Health* 2001;55:701–7.