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PATIENT CONSULTATION IN FAMILY MEDICINE

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To my family

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2. ABBREVIATIONS

FD family doctor
GP general practitioner
SD standard deviation

3. INTRODUCTION

Family medicine has been practised already for centuries but as a specific speciality with special training for primary health care it is a new speciality. In Estonia training in family medicine was established in 1991 and the speciality was registered in the list of medical specialities in 1993 (Maaroos and Lember 1998). The main characteristic of family medicine is to be the first contact point with patients and to deal with undetermined problems of patients during limited time (Taylor 1978, McWhinney 1997). Patients choose their personal doctor and the knowledge of patients and their problems facilitates management of the problems. The consultation is the central activity in family practice. People present problems which cannot always be interpreted as diseases, and they often present several problems during one consultation. People come with their own ideas and fears; the ideas have originated from previous consultations, from neighbours, friends, newspapers and television and the FD must be able to listen carefully and to follow the way how the patient sees things to understand the consultation. This specific feature as well as the short contact time needs specific consultation skills in family medicine. It is often claimed that as in family medicine 80% of diagnosis is based on the proper gathering of information from patients during the first contact, the consultation with patients is an extremely important instrument of diagnosing for the family doctor (Pendleton 1984). The patient is the main source of information, which means that family medicine is much closer to patients than any other speciality and many problems will be solved during the first consultation with patients (Bensing et al. 2000; Mead and Bower 2002). The main method of understanding of patients` problems is consultation with patients, which consists of communication, performance of objective examination of patients, performing or ordering of needed procedures, referring patients to other specialists or prescribing drugs. As the patient meets the family doctor one-to-one, all that takes place during the consultation usually remains secret for others. At same time, a better understanding of the consultation and the opportunity to analyse the consultation, as well as to find links with influencing factors, will facilitate better use of time and resources and will help improve the patient-doctor relationship. Morever, the understanding of the consultation will improve the training of family doctors to perform better consultations (Pendleton 1984). Until recently, no information was available about the family doctor's consultation in Estonia. The reasons were: 1) FD is a new speciality for Estonia and little is known about real work; 2) methods of observation of consultations were still not familiar in Estonian family medicine. Great interest arising from everyday practice to understand consultations in family medicine was realized in European cooperation. In 1998–2003 Estonia was involved in a multicentrel study of the consultation in family medicine, which was the next step following the first Eurocommunication I study (Brink-Muinen et al. 1999, 2003). This study was important for understanding family doctors'

work and for providing the opportunity to make proposals for improvement of the practice and training of family doctors and for implementing videoconsultation methods in new EU candidate countries including Estonia. The added value was common European interest in evaluation of consultations in family medicine. It was realized when Estonia became a member of EU and free movement of Estonian doctors in Europe became more common (Jesse et al. 2004). In such a big community it is essential to know different consultation styles used in different countries in order to ensure a better consultation for own patients. Besides the doctors' skills to consult patients, it is not less important to understand patient expectations about the consultations as well as to be aware of patient involvement in the consultation process in different cultures and nations. Involvement of the patient as an equal partner in the consultation was not common in previous health care systems where more attention was paid to doctor-centred authorical consultations (Boerma and Verhaak 1999). However, even in countries with a long-lasting patient-centred health care system, consultations change due to the development of medicine, medical and information technology and society (Elwyn 2004). To understand all these changes, study of consultations is a necessary field of research in family medicine.

4. REVIEW OF THE LITERATURE

4.1. Methodology for evaluation of the FD's consultation

Family doctors usually meet their patients in the consulting room one-to-one and information about the consultation should be gathered using different methods. An indirect method is to analyse the patient`s record as the document reflecting the consultation; however, the completeness of information is dependent on the FD's skills present it and, besides, written information is too general for analysing the consultation. Direct study of consultations is possible using observers with a special task and a protocol of study. Although much valuable information can be collected according to the protocol, the details of the consultation can be lost and their recovery is not possible later (Chambonet et al. 2000). Technical progress has significantly influenced the study of the consultation in family practice and the first method of recording the consultation was the audiotape (Byrne and Long 1976). Later video recording became the best method of recording consultations from the early 1980s and further it was introduced as a part of the educational programme for FDs.

An indirect method is to study consultations using various patient questionnaires. In the case of internationally tested questionnaires, the scales for patients expectations and for performance of doctors from the patients perspective were based on tested measurement instruments (Campen et al. 1998, Sixma et al. 1998, Brink-Muinen et al. 2000). The reliability of questionnaires is dependent on the accuracy of their testing. Internationally approved questionnaires were tested and used by NIVEL in the study Eurocommunication I (Brink-Muinen et al. 2000). The questionnaires involved demographic characteristics (gender, age, living circumstances, employment, education), patient-reported relevance and performance of the consultation aspects (Brink-Muinen et al. 2000).

4.1.1. Video observation of consultations

The consultation moved from being an accepted, almost invisible, feature of professional practice to being a process that could be objected and studied, owning to the emergence of audio and visual recording techniques and using of observers in the consulting room. Of all observing and recording techniques, video-recording has been recommended as the best method for studying family doctor's consultation (Coleman 2000). Agreement of physicians and patients to participate in videoconsultations depends on different factors and differs among countries and cultures (Neal et al. 2004). Some studies have reported > 80% of patients consenting to video-recording. (Martin 1984, Campell 1995, Brink-Muinen et al. 2000), while others have found a much lower agreement rate (Neal et al. 2004).

Another problem with videorecordings concerns their objectivity. Reasearchers need to pose the question "Does awareness of video-recording affect the behaviour of doctors or patients? The consulting behaviour of GPs has been studied, while they were either aware or unaware of their consultations being videorecorded and there were found no significant differences in the distribution of these behaviours between consultations. (Pringle et al. 1984, Campell et al. 1990). In one study 70% of patients who consented to recording stated in a postconsultation questionnaire that they "forgot" about the presence of a videocamera during their consultation, while 5% felt that their GP had dealt with their problems in an "unusual" way. Ninety percent of those who consented to recording felt that video-recording could be a valuable research tool in general practice studies (Martin and Martin 1984, Ram et al. 1999, Coleman 2000).

Comparison of the described methods of the observation of FD's consultations shows that only vidoerecording of the consultation allows to demonstrate, besides the content of the consultation, also body language and hidden cues, and makes it possible to measure different parts of the consultation comparing the evaluations of more that one observer (Brink-Muinen et al. 1999). It makes this method the most preferable one.

Summarising the results of the studies of videorecording of the consultation we were able to conclude that videorecording allows demonstrating and analysing consultations in the most objective way in comparison with all other methods of consultation analysis.

4.2. Specific characteristics of the family doctor's consultation

4.2.1. Content of the family doctor's consultation

The consultation in family practice has considerably stable content and it is possible to follow different activities during the consultation. The main parts of the consultation are: communication with the patient, examination of the patient, defining the problem, procedures, referrals, decision making regarding solution of the problem, prescription of drugs (Pendleton 1984, Maaroos and Lember 1998) (Figure1).

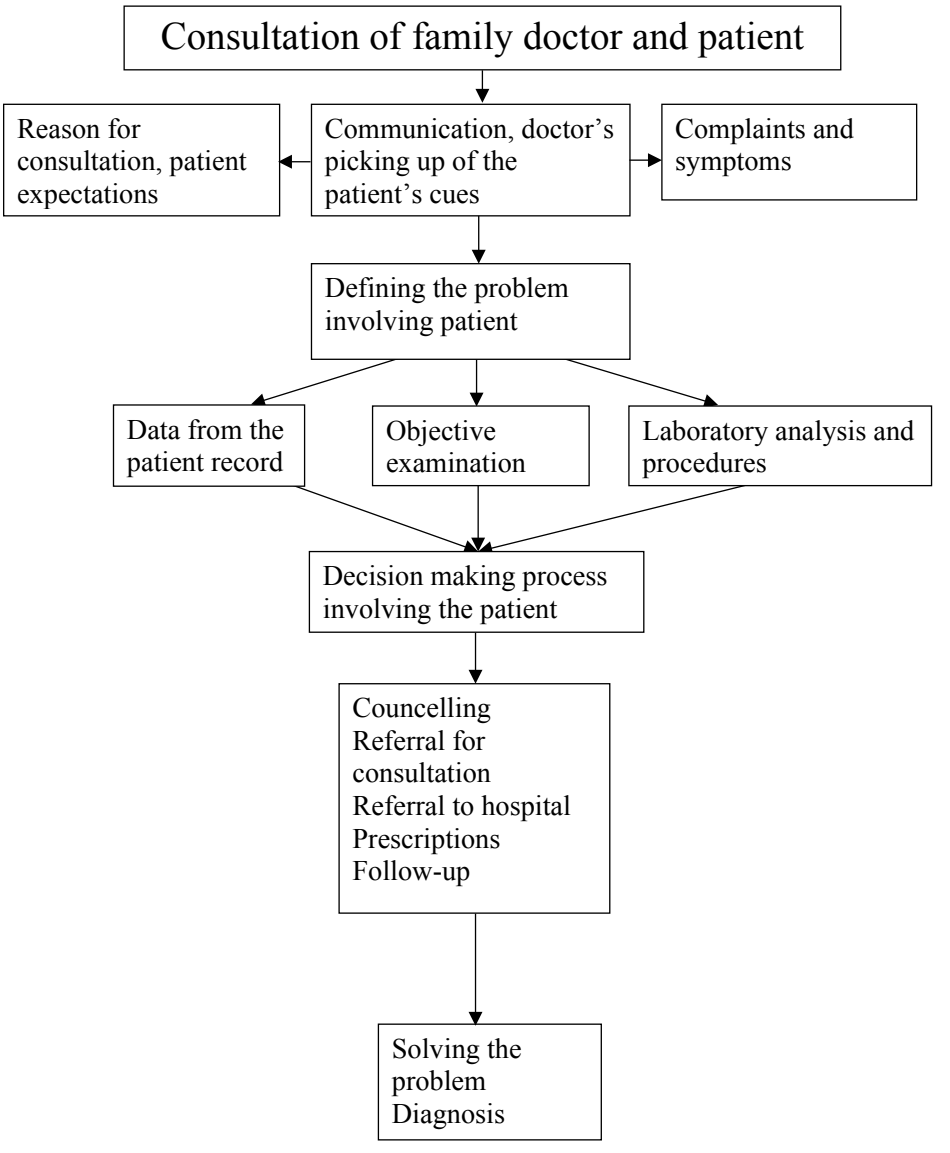


Figure 1. Schematic structure of the consultation in family practice (modified from H.-I. Maaroos. Consultation in family practice. Family Medicine. Ed. H.-I. Maaroos, M. Lember, Tartu 1998 p. 47–62 (in Estonian).

4.2.2. Consultation length in different countries

Consultation length is an important aspect to analyse as it is related to the planning of family doctors' consultations. Although several studies have investigated the determinants of consultation length, they have used different methods: as analysing videotapes, audiotapes and by using observers for measuring the time by stopwatch, to determine the exact length of the consultation (Chambonet et al. 2000, Brink Muinen et al. 1999, Coleman 2000).

Several studies in general practice have confirmed the importance of simply giving time. Time is a precious commodity for the modern GP, but spending time for making patients better and being more actively involved in their on going treatment may save time later (Dixon et al. 1999, Howie et al. 1999). The length of the consultation varies from country to country, being 5 minutes to 20 minutes. The mean length of the consultation is about 10 minutes (Deveugele et al. 2002). It depends of the methodology used for measuring consultation length, age and gender and the nature of problems (Freeman et al. 2002, Carr-Hill et al. 1998, Brink-Muinen et al. 2000). Although the Eurocommunication I study used the same methodology, the duration of consultations that it covered was different.

Consultation length in general practice has been discussed and studied for decades and is viewed from various aspects. Studies show that practice size has an impact on consultation length (Campell et al. 2001). Consultations last longer in case of new problems. For new problems, the doctor needs to thoroughly explore the problem, while in follow-up consultations the doctor can rely on the information from ealier encounters (Deveugele et al. 2002, Britt et al. 2004). The number of topics raised affects the length of the consultation by about 1 minute per additional topic (Carr-Hill et al. 1998).

From a limited administrative-economic point of view, short consultations are preferred because they imply high productivity. Longer consultations have been related to better history taking and more complete physical examination, as well as higher patient satisfaction (Howie 1999, Goedhuys and Rethans 2001) and fewer prescriptions (Howie et al. 1999). Contradictory to such findings, there are findings that show that the time spent on talking about the patient's history has been found to be negatively related to patient satisfaction (Williams et al. 1998).

Some studies claim that longer consultation times are essential for providing high quality clinical care (Campbell et al. 2001). Patients sometimes complain about busy doctors who have too little time to listen, although most patients are satisfied with the time given (Andersson et al. 1993). Howie et al. (1991) suggested that at the consultation level, enablement correlates best with duration of consultations and with the fact how well the patient knows the doctor. In a study of Cape et al. (2002) patient satisfaction with the consultation was related to the patients' overestimation of the length of their consultations but not to actual measured consultation length. This is consistent with the hypothesis that

patients' perceptions of consultation length are influenced not just by actual consultation length but by other aspects of their experience with consultations, so that consultations that they experience as more positive are perceived to be longer than they actually are. The results from a study by Ogden et al. (2004) indicate that the feeling about the length of the consultation is not correlated with the actual consultation length. Several studies show that patients are usually satisfied with the duration of consultations (Kuusela et al. 2004, Jenkins et al. 2002).

The main task of the FD is to carry on the consultation with one patient from the beginning up to problem solving with no interruptions. Performance of different tasks, practice organization, cooperation with the nurse and other factors in everyday practice do not always allow to avoid interruptions of consultations (Dearden et al. 1996). About 95% of consultations are interrupted (Urkin et al. 2002), which means that the family doctors' time was spent for dealing with problems other than those of the patient who attended the consultation. Interruptions during consultations are harmful to both patients and physicians. Dearden et al. (1996) found that interruptions disturbed the encounter from the patient's point of view.

The most common reasons for interruption were: 1) disturbance by other persons (another patient or another doctor); 2) phone calls from patients or other professionals. Information about the frequency and reasons of interruptions, their duration as well as their influence on the doctor-patient relationship during the consultation allows to reform practice organization and to improve consultation outcome (Dearden et al. 1996, Urkin et al.2002).

4.2.3. Influence of patient age and gender on consultations

There has been found no significant difference in the duration of consultations with regard to gender. Several studies have found that female patients reguire longer consultations (Maltreud and Okkes 1998, Boerma et al. 1999, Brink Muinen et al. 2002, Deveugele et al. 2002, Britt et al. 2004). Women in late middle age (55–64 years) receive the longest consultations, followed by elderly people who receive the shortest consultations (Carr-Hill et al. 1998, Chambonet et al. 2000, Brink-Muinen et al. 2002, Andersson et al. 1993). Several studies have found an approximate female:male ratio of 2:1 for consultations (Maltreud and Okkes 1998, Tabenkin et al. 2004). It may be difficult for an elderly patient with several acute problems to undress, be examined, and receive adequate professional attention during less than 15 minutes (Freeman et al. 2002). Shorter consultations were more appropriate when the population was younger (Andersson et al. 1993).

4.3. Nature of patients' problems presented at the consultation

Study of FDs' consultations as well as the statistical analysis of FDs' work reveal the most common problems of patients visiting FDs. A relatively large number of problems of patients in primary care are "general, unspecified". These include general pain, fever, feeling sick and also problems that are unspecified. The main reasons for consulting the general practitioner are related to the musculoskeletal system, the respiratory system and the cardiovascular system (Chambonet et al. 2000, Brink-Muinen et al. 2002). Patients presenting in primary care commonly exhibit physical symptoms that on investigation appear to be unrelated to organic pathology (Wileman et al. 2002). It has been shown that almost 20% of consecutive consultations were related to responding to such symptoms. In the absence of identifiable organic pathology, such symptoms are commonly regarded as products of psychological or emotional problems, and their legitimacy as "medical" matters are often questionable (Wileman et al. 2002). It has been stated that FDs not always identify psychological problems both in adults and children (Zwaanswijk et al. 2005). FDs' lack of skills, limited duration of consultations, co-occurrence of physical (biomedical) and psychosocial symptoms, presentation of primarly physical complaints instead of psychological ones, as well as the patients' tendency to normalize symptoms are seen as the main reasons for the low identification of psyhosocial problems in adults (Verhaak et al. 2004, Kirmayer et al. 1993).

4.3.1. Correlation between the nature of problems and consultation length

Calculated consultation time increased with an increase in the number of reasons for consulting. About 30% of consultations involve two or more reasons (Chambonet et al.2000). The number of topics raised affects the length of the consultation by about 1 minute per additional topic (Carr-Hill et al. 1998). Dealing with more psychosocial problems needs longer consultations (Howie et al. 1999) and patients with complex chronic conditions may require longer consultations to allow adequate time for review of their illness and treatment (Andersson et al. 1993).

4.4. Patient expectations about the consultation: biomedical and psychosocial aspects

Patient expectations have been studied in various ways. The results of questionnaires measuring patient expectations prior to the visit have been compared with

patient satisfaction measured after the visit. The expression of patients' needs is an essential dimension during the consultation and there is growing recognition of the importance of patient expectations in family practice (Williams 1995). Patients in their turn want to "know and understand their problem" and they want to "feel known and understood by the doctor" (Brink-Muinen et al. 2001, 2003, Grol et al. 1999).

Studies on patient expectations have demonstrated that the majority of patients who wanted the GP to listen and understand their problem and explain what was wrong, felt that these excpectations along with many other were met (Williams et al. 1995, Brink-Muinen et al 2001, 2003, Thorsen et al. 2001). In their study Richard Grol et al (1999) point out what patients (altogether 3540 patients from 8 countries) see as the requirements for good general practice: a GP who really takes time to listen and talk during the consultation and who expresses the attitude that a patient can talk freely about all his/her problems. Patients wish to receive information and sometimes evaluate information and explanation giving higher than involvement in the decision making process (Longo et al. 2006). The majority of patients want to receive information about their diagnosis and the causes and course of illness (Frederikson and Bull 1995). Coulter et al. (1999) observed that patients ask for information in order to understand what is wrong, to gain a realistic idea of the prognosis, to understand the procedures and likely findings of possible tests and treatments, to learn about available services, to receive help in coping, to have their suffering legitimized, and to learn how to prevent progression of their illness. Satisfaction with information improves the patient's coping with illness (Maly et al. 1999) and an active involvement of the patient in decision making is associated with better treatment outcomes (Mead and Bower 2002). Patients tend to identify the doctor as their main source of information, thereby enforcing his/her role in creating a collaborative relationship (Makoul et al.1995). Accordingly, doctors should want to learn how to best perform this role and how to elicit and satisfy their patients' manifold needs for information. Eurocommunication study I showed that importance and performance of different biomedical and psychosocial aspects is variable, but biomedical aspects were considered more important than psychosocial in all countries (Brink-Muinen et al. 2000). Providing information is the first step towards a shared decision. FDs' knowledge of a patient's point of view improves the efficacy of the information-giving process (Braddock et al. 1997) but also allows involving patients in the consultation process.

4.5. Patient-centred consultations

Questions that prompt patients to express their opinion and encourage their involvement are considered important patient-centred skills in the information/ negotiation phase of the interview. In the patient-centred approach the consulta-

tion is patient-led: the doctor works to the patient's agenda, listening and responding to what the patient says, and the doctor-patient relationship is considered egalitarian (Williams et al. 1998). Various studies have indicated that at least some elements of the patient-centred consultation have positive consequences on patient health outcomes as well as on the utilization of health care resources (Little et al. 2001, Ishikawa et al. 2005, Mead and Bower 2002, Stewart et al. 2000). The evidence that patients are more satisfied and more likely to comply with treatment when the doctor allows them to express their concerns and ideas in the consultation is powerful (Williams et al. 1998, Ishikawa et al. 2005, William 2005). Patients` satisfaction was best predicted by information-giving by their physician. (Williams et al. 1998, Ong et al. 2000).

4.5.1. Patient involvement in the consultation in family medicine

A number of studies suggest that it is essential to comply with certain factors in order to succeed with a patient-centred way of communicating. These factors are (Epstein et al. 2004, Fossum and Arborelius 2004, Henbest and Stewart 1989, Ong et al. 2000):

- the patient is given the opportunity to express the reason for the visit, including symptoms, thoughts, feelings and expectations;
- the patient is involved in management and is encouraged to accept appropriate responsibility;
- the patient is treated as a person with a problem, instead of perceiving the patient in terms of diseases and pathology;
- the patient feels that he/she has been understood.

It is recommended that patients be routinely involved in decision making in consultations (Mead and Bower 2002, Epstein et al. 2004, Ishikawa et al. 2005). Some studies show that patients valued highly shared decision making during a consultation in which the patient and the doctor are the partners in the final decision on treatment (Bauman et al. 2003). In other studies shared decisions were valued less than some other attributes of the consultation such as having a doctor who listens and who gives information (Longo et al. 2006). A study of Little et al. (2001) showed that not all patients seek for information as well as for sharing decision making and responding appropriately. The desire for involvement in decision making is associated with presenting the problem, patient age, social status, educational level and the style of the doctor usually seen (McKinstry 2000). The degree to which the patient can be involved in the management of his/her problem varies with the proposed management. To be involved, the patient needs clear information about what he should do in any given situation and what results are to be expected. Some professionals believe that most patients do not want to make decisions about their medical care and would prefer to leave it to the doctor, even if they can view

shared decision- making as an indicative of doctor's uncertainty (Coulter 1997, Stevenson et al. 2000).

The results of a recent study of Campion et al. (2002) show, that a minority of physicians involve regularly patients in decision making. The growing importance of patients' active participation in the decision-making process with regard to their health care may lead to changes in the doctor–patient relationship. Many would like to take part in decisions regarding treatment options and management of the therapeutic programme (Guadagnoli and Ward 1998, Thompson et al. 2003). Questions that prompt patients to express their opinion and encourage their involvement and are considered important patient-centred skills in the information/negotiation phase of the interview (Pendleton 1984). The requirements of a successful shared decision-making process that considers the patient's preferences and the doctor's needs have been well described (Bauman et al. 2003, Elwyn et al. 1999), but little is known about how and when information is actually delivered within the context of routine clinical practice. A better understanding of patient information needs (Jones et al. 2001, Goss et al. 2005) and of the patient–doctor interaction, in particular, regarding the communication of information, could be helpful in designing educational interventions which promote shared decision making (Coulter 2002).

4.6. Family doctor's biomedical performance during the consultation (examination of patients, procedures, referrals, prescriptions). Comparison of consultations in family medicine in European countries

The main biomedical performance of FDs' during the consultation, besides communication with the patient, involves objective examination, referrals to procedures or to consultations with other specialists and prescription of drugs. The effectiveness of the FD consultation, including tests, referrals and prescriptions, has been an object of research, while a wide range of reasons for referrals including the patients' demand for extensive diagnostics have been found (Evans 1993, Little et al. 2004). Also tradition and the social context have a strong influence on referral, which sometimes is even difficult to explain (Dempsey and Bekker 2002; Little et al. 2004; O'Donnell 2000).

Athough FDs solve more than 80% of problems in their practice, referral of patients from primary care to specialist care and back to primary care is an important activity in any healthcare system (Grumbach et al. 1999, Rosemann et al. 2006, Thomson et al.2003). Optimal referral processes are important for the coordinated diagnosing of patients' problems (Kvamme et al. 2001). The organization of delivery and financing of care in the sector of primary care is quite different across Europe. There is evidence that the gatekeeping role of FDs increases the efficacy of the system and reduces costs (Gervas et al. 1994).

Patients are most often referred to such procedures as x-ray, sonography, and endoscopy or to such specialists as the traumatologist and the cardiologist (Brink-Muinen et al. 2000). In Australia, GPs commonly refer patients to specialists, particularly orthopaedic surgeons, ophthalmologists, surgeons and gynaecologists for a variety of reasons, including diagnosis or investigation, treatment and reassurance from the FD's and patient's viewpoint (Piterman and Koritsas 2005).

Drugs play an important role in the treatment of patients and prescription of drugs is one part of the consultation. In Europe, a drug is prescribed in more than 60 percent of the cases that a patient consults the FD and there is considerable variation among various countries with respect to the prescription of drugs (Bjerrum et al. 1999, Watkins et al. 2003, Pileggi et al. 2004). Prescription rate is dependent on the patients' problems, age, accepted guidelines and health care organization (Cantrill et al. 1998). Concluding studies of the FDs' performance it can be stated that FDs solve most problems in their practice themselves.

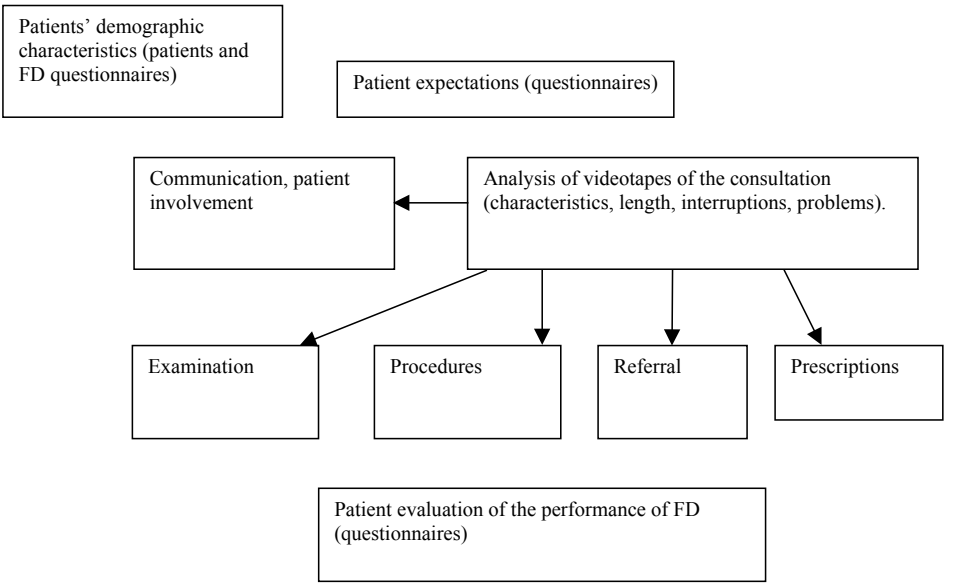
The FDs' consultation style depends on the training of doctors, on the culture and tradition as well as on health care organization, which might be different in different countries. In the world of free movement of patients and physicians, comparison of consultations in different countries is important for understanding the opportunities to ensure proper health care.

5. AIMS OF THE STUDY

1. To analyse the structure and length of different components of the FD's consultation and to define patients' problems for consulting the FD.
2. To analyse the influence of patient age and gender as well as the number of patients' problems and the nature of disease on consultation length.
3. To study the accordance of patient expectations about the biomedical and psychosocial aspects of the consultation with the performance of these aspects by FDs.
4. To determine how patient-centred consultations are on the basis of patient involvement in the problem-defining and problem-solving process.
5. To compare the biomedical performance (examination of patients, referral, prescriptions) of Estonian FDs with the performance of FDs in other European countries.
6. To assess the feasibility of videorecording as a method to analyse the FD's consultation proceeding from the patient's and FD's agreement to participate.

6. SUBJECTS AND METHODS

6.1. Figure 2. Study design



6.2. Patients and family doctors

This study was performed in 27 family practice offices in Estonia (Fig. 3), as part of the Eurocommunication Study conducted between January 1999 and December 2003 (Brink Muinen et al 2003). Of the selected family physicians, 15 worked in the urban and 12 in the rural area. The mean age of the family physicians, 3 men and 24 women, was 38.6±5.5 years. The mean length of service of the family physicians was 5.8±4.8 years. Their patient lists included a total of 1780±320 patients.

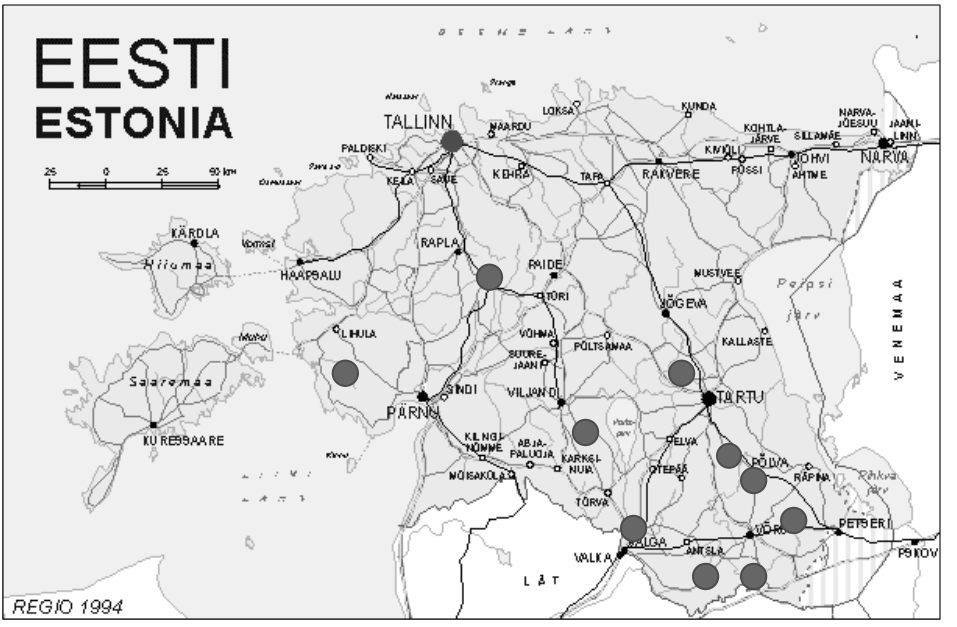


Figure 3. Location of the FD practices of the study group: urban 15, rural 12

Twenty consecutive patients per family physician, who attended the consultation were approached in the physician's waiting room and asked to participate in the study after being explained that the encounter would include video recording. Altogether 540 patients were invited to participate and 10 (1.8%) patients refused to participate. The patients who provided their informed consent were asked to complete questionnaires about the relevance and importance of the patient-physician consultation before and after the consultation. The procedure allowed a given consent to be withdrawn within five days after video recording, in which case the investigator was responsible for the destruction of the videotape. No withdrawals were registered after video recording. Altogether 405 video recordings/patients were analysed, i.e. 15 consecutive patients per FD. As the questionnaire was not fully completed in two cases, the final study group consisted of 403 patients. Their mean age was 40.4±24.4 years, 239 (59%) were women, and 164 (41%) were men (Publication 2, Table I). All patients were registered in the list of their FD (mean length of acquaintance with the patient 4.5±6.4 years) and the mean number of visits per year was 4.5±4.5. Among the studied patients 109 (27%) had higher education, 109 (27%) had secondary education and 185 (46%) had basic education.

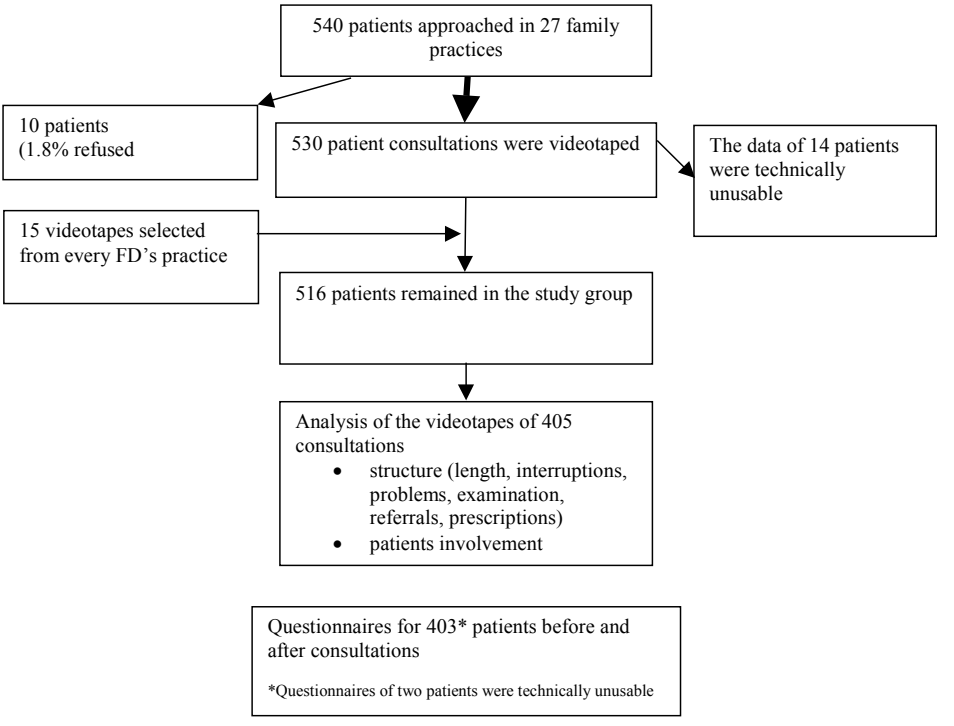


Figure 4. Studied patients

6.3. Video recordings (Publication 1)

The video recording of all 530 consultations in 27 FD practices and the analysis of 405 videotapes according to the study protocol were conducted by the principal investigator Heli Tähepõld.

6.3.1. Method of videotaping

The video camera had a fixed position in the consultation room. The doctor's face was shown in full, while the patient was viewed from the side or from behind (Figure 5). The whole consultation time of the FD (all consecutive patients during the day without interruptions) was recorded. If the FD had less than 20 patients per day, recordings were made during two consequtive days. After video recording the FD was asked to evaluate how the presence of the video camera in the room influenced the consultation routine.

Figure 5. The video camera had a position.

6.3.2. Analysis of videotapes (Observation protocols 14.2. in the Appendix.)

The investigators were trained for evaluation of videotapes. An evaluation protocol was drawn up and the videos were evaluated in the testing period by two observers. One and the same person trained two observers in the same way with the aim to achieve equivalent ratings of the videotaped consultations.
The following data of the doctor-patient communication were derived from the videotapes of the consultations (Appendix 14.2.1 and 14.2.2):

- Duration of the different parts of the consultation was measured by a stop-watch: whole duration, duration of eye contact, duration of the examination of patient, duration of interruptions;
- all disturbing activites during the consultation were registered: telephone calls, entering of other persons, doctor's leaving of the room;
- doctor's activities during the consultation: examination of the patient, procedures, counselling, referral, prescriptions

Patient-centredness was measured by a new instrument (Appendix 14.2.3), developed by Brink-Muinen (1999), based on the principle of Byrne and Long. Five items were used to identity of the patient-centredness of the GP (Brink-Muinen1999). These items were: patient's involvement in the problem-defining process, patient's involvement in the decision-making process; GP's picking up the patient's cues; consideration of the patient's ambivalence or self-efficacy; GP`s overall responsiveness to the patient. The items were measured using a 5 point-scale (1=poor; 2=fair; 3=good; 4=very good; 5=exellent). The scale points 3; 4; 5 were taken together and were evaluated as patient-centered consultations. Analysis of the videotaped material showed that the inter-rater reliability of the 20 consultations provided by different doctors and rated by a pair of observers each, as calculated by means of Pearson's correlation coefficient was high. The correlation coefficients for items 1–5 were 0.83, 0.66, 0.73, 0.28, and 0.78, respectively, showing that the inter-rater reliability of the evaluation of patient involvement in the consultation process was high for all but one item (item 4). The evaluation of consideration of the patient's ambivalence or self-efficacy correlated weakly between the observers.

Analysis of the videotape of an average consultation with a mean duration of 9 minutes took about one hour.

6.4. Questionnaires (Appendix 14.1)

Four questionnaires were used: patient personal information (14.1.1. Appendix), patients questionnaire before (14.1.2. Appendix) and after (14.1.3. Appendix) the consultation and FD registration form of videotaped consultations (14.1.4 Appendix). All questionnaires for the patients and FDs were distributed, collected and analysed by the principal investigator Heli Tähepõld.

The patients filled in the questionnaire before and immediately after the consultation. Before the consultation, the patients answered questions about demographic characteristics (sex, age, education) and about the relative importance of the aspects of the doctor-patient communication (Brink-Muinen 1999, 2000). The patients rated how important they considered different aspects of the communication during their visit that day using the following response categories: "not important", "fairly important", "important" or "utmost important". After the consultation, the patients rated each aspect of the GP's performance using the following response categories: "not", "really not", "really yes", "yes". An overview of the items (formulated as "I would like Dr. to talk about / explain…") for which the patients had to give an importance score are presented in Fig. 9. The formulation of the items for which the patients were expected to give a performance score (formulated as "DR. talked/ explained…") is presented in Fig. 9.

Expectations: patients' evaluation of the importance of the communication aspects. Performance: patients' evaluation of how the GP performed the communication aspects. Both the pre- and post-visit lists of questions about expectations and performance had two sub- scales: a biomedical scale consisting of six items and a psychological scale consisting of four items. The biomedical scale comprised items pertaining to biomedical symptoms and and problems, as well as explaining test results and the course and seriousness of biomedical problems; the psychological scale comprised items about support provided with psychosocial problems and explanation of these problems.

Videotaped patients (not accompanying persons) were registered by the GP using a special form. For each patient, GP answered questions about his/her gender and age; GP's medical diagnosis (max 3, ICPC-coded (Boerma); acquaintance with the patient.

6.5. Statistical analysis

The data were analysed with the Statistical Package for the Social Sciences 10.0 for Windows (SPSS Inc, Chicago, IL, USA).

Variables, such as age, consultation length for different health problems or the scoring of patient involvement in the consultation process, were presented as mean±standard deviation (SD). The statistics of mean±standard deviation (SD) were used for the comparison of the studied parameters between different countries. The consultations were divided into three groups according to their length using the median. The consultations shorter than the 0.5 medians were categorisized as short consultations and those longer than 1.5 medians, as long consultations. The rest were classified as medium consultations. Comparison of the consultation length groups for patients with different age and sex, and the patients' evaluations of the importance of different biomedical and psychosocial aspects were analysed and compared with the GP's performance of these aspects using the χ^2 test. Comparison of the consultation activities (examination, diagnostic procesdures, referrals, prescriptions) in different countries χ^2 test was used. Pearson correlation coefficient was calculated for inter-rater reliability. The level of statistical significance was set at $p \leq 0.05$.

6.6. Ethical aspects

The study was approved by the Committee of Medical Ethics of the Univerity of Tartu.

7. RESULTS

7.1. Structure and duration of the consultation in family practice

Average consultation length was 9.0 min (±4.9), the median being 8.0 min. The duration of the longest consultation was 36.3 min and of the shortest consultation 50 sec.

According to the median, 9% of the consultations were short consultations (up to 4.0 min), 74% medium consultations (4.0–12.0 min) and 17% long consultations (over 12.0 min) (Fig. 6). The most prevalent consultation length was medium ($p<0.05$).

Consultation length was related to the age group. Patients older than 45 years had significantly longer consultations compared with the patients of the younger age groups ($p<0.05$) (Publication II, Table II, illustrated in Figure 7). There was no significant difference in the duration of the consultation between the sexes ($p>0.05$).

Physical examination was performed in 322 cases (79% of the consultations) and the average time spent for it was 2.0 min (±1.9). The length of an average eye contact was 2.8 min (± 2.2) and it accounted for 31.2% of total consultation time. Altogether 85% consultations were interrupted by a telephone call or other activities and the mean interruption time was 1.0 min (±1.1).

7.2. Nature of the patients' problems presented at the consultation and correlation with consultation length

In 306 cases (75,6%) the patient had only one reason for consultation and in 99 cases (24.4%) the patient had two or more reasons. Calculated consultation time was related to the number of reasons for consulting. In case the patient had only one reason for presenting the average duration of the consultation was 8.0 min (±4.2), and in case there were two or more reasons, the average duration of the consultation was 11.6 min (±5.1) ($p<0.05$).

The most frequent reasons for presenting were respiratory infections, hypertension and ischaemic heart diseases and musculosceletal diseases (Figure 8).

The longest mean consultation time was registered in the case of psychological problems and the shortest one was registered in the case of an ear problem ($p<0.05$) (Publication I, Table III, illustrated in Figure 8).

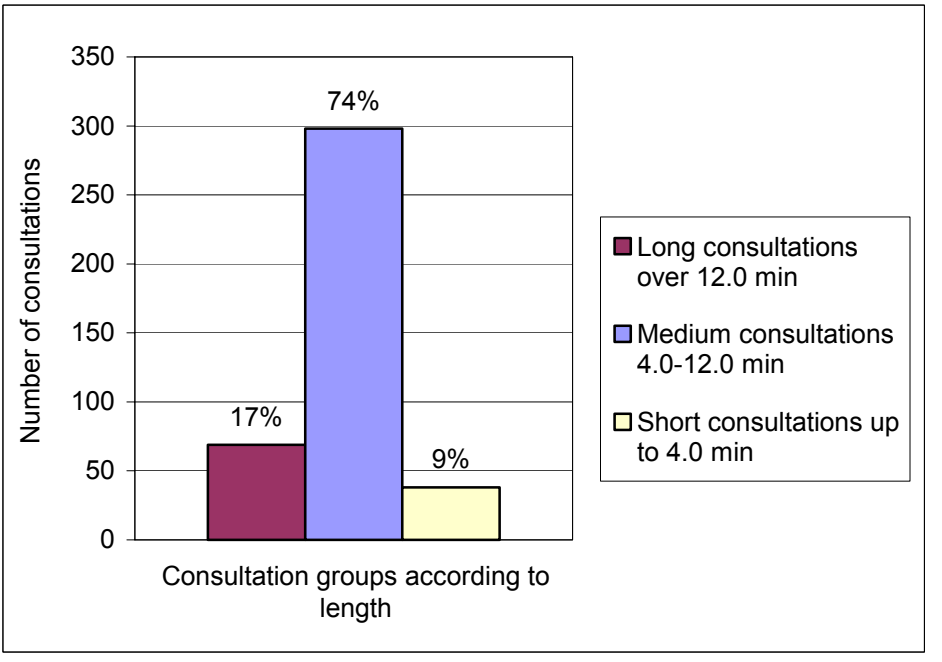


Figure 6. Distribution of consultations by consultation length

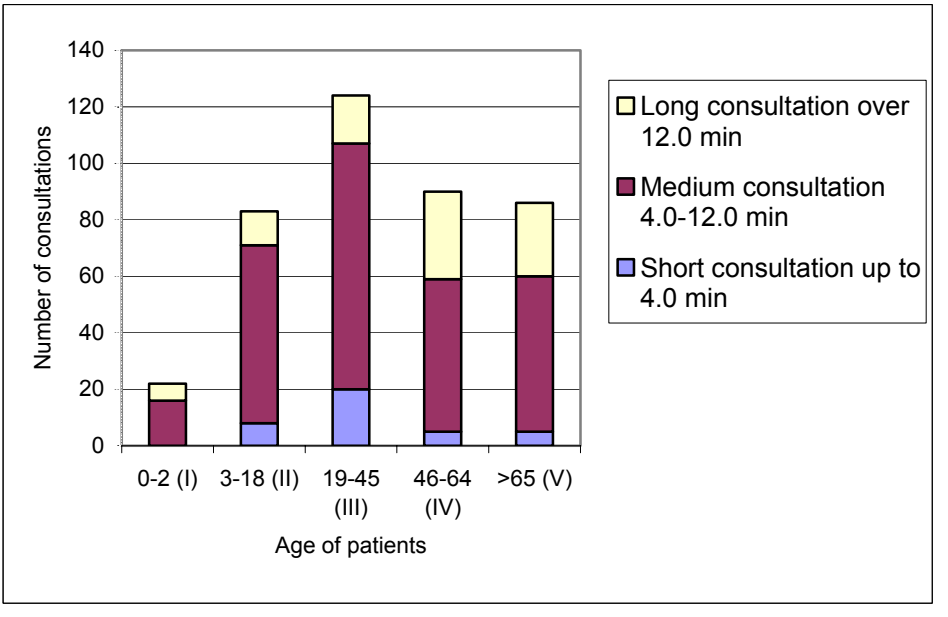


Figure 7. Patients groups by consultation length and the age of the patients.

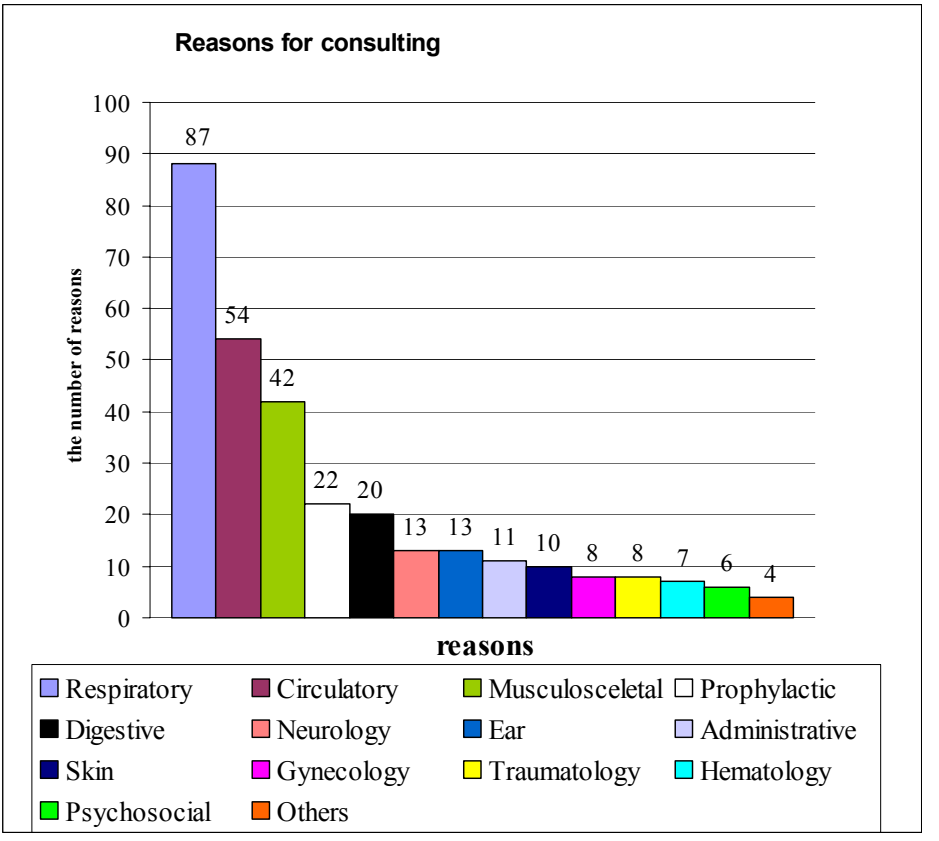


Figure 8. The distribution of the patients with one health problem

7.3. Patients' biomedical and psychosocial expectations about the consultation and evaluation of the doctor's performance. Analysis of the questionnaires (Appendix, Publication IV)

The 12 communication aspects that the patients considered important and that they reported the FD actually performed are shown separately. Patient post-consultation assessment revealed that the FD's performance, covering both the biomedical aspects and the psychological aspects to a higher degree than had been expected by the patients, (Publication IV, Table I, illustrated in Figure 9).

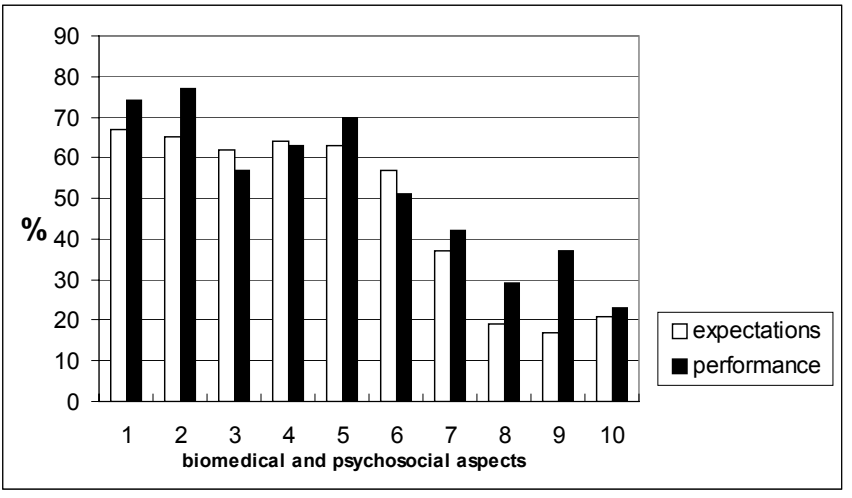


Figure 9. Importance of the biomedical and psychosocial aspects and their performance by the GP from the patient's perspective.

Biomedical aspects (items 1–6)
1. I would like Dr. to tell what my symptoms mean.
2. I want Dr. to talk with me about my problem.
3. I want Dr. to explain the likely course of my problem.
4. I want Dr. to explain how serious my problem is.
5. I want to be examined for the cause of my condition.
6. I would like Dr. to explain some test results.

Psychosocial aspects (items 7–10)
7. I feel anxious and would like Dr.'s help.
8. I have emotional problems for which I would like some help.
9. I'm having difficult time and would like some help.
10. I want Dr. to explain my emotional problems.

The importance that the patients attached to talking to the GP about their symptoms, and about the presenting problem, as well as getting an explanation about the likely course of the problem and about its severity was higher than it was performed by the GP. More than half of the patients visiting their GP wanted to be examined for the course of their condition.

The patients considered talking about the psychological aspects (7–10) less important than talking about the biomedical aspects. Nearly 40% of the patients assessed getting help with their anxiety as relatively more important than getting help with emotional problems and in a difficult time.

In general, the GPs' performance corresponded to the patients' expectations: when the patients considered an aspect important, it was performed by the GP and when it was not considered important, it was not performed by the GP. A minor part of the consultations were assessed differently by the patients: the GPs performed unexpected aspects, or they did not perform expected aspects as, e.g. explanation of test results, explanation of the severity and the course of their problem (Publication IV, Table II, illustrated in Figure10).

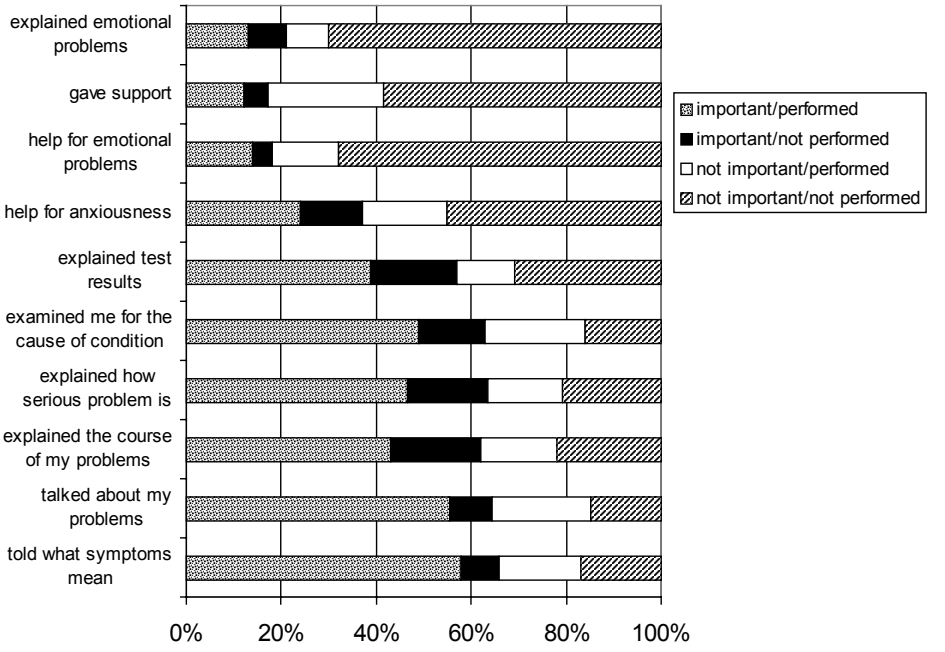


Figure 10. Discrepancies and concordances between the expetations and performance of the communication aspects: the proportion of the patients aged 18 years and older (in percentages) who, considered the communication aspects (not) important and/or (not) performed.

7.4. Patient involvement in the consultation, performance of patient-centred consultations. Analysis of the videotapes (Annex, Publication IV)

The analysis of the evaluation of the video recordings of patient involvement in the consultation process revealed that the mean score of the evaluations of all items was higher than "3"(good) (Table 1). The evaluation of adequate involvement (good, very good, and excellent) of the patients in the consultation was 47–74%. The highest positive evaluation was noted for the family physician's overall responsiveness to the patient (74%); the evaluation of patient involvement in the problem-defining process was also quite high (71%). The family physician's notice of the patient's cues was evaluated as 65%. The evaluation of patient involvement in the decision making process was lower (50%) and the evaluation of consideration of the patient's ambivalence or self-efficacy was the lowest (47%) (Table 1).

Table 1. Patient involvement in the consultation process*

Patient involvement in the consultation process (items)	Score (mean±SD),*	Number of consultations with adequate involvement of patients (%)**
1. patient involvement in the problem defining process	3.76±0.72	286 (71)
2. patient involvement in the decision making process	3.43±0.95	202 (50)
3. doctor's picking up of the patient's cues	3.78±0.89	262 (65)
4. consideration of the patient's ambivalence or self-efficacy	3.33±0.93	189 (47)
5. doctor's overall responsiveness to the patient	3.88±0.69	298 (74)

* Mean score for involvement of patients on a 5-point scale (1=poor; 2=fair; 3=good; 4=very good; 5=excellent); scale points 3, 4 and 5 were evaluated as adequate involvement of patients in consultations.

** The number of consultations with involvement of patients regarding items 1, 3, and 5 was significantly higher than by the items 2 and 4 ($p<0.01$)

7.5. Family doctor's biomedical performance during the consultation (examination of patients, procedures, referrals, prescriptions): comparison of consultations in family medicine in European countries (Publication V, Table 3, 4, 5, illustrated in Fig. 11, 12)

The mean length of the consultation was similar in Estonia, Romania and Poland but it was shorter than in Sweden ($p<0.05$). The time of physical examination was also the longest in Sweden ($p<0.05$). Almost one third of consultations were interrupted in three countries (Estonia, Poland, Romania) and only in one- tenth of cases in Sweden. Patients were examined more often in Estonia than in other countries, and least of all countries in Sweden.

Referral was considerably similar and low in all countries. Prescription rate was the lowest in Estonia.

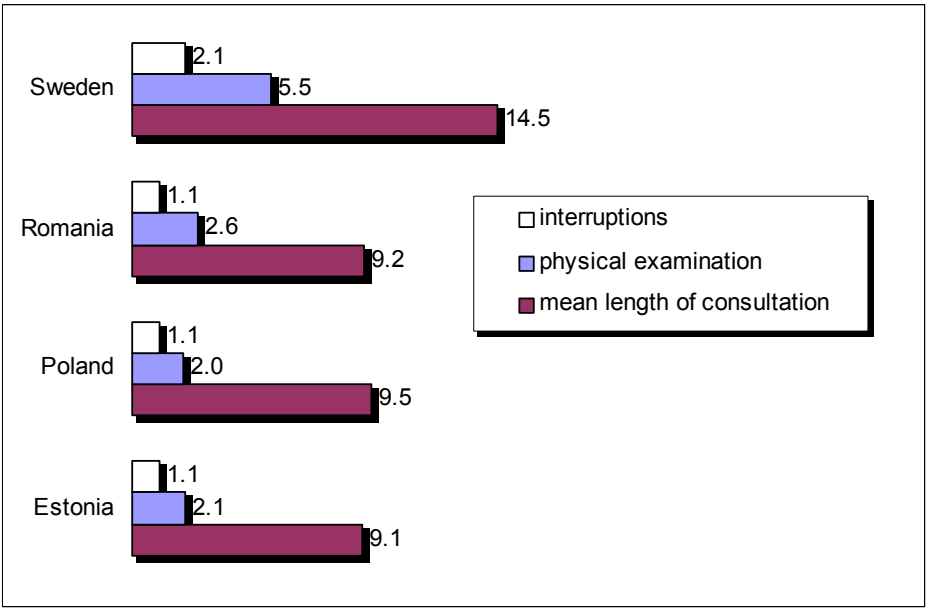


Figure 11. Family doctors biomedical performance during the consultation (mean length of the consultation, examination and interruptions in minutes).

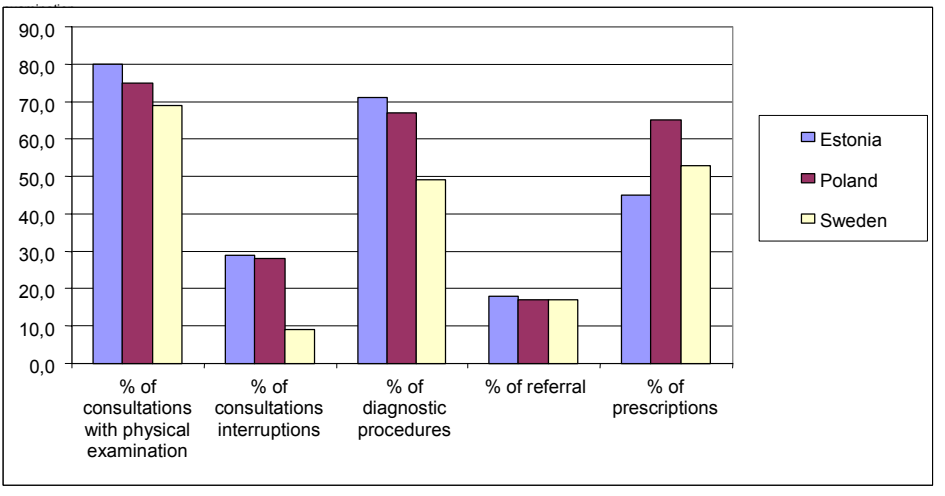


Figure 12. Family doctors biomedical performance during the consultation (examination, referrals, diagnostic procedures, prescriptions).

8. DISCUSSION

FDs meet their patients usually alone in the consulting room and the knowledge of the performance and outcome of the consultations is, as a rule, indirect, e.g. based on the opinion of patients or on the patients` records. Until recently, even the research of consultations was only conducted using observers or audiotapes. Introduction of video recordings opened up a new way for following everyday consultations, which was considered the most advantageous method (Taylor 1978, Brink-Muinen et al. 1999, Coleman 2000, Mechanic 2001). It is evident that videorecording requires agreement of both patients and FDs. In Estonia, most patients gave their consent for having their consultation recorded and only 2% of patients refused videotaping. This is quite surprising, because in several studies which used video recordings in order to analyse doctor-patient consultations, the patients' refusal rate was significantly higher (Brink-Muinen et al. 1999, Neal et al. 2004). The high participation rate can be explained by individual approach by the investigator as well as by a personal doctor's system in Estonia. Patients whose FDs participate in a study usually agree with participation. Higher than usual agreement rate of patients was seen, e.g. in the EU project PREDICT (King et al. 2006). At same time, the interest of Estonian FDs in participation in videorecording of consultations was not so high, which needs additional explanation. Videorecording of consultations, role-plays and training of consultation skills has formed one component of the training of FDs in Estonia during the last 15 years, which makes videotaping more common for doctors in the future. At present videorecording of consultations does not yet seem a normal situation for the FD and the patient and videorecorded consultations might be regarded as "play". Yet the post-consultation opinions of FDs and patients support the fact that the videocamera does not actually disturb the normal work of the doctor and patients forget about it very quickly. Morever, researchers have found no significant differences in the distribution of behaviours between consultations (Pringle et al. 1984, 1990; Campell et al. 1995). Thus the method of videotaping can be used as a valuable research tool for the study of consultations as well for the training of skills for the consultation (Martin and Martin 1984; Ram et al. 1999, Coleman 2000).

Analysis of videotapes allows to open up all details of the consultation, to evaluate the length of the encounter, to analyse activities, to follow relationship between patient and doctor, to find different cues and to evaluate the outcome of the consultation- no detail gets lost.

We found that the gender distribution of the consecutive patients included in our study reflect general gender distribution in Estonia. The Statistical Yearbook of Estonia provides statistics on the demographic situation in Estonia with 53 % female and 47 % male inhabitants as of 2000 (Statistical Yearbook of Estonia 2000). Several studies have found that female patients visit the doctor more frequently than male patients. In our study the male to female ratio was

similar to that observed in French general practice, 1.5:1 (Brink-Muinen et al. 1999, Chambonet et al. 2000).

The average time spent for one patient varies from country to country. The average GP`s consultation time of 9.0 min in Estonia is similar to the consultation time in the Netherlands, the UK, Italy and Portugal but is much shorter than in Belgium and Switzerland (Brink-Muinen et al. 1999, Deveugele et al. 2002). Like in the above group of countries, family doctors in Estonia act as first contact physicians (gatekeepers) with fixed lists (Maaroos and Meiesaar 2004). Such continuity has a positive influence on doctor-patient communication: doctors are more familiar with patients and their problems; they spend more time for psychological investigations and can better pick up the patients` cues; also the patients trust in the doctor increases (Taylor 1978, Boerma and Verhaak 1999, Howie et al. 1999, Mechanic 2001). In a country like Estonia, where the FD is functioning as the first contact-doctor for patient and where the patients' list comprises around 1700 persons, the mean number of consultations per day is around 20 (Maaroos, Meiesaar 2004). This explains why the length of an encounter is less than 10 minutes. Despite the relatively short consultation time, the encounter was often interrupted. (Dearden et al 1996) have found that interruptions disturbed the encounter from the patient's viewpoint, which should be considered in the performance of the consultation.

The results of our study showed that average consultation length was almost similar for female and male patients. Other studies have found that female patients require longer consultations (Guldbrandsen et al. 1998, Malterud and Okkes 1998). At the same time, the patient's age had an influence on the average duration of the consultation. Long consultations occurred more often in the older age groups, whereas shorter consultations were more frequent in the groups of younger adults. Similar results have been obtained by other researchers (Brink-Muinen et al. 1999, Boerma and Verhaak 1999, Deveugele et al. 2002, Freeman et al. 2002, Andersson et al. 1993). Furthermore, consultation time was significantly longer when the patient had more than one reason for the encounter (one-fourth of cases) compared with the situation where the patient had only one health problem, which accords with the finding of Carr-Hill et al. (1998) and Chambonet et al. (2000). Consultation length varied in the case of different health problems. The longest consultations were provided to patients with psychological problems. Similar results have been found in other studies (Deveugele et al. 2002). However, in our sample, psychological problems were only presented in a few cases. One reason for is that the patient may not be able to present his/her psychological problem during the study visit because of video recording and because family doctors generally tend not to manage psychological problems that are not presented directly (Freemann et al. 2002).

This study improved the knowledge of the accordance of the family physician's performance with patient expectations, as well as of the way how patients are involved in the consultation process in the reformed personal doctor-based health care system of Estonia. The most important outcome of the study was

that most patient expectations were fulfilled by the family physicians and that family physician's are able to involve patients in the consultation process. Also, our study shows that, from the patient's perspective, the importance of both discussing biomedical problems and of receiving a relevant explanation was higher compared with the respective importance of psychosocial problems. Similar results have been reported from other countries, e.g., the Netherlands, Belgium, Germany and Switzerland, where patients evaluated discussion about biomedical problems as more important (Brink-Muinen et al.1999). The reasons how patients evaluate talking about biomedical or psychosocial problems are dependent on their understanding of the aim of the consultation. Psychosocial problems are often hidden behind biomedical complaints, which the doctor can identify during the consultation (Peltenburg et al. 2004; Naessens et al. 2005). This might be one reason why patient expectations and the family physician's performance displayed some discrepancies in this regard, but there are also other reasons for this. Among the factors affecting patient expectations about different aspects of the consultation might be patient age. Like the Eurocommunication I study (Brink-Muinen et al. 1999), our study shows that the younger were the patients, the higher they evaluated discussion about psychosocial issues between doctor and patient. Studies of the other factors that might influence the doctor-patient communication have demonstrated the impact of the characteristics of a particular health care system (Brink-Muinen et al. 2003). Estonia has a partial gatekeeping system and Estonian patients have the right to choose their personal doctor (Maaroos and Meiesaar 2004). It has been found that the personal doctor is the most important predictor for satisfaction with care and confidence in the doctor (Kalda et al. 2003). However, although one should expect higher presentation of psychological problems in cases of higher confidence in the personal doctor, it was found in Estonia and in other Eurocommunication II countries that in the recently introduced gatekeeping system and in the case of fixed lists of patients, discussion about psychosocial problems was less important both for patients and for their FDs and, consequently, it took place less often (Brink-Muinen et al. 2003). One reason for this could be that owing to access to the personal doctor, patients have an opportunity to discuss psychological problems at any time and they feel more confident. However, in countries with a long-lasting gatekeeping system, psychosocial problems were presented more often (Verhaak et al 2004).

Generally, in the present study the family physicians performed both biomedical and psychosocial aspects of the consultation more often than the patients had expected. There were fewer cases where the patients evaluated an aspect as important, while the family physicians did not perform it and, on the contrary, there were more cases where the patients evaluated an aspect as not important, while the family physicians performed it. A comparatively low rate of unmet expectations was found also in other studies (Bell et al. 2002). In the present study only some biomedical aspects were performed less often than the patients had expected: the family physicians did not explain the likely course of the

patient's problem or the severity of this problem; also they explained test results to a lesser degree than the patients expected. This was also noted in other studies where the majority of patients wanted to receive information about their diagnosis and the causes and course of illness (Frederikson et al. 1995, Coulter et al. 1999, Longo et al. 2006). For daily practice, it was crucial to learn that the patients wanted the family physicians to provide them with more explanation of about such issues as the meaning of symptoms and the likely course of their health problem and its severity. Patients tend to identify the doctor as their main source of information, thereby enforcing his/her role in creating a collaborative relationship (Makoul et al. 1995). The importance of provision patients with an explanation should not be underestimated. Good communication with information giving and involvement of the patient in the consultation is accompanied, among other issues, with more satisfaction, compliance and symptom alleviation (Bertakis et al. 2002, Tennstedt 2000, Fossum and Arborelius 2004). Satisfaction was found to be best predicted by the amount of information provided by the doctor during the consultation (Ong et al. 2000, Williams et al. 1998).

Our study showed the doctors' high overall responsiveness to the patients, involvement of the patient in the problem defining and decision-making processes and the doctor's picking up of the patient's cues during the consultation. As patient involvement in different aspects of the consultation is considered a sign of the patient-centered consultation (Bensing et al. 2000, Mead and Bower 2002), the consultations performed within our study can be evaluated as patient-centered encounters. Our finding of the high patient involvement in the consultation is different from the results of a recent study of Campion et al. (2002) according to which aminority of doctors involve patients in decision making regularly. Various studies have indicated that at least some elements of the patient-centred consultation have positive consequences on patient health outcomes as well as on the utilization of health care resources (Henbest andFehrsen 1992, Little et al. 2001, Ishikawa et al. 2005, Mead et al. 2002, Stewart et al. 2000). The impact of patient involvement in the consultation process and the value of patient-centeredness remain topics of further research in Estonia. High patient-centeredness of the FDs`consultations in our study was a finding, which was not expected owing to the long reign of the specialist-centered health care system in Estonia (Boerma and Fleming 1998). Such type of a system is known to influence the consultation style and generally results in doctor-centeredness of consultations. Although the health care system and the training of family doctors in Estonia have changed during the last 15 years (Maaroos 2004), it seems to be a too short period to change patient-doctor relationship. It can be supposed that the patient-centeredness of most consultations provided by the FDs in this study might be partly related to the training of communication skills according to a new training programme of family physicians (Maaroos 2004). Yet the impact of training as well as the personal doctor's system on patient-doctor relationship requires further research.

The strengths of this study are the study design and the opportunity to use an internationally tested methodology. As the study was part of the international Eurocommunication I and II studies, all measurement instruments had been tested and measurement reliability had been checked on a larger sample (Brink-Muinen et al. 2000). The representative sample of the patients of primary care and the high response to participate in the study enhanced its validity. The patients were selected consecutively and any bias in this regard was unlikely.

The studied FDs were mostly women, which might have influenced the consultation style. However, as 95% of all family physicians in Estonia are women (Maaroos and Meiesaar 2004), the study represents quite well the consultation style practised in the region.

The study has some limitations on the interpretation of the results. Although we found that the doctor's performance was higher than patient expectations, we were not able to evaluate if the performance of the consultation aspects not important for the patient is related to patient satisfaction. Although such an approach seems appropriate, this issue needs further analysis.

Despite the fact that the video recordings were analysed by two observers trained by one and the same person, one item ("consideration of the patient's ambivalence or self-efficacy") was evaluated differently. Although this item was included proceeding from an internationally recognized methodology, its understanding is difficult and may vary among different countries. Moreover, the evaluation of this item was more dependent on the subjective approach of the observer than the evaluation of the other items. Therefore, further evaluation of this item and the results of the evaluation by one observer should be interpreted with some limitation.

Analysis of the biomedical performance of FDs in Estonia and its comparison with the corresponding indicator from other countries like Poland and Sweden shows that the work of Estonian FDs is comprehensive and co-ordinated. Despite the relatively short consultation time more than two-thirds of patients were examined during the consultation which was a higher indicator compared with other European countries (Brink-Muinen et al. 1999, 2003). In most cases procedures and instrumental treatment were performed in the own practice like in other countries (Brink-Muinen et al. 1999; 2003). Data about procedures performed in own practice at the beginning of the 90s indicated the low activity of PHC doctors (Lember et al. 1998). It can be concluded, that the work of FDs has changed significantly during the last 10 years. Referral by the FDs was quite similar to that in all studied countries and it shows that more then 80% of problems were solved by the FD. As referral was not dependent on the health care organization and financing, one can speculate that the main decision about referral was made proceeding from the medical reason. Other studies on referral show similar referral rates, which is related to the job description of the FDs as well as to the age, gender and problems of patients in FDs' lists (Omar et al. 2005). Rosemann et al. (2006) stress that reasonable referral increases the confidentiality between FD and patient. A gatekeeping system as it exists in

Estonia (Maaroos and Meiesaar 2004) regulates referral and makes it more appropriate and dependent on the medical problem.

The finding that the longer consultation time in Sweden was combined with the lower percentage of investigations allows to speculate that FDs in Sweden use more time for communication. Prescription rate in Estonia was lower than in other countries, but then prescription is highly dependent on special rules on compensation of drugs, which differ among different countries.

9. CONCLUSIONS

1. Mean consultation length was 9 min. Of all consultations two-thirds were interrupted by telephone calls, visitors or FD's other activities. The mean duration of interruptions was one-tenth of consultation time. The patients` common reasons for consultation were respiratory, circulatory and muscosceletal problems; psychological problems were recorded only in a few cases.
2. Consultation length was dependent on patient age and on the number and nature of problems but it was not influenced by patient gender. Longer consultations took place in the age group higher than 45 years, while shorter consultations occurred in the case of young adults. The longest mean consultation time was found in the case of psychological problems and the shortest, in the case of ear problems. The patient who had more than one health broblem used more consultation time.
3. Talking about biomedical issues was more important for the patients than talking about psychological issues during the consultation. However, the family physicians provided more psychosocial care than the patients had expected. Patients want to hear more about the cause and severity of their symptoms and test results than FDs actually explain. This finding allows placing more focus on provision of patients with information and explanation in consultations in the future.
4. Taking into account that patient involvement in the consultation process as well as the overall responsiveness of the family physicians to the patients during the consultation was high, the consultations in Estonia can be considered patient-centered encounters. The patients were involved more in the problem defining process than in the decision making process.
5. Estonian FDs examine patients in more than two-thirds of consultations, which was similar to the corresponding indicator for Poland and Romania. In Sweden, on the contrary, patients were examined during the consultation in less than half of cases. The rate of referral to other specialists was similar in Estonia, Poland, Romania and Sweden. More than 80% of the patients' problems were solved by FDs. Analysis of the consultations provided by Estonian FDs demostrates their capability to solve majority of problems for all age groups during the consultation and confirms that Estonian FDs provide general comprehensive care to their patients, which is similar to other countries in Europe.
6. Video recording of consultations is a feasible method for studying consultations as it was acceptable to patients and according to the FDs' evaluation videotaping of consultations did not influence their usual manner to consult patients. The high participation rate of patients in our study can be explained by the individual approach used by the investigator and by the fact that all patients had their personal FD in the study period. Video recording allows directly evaluate different aspects of consultations without disturbing the FD or the patient.

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11. SUMMARY IN ESTONIAN

Konsultatsioon peremeditsiinis

Peremeditsiin on eriala, mis pakub patsiendile esimest kontakti tervishoiusüsteemiga. Seepärast on peremeditsiini iseloomulikeks tunnusteks tegelemine patsiendiga piiratud aja tingimustes ning seejuures selekteerimata probleemidega (Taylor 1978, McWhitnney 1997). Viimasel aastakümnel on arstiabi Euroopa kontekstis muutunud avatumaks, patsiendid on informeeritumad kui varasematel aastatel, patsiendid ja ka arstid on pärit erinevatest kultuuritraditsioonidest ja rahvustest — see kõik on tekitanud uued konsultatsiooni stiilid ja nõudluse perearstide järgi, kes töötaksid laiahaardelisemalt, teeksid ise rohkem uuringuid ja protseduure ning lahendaksid enamuse perearsti poole pöördumise põhjuseid ise (Elwyn 2004, Brink-Muinen et al. 2003). Laialdasema tegevusega toimetulekuks peab konsultatsioon kui perearsti erialakeskne patsiendile suunatud tegevus olema läbi viidud oskuslikult ja otstarbekalt. Konsultatsioon sisaldab patsiendi probleemist arusaamist, patsiendi enda ideede väljaselgitamist, patsiendi uurimist, otsuste tegemist, patsiendi edasisuunamist, ravimite väljakirjutamist ning kogu patsiendiga toimunud tegevus peaks vastama patsiendi ootustele ning lahendama probleemi. Seni pole perearsti ja patsiendi konsultatsiooni Eestis uuritud, sest perearsti eriala Eestis on uus ning on puudunud konsultatsiooni uurimiseks usaldusväärne testitud metoodika. Rahvusvahelise koostööprojekti Eurocommunication II raames kasutati perearstide konsultatsioonide uuringus Eestis ning teistes Euroopa riikides sama metoodikat. Selle uuringu tulemusena tekkis võimalus võrrelda erinevate riikide perearstide tööd (Brink-Muinen et al. 1999, 2003). Sellise uuringu lisaväärtuseks on videokonsultatsiooni meetodi aprobeerimine kasutamiseks perearstide koolituses ja perearstide töö kvaliteedi hindamises. Teadmised konsultatsioonide struktuurist on vajalikud Euroopa Liidu tingimustes patsientide ja arstide vaba liikumise tõttu, sest teades konsultatsioone mõjutavaid faktoreid ning patsientide hinnanguid erinevatele konsultatsiooni ajal toimuvatele tegevustele, saab konsultatsioone korraldada arstidele ja patsientidele ootuspärasemateks.

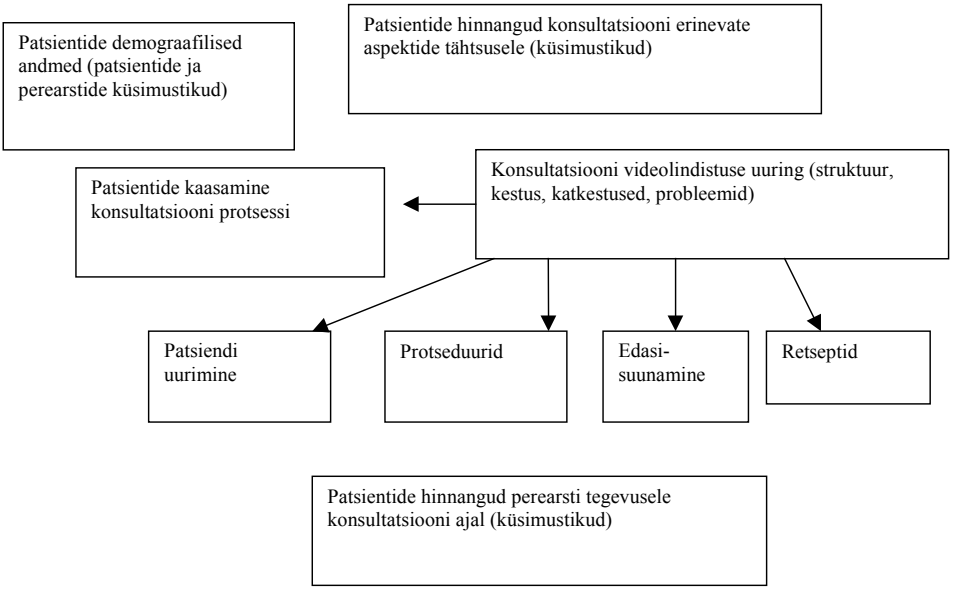
Uurimistöö eesmärgid

1. Analüüsida perearsti konsultatsiooni struktuuri, konsultatsiooni erinevate osade kestust ning selgitada välja patsientide probleemid, millega nad arsti poole pöördusid.
2. Hinnata patsientide vanuse, soo ja arsti poole pöördumise mitme üheaegse probleemi ning patsiendi erinevate haiguste mõju konsultatsiooni kestusele.

3. Teha kindlaks, kui tähtsaks hindavad patsiendid konsultatsiooni erinevaid biomeditsiinilisi ja psühhosotsiaalseid aspekte ning kuidas on perearst konsultatsiooni käigus patsientide hinnangul nendega aspektidega tegelenud.
4. Hinnata konsultatsiooni patsiendikesksust, analüüsides, mil määral perearst konsultatsiooni käigus kaasab patsiendi tema probleemi selgitamisse ja lahendamisse.
5. Registreerida konsultatsiooni ajal toimunud arsti biomeditsiinilist tegevust (patsiendi uurimine, edasisuunamine, retseptide väljakirjutamine) ning võrrelda seda erinevate Euroopa maade arstide konsultatsioonide käigus toimunud samalaadse tegevusega.
6. Testida videolindistuste metoodika teostatavust perearsti konsultatsioonide uurimismeetodina lähtuvalt patsientide ja perearstide soostumusest ning hinnangutest.

Patsiendid ja meetodid

Uuringu ülesehitus



Konsultatsioone uuriti 27-s perearsti praksises Eesti erinevates paikades (15 linnas ja 12 maal töötavat perearsti). Igas keskuses planeeriti lindistada 20 patsiendi konsultatsioonid. Konsultatsioonide videolindistusteks pöörduti praksistes kohapeal 540 patsiendi poole, neid informeeriti videolindistusest ja osalema nõustus 530 patsienti (98%), kes kirjutasid alla ka informeeritud nõusoleku vormile. Iga arst täitis küsimustiku, milles ta iseloomustas oma tööd

ja ka seda, kui kaua on vastav patsient olnud tema nimistus. Pärast konsultatsiooni uuriti arstide hinnangut videolindistuse mõju kohta konsultatsioonile. Jättes kõrvale iga arsti kaks esimest videolindistatud konsultatsiooni, analüüsiti 405 patsiendi konsultatsioonide videolindistusi vastavalt uuringu protokollile. Stopperiga mõõdeti konsultatsiooni kestus, ning patsiendi uurimisele, konsultatsiooni katkestustele ja muudele erinevate tegevustele kulunud aeg, Registreeriti arsti tegevused (patsiendi läbivaatus, uuringud, raviprotseduurid, edasisuunamine, retseptide kirjutamine). Patsientide pöördumise põhjused ja probleemid klassifitseeriti ICPC kodeeringuga. Patsientide kaasamist konsultatsiooni protsessi ja perearstide kuulamisoskust ning reageerimist patsiendi vihjetele registreeriti vastava rahvusvahelise patsiendikesksuse instrumendiga (Brink-Muinen et al. 1999). Ühe keskmise 10 min. kestva konsultatsiooni videolindistuse analüüs kestis keskmiselt üks tund.

Patsientide hinnanguid konsultatsioonile uuriti selleks testitud küsimustikuga vahetult enne ja vahetult pärast konsultatsiooni. Selle küsimustikuga hindasid patsiendid enne konsultatsiooni, kui oluline on nende jaoks konsultatsiooni erinevate biomeditsiiniliste ja psühhosotsiaalsete aspektide täitmine ning pärast konsultatsiooni hindasid nad, mil määral perearst nende aspektidega tegeles.

Peamised tulemused

Perearstide konsultatsioonide keskmine kestus oli 9.0±4.9 min. Jaotades konsultatsioone vastavalt mediaanile, olid 9% neist lühikesed (<4 min), 74% keskmised (4.0–12.0 min) ja 17% pikad konsultatsioonid (> 12.0 min). Seega esinesid keskmised konsultatsioonid kõige sagedamini ($p<0.05$). Vanemate kui 45-aastaste patsientide konsultatsioonid olid keskmiselt pikemad kui nooremas eagrupi konsultatsioonid ($p<0.05$). Patsiente uuriti objektiivselt 322 juhul (79% konsultatsioonidest) ja keskmine uurimiseks kulunud aeg oli 2.0 min (±1.9). Silmakontakti aeg patsiendiga oli 2.8 min (±2.2), seega moodustas see kogu konsultatsiooni ajast 31.2%. Kokku 85% konsultatsioonidest katkestati telefonikõnedega või muu tegevusega, kusjuures katkestuste keskmine kestus oli 1.0 min (±1.1). Ühe põhjusega pöördusid perearsti poole 306 patsienti (75,6%) ja 99 juhul (24.4%) oli pöördumise põhjusi kaks või rohkem. Konsultatsiooni kestus ühe põhjuse korral oli 8.0 min (±4.2) ja mitme põhjuse korral 11.6 min (±5.1) ($p<0.05$). Patsiendid pöördusid perearsti poole kõige sagedamini hingamisteede, vereringesüsteemi ja luu-lihaskonna haigustega. Kõige pikem keskmine konsultatsioon registreeriti psühholoogiliste probleemide korral ja kõige lühem kõrvahaiguste korral (($p<0.05$).

Patsiendid hindasid sagedamini tähtsaks biomeditsiiniliste aspektide käsitlemist ja vähemtähtsaks psühhosotsiaalsete aspektide käsitlemist konsultatsiooni ajal. Enamasti olid patsientide ootused ja perearstide tegutsemine konsultatsiooni ajal vastavuses. Siiski selgus, et arstid käsitlesid psühhosotsiaalseid aspekte sagedamini, kui patsiendid seda ootasid, ning vastupidi, mõnda bio-

meditsiinilist aspekti, nagu patsientide sümptomite põhjuse ja raskuse ning testi tulemuste selgitamist pakuti vähem, kui patsiendid oleksid soovinud.

Patsientide kaasamist erinevatesse konsultatsiooni aspektidesse (probleemi selgitamine, probleemi lahendamine), samuti perearsti reageerimist patsiendi vihjetele, kuulamist ja patsiendi julgustamist hinnati keskmise punktiarvuga kõikidel juhtudel >3,0, mis tähendab keskmiselt head vastava tegevuse täitmist. Perearstid kuulasid patsienti väga hästi 74% juhtudest, kaasasid patsienti küllaldaselt probleemi selgitamisse 71% juhtudest, patsientide kaudseid vihjeid märkasid arstid 64% juhtudest, 50% juhtudest kaasati patsienti küllaldaselt probleemi lahendamisse ja 47% juhtudest julgustati patsienti ka ise tegutsema. Seega olid rohkem kui pooled perearsti konsultatsioonidest patsiendikesksed.

Võrdlesime konsultatsiooni erinevaid aspekte Eestis, Poolas, Rumeenias ja Rootsis. Selgus, et konsultatsiooni kestus oli keskmiselt sama Eestis, Poolas ja Rumeenias ning oli 2/3 võrra pikem Rootsis ($p<0.05$). Ka patsiendi läbivaatuse aeg oli Rootsis pikem kui teistes maades ($p<0.05$). Eestis, Poolas ja Rumeenias katkestati konsultatsiooni 2/3 juhtudest, samas Rootsis vaid 1/10 juhtudest. Patsientidele tehtavate uuringute arv Eestis ületas võrdlusaluseid maid ja see-juures Rootsis tehtud uuringute arv oli ligi poole võrra väiksem kui Eestis. Patsientide edasisuunamine oli kõikides riikides võrdne. Retsepte kirjutas perearst välja kõige vähem Eestis ($p<0.05$).

Järeldused

1. Perearsti konsultatsiooni keskmine pikkus oli 9 min. Kõikidest konsultatsioonidest 2/3 olid katkestustega. Katkestusi põhjustasid telefonikõned, teised külastajad või perearsti muu tegevus. Keskmine patsiendi uurimiseks kulunud aeg oli keskmiselt 1/4 konsultatsiooni keskmisest ajast ning katkestuste kestus moodustas 1/10 konsultatsiooni kestusest. Kõige sagedamini pöördusid patsiendid perearsti poole hingamisteede haiguste, veresoonkonna haiguste ning luu- ja lihaskonna haiguste tõttu. Psühholoogilisi probleeme registreeriti pöördumise põhjustena üksikutel juhtudel.
2. Konsultatsiooni pikkus sõltus patsientide vanusest, probleemide arvust ja haigusest ning konsultatsiooni pikkus ei erinenud nais- ja meessoost patsientide korral. Vanemate kui 45-aastaste patsientide konsultatsioonidele kulus rohkem aega kui nooremate patsientide konsultatsioonidele. Kõige pikem keskmine konsultatsiooni aeg oli psühholoogiliste probleemide ning kõige lühem kõrvahaiguste korral. Mitme terviseprobleemiga patsientide konsultatsioonid olid pikemad kui ühe probleemiga patsientide konsultatsioonid.
3. Patsiendid hindasid konsultatsiooni biomeditsiiniliste aspektidega tegelemist tähtsamaks kui psühhosotsiaalsete aspektidega tegelemist. Perearstid tegelesid konsultatsiooni käigus nii biomeditsiiniliste kui ka psühhosotsiaalsete aspektidega ning viimastega rohkem, kui patsiendid seda neilt ootasid. Patsiendid ootasid perearstilt rohkem selgitust sümptomite põhjuse ja ohtlik-

kuse kohta ning uuringute tulemuste kohta kui perearst seda pakkus. Seega peaks perearsti konsultatsioon enam kui praegu olema suunatud patsiendile informatsiooni ja selgituste andmisele.

4. Patsientide konsultatsioonid on enamusel juhtudest patsiendikesksed, kuna patsienti kaasati probleemi selgitamisse ning perearstid kuulasid patsiente ja märkasid nende kaudseid vihjeid probleemi kohta. Seejuures olid patsiendid rohkem kaasatud probleemi esitamisse kui probleemi lahendamisse.
5. Eesti perearstid uurisid patsiente rohkem kui 2/3 konsultatsioonide ajal; samasuguse sagedusega uuriti patsiente ka Poolas ja Rumeenias. Seevastu Rootsis uuriti patsiente vähem kui 1/2 konsultatsioonidest. Patsientide edasisuunamine perearsti juurest teiste erialade arstide juurde oli Eestis, Poolas, Rumeenias ja Rootsis võrdne. Kõikides maades lahendasid perearstid ise rohkem kui 80% probleemidest. Eesti perearstide konsultatsioonide analüüs kinnitas, et Eestis osutatav perearstiabi on üldine ja laiahaardeline ning ei erine perearstiabist teistes Euroopa maades, sest perearstid tegelevad kõikide vanusegruppide mitmekesiste probleemidega ning enamusel juhtudest lahendab probleemid perearst.
6. Videolindistus kui meetod perearsti konsultatsioonide uurimiseks on teostatav, sest enamus patsientidest soostus konsultatsioonide videolindistustega ning perearstide hinnangul ei mõjutanud videolindistused nende tavapärast konsultatsiooni läbiviimist. Patsientide kõrge osalus on seletatav asjaoluga, et nende poole pöördus uurija personaalselt ning nad kõik olid uuringus osalenud perearsti nimistu patsiendid. Konsultatsioonide videolindistused võimaldavad otseselt analüüsida konsultatsiooni erinevaid aspekte ilma arsti ja patsienti häirimata.

12. APPENDICES

12.1. Questionnaires

12.1.1. Patient personal information

Please, complete or tick the next questions:

In what year were you born?	year of birth:	
Are you a man or a woman?	G	man
	G	woman
Do you live alone?	G	no
	G	yes
Do you live with:	G	partner
(tick all that concerns you)	G	own children, number .....
	G	other children, number .....
	G	parents/parents-in-law
	G	sisters/brothers
	G	other adults
Are you employed?	G	no
	G	yes, ... hours per week

What is the highest level of education you attained?

G	none
G	primary school
G	secondary school
G	higher vocational training/university

For which health problem(s) are you visiting your GP today?

problem

1 ……

2 ……

3 ……

Is this the first time you have visited your GP for these problems?

problem 1.	G	no	G	yes
problem 2.	G	no	G	yes
problem 3.	G	no	G	yes

12.1.2. Patients questionnaire before the consultation

Please tick for each item how important you think it is for your visit today.

If you consider an item as 'not applicable', please tick the last box.

For example: you are visiting the GP today for a routine control of your blood pressure. You do not have any symptoms, so some items, like nr.1 (about symptoms) and nr.4 (about emotional problems), are not related to your present problem. So, you would tick the box 'not applicable' for these items.

Another example: you are visiting your GP for stomach-ache for the first time. Then, item nr.3 and nr.8 are not related to your today's visit. So you would tick the box 'not applicable' for these items.

	not important	rather important	important	utmost important	not applicable
1. I would like Dr to tell me what my symptoms mean	G	G	G	G	O
2. I feel anxious and would like Dr's help	G	G	G	G	O
3. I want a previous diagnosis confirmed	G	G	G	G	O
4. I want Dr to talk with me about my problem	G	G	G	G	O
5. I have emotional problems for which I would like some help	G	G	G	G	O
6. I want to be examined for the cause of my condition	G	G	G	G	O
7. I want Dr to explain my emotional problems	G	G	G	G	O
8. I would like Dr to explain some test results	G	G	G	G	O
9. I want Dr to explain the likely course of my problem	G	G	G	G	O
10. I'm having difficult time and would like some support	G	G	G	G	O

12.1.3. Patients questionnaire after the consultation

Please tick for each item if the Dr carried it out during your visit today.
If you consider an item as 'not applicable', please tick the last box.

	not	really not	really yes	yes	not applicable
1. Dr told me what my symptoms mean	G	G	G	G	O
2. Dr gave me some help for my anxiousness	G	G	G	G	O
3. Dr confirmed a previous diagnosis	G	G	G	G	O
4. Dr talked with me about my problem	G	G	G	G	O
5. Dr gave me some help for my emotional problems	G	G	G	G	O
6. Dr examined me for the cause of my condition	G	G	G	G	O
7. Dr explained my emotional problems	G	G	G	G	O
8. Dr explained some test results	G	G	G	G	O
9. Dr explained the likely course of my problem	G	G	G	G	O
10. Dr gave some support for the difficult time I have	G	G	G	G	O

12.1.4. FD registration form of videotaped consultations

Expalantory notes on the FD registration form

Patient: enter videotaped patients only and number them consecutively. If several patients attend together, enter only the patients with symptoms/health problems (companions should not be entered). If several patients with symptoms attend together, enter each patient in a separate row and give him/her a separate number

Sex: male or female

Year of birth: 19 .....

How many years patient? the number of years the patient has been on your list.

How many visits last year? the number of visits the patient made to your practice in the last year

Know her/him: indicate your acquaintance with the patient:

1: I do not know her/him at all
2: I hardly know her/him
3: average acquaintance
4: I know her/him rather well
5: I know her/him very well

12.2. Observation protocols

12.2.1. Observation scheme

Codenumber consultation: ……..
Date observation:
……
Observer:
……..

Length of:	min.	sec.
consultation	.....	.....
eye contact	.....	.....
GP off the screen	.....	.....
physical examination	.....	.....
interruptions	.....	.....

Remarks:

12.2.2. Content of the consultation

Raised issue related to health Code number consultation .....
Issue: .....
Initially raised by: O GP
O patient
Which symptoms are discussed:

Medication: O no
O yes, new prescription
O yes, repeat prescription
O yes, type of prescription unknown

Referral: O no
O yes, new referral
O yes, repeat referral
O yes, type of referral unknown

Instrumental treatment performed during the consultation:
O no
O yes .....
O unknown

Diagnostic procedures specifically ordered by the GP or performed during the consultation:
O no
O yes, in own practice .....
O yes, elsewhere .....
O unknown

Health education related to this issue:

O no
O yes .....

Other related topics (e.g. payment for prescriptions):

O no
O yes .....

Remarks: .....

Instrumental treatment: examples	Diagnostic procedures: examples	Health education: examples
injection syringing ear wound care minor surgery bandaging/taping/resetting catheterization IUD vaccination	urine blood smear X-ray scan ultrasound (incl. pregnancy) EEG ECG endoscopy urine (culture) faeces (culture) eye test ear test blood pressure weight pregnancy test	food/diet alcohol smoking safety issues sports and exercise

12.2.3. Protocol for evaluation of patient-centredness

Codenumber of the consultation .....

1= poor
2= fair
3= good
4= very good
5= excellent

Patient's involvement in the problem-defining process:
the degree to which the doctor allows or encourages the patient to express (in his own words) the reason for the encounter (where applicable) and/or any other problems or concerns

1 2 3 4 5 n.a.

Patient's involvement in the decision-making process:
the degree to which the doctor allows or encourages the patient to decide about management options, discuss preferences and concerns, etc.

1 2 3 4 5 n.a.

Doctor's picking up the patient's cues
the degree to which the doctor picks up remarks, hints, signals pertaining to hidden aspects of the problem or to related problems

1 2 3 4 5 n.a.

Consideration of the patient's ambivalence or self-efficacy the degree to which the doctor allows or encourages the discussion of issues of self-management, confidence in the treatment/management plan, compliance - ability, willingness

1 2 3 4 5 n.a.

Doctor's overall responsiveness to the patient
the degree to which the doctor listens and makes contextually appropriate responses to the patient

1 2 3 4 5 n.a.

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Education

1972–1984	Tartu Miina Härma Secondary School No 2
1986–1994	Faculty of Medicine, University of Tartu
1994–1997	the postgraduate internalship in general medicine at Tartu University Maarjamõisa Hospital
1997–1999	University of Tartu, advanced training courses for the speciality of family doctor
1998–	University of Tartu, postgraduate training in Family Medicine

Special Courses

1998	EUROCOMMUNICATION II meeting in Utrecht, in NIVEL (the Nedherlands Institute of Primary Health Care)
1999	Advanced course of organizing reasearch and methodology, NIVEL Atie van den Brink-Muinen, University of Tartu, Department of Polyclinic and Family Medicine
2001	International project "Eurocommunication II", advanced course of analysis of videotapes, in Utrecht, in NIVEL
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Professional employment

1996–1998	general doctor at Rõngu Hospital
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Scientific work

Reserch topics: Consultation in family medicine. Family doctors´work, doctor-patient communication. The project: Eurocommunication-II, a comperative study between countries in Central Europe and Western Europe on doctor-patient communication.

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Teadustegevus

Peamised uurimisvaldkonnaks on olnud perearsti konsultatsioon ja seda mõjutavad faktorid. Osalemine Kesk- ja Lääne Euroopa maade perearstide võrdlevas uuringus: Eurocommunication II, projekti läbiviimine Eestis.

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