MEDICAL UNIVERSITY OF PLOVDIV
FACULTY OF MEDICINE
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FROM BURNOUT TO JOB SATISFACTION IN GENERAL PRACTICE. GENERAL PRACTICE / FAMILY MEDICINE AS A CAREER CHOICE

SUMMARY

OF A DISSERTATION FOR OBTAINING
A SCIENTIFIC DEGREE "DOCTOR OF SCIENCE"

SCIENTIFIC SPECIALTY "GENERAL PRACTICE"
FIELD OF HIGHER EDUCATION 7. HEALTHCARE AND SPORT
PROFESSIONAL FIELD 7.1. MEDICINE

PLOVDIV, 2021

The dissertation contains 220 pages. It is illustrated with 56 tables, 9 diagrams and 25 figures. The reference section includes 296 sources, out of which 64 in the Cyrillic alphabet.

The dissertation was discussed and approved for defence by a Scientific Board from the extended Department Council of the Department of Urology and General Practice, Faculty of Medicine, Medical University of Plovdiv held on 30.06.2021. The members of the Scientific Board were approved on an extended DC with protocol №9/30.06.2021and approved by FC of FM with protocol №6/28.07.2021.

The public defence of the Dissertation will take place on 14.10.2021 at 2 o'clock pm at an open session of the Scientific board consisting of:

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The papers related to the Defence are available at the Department of Science and Research and have been uploaded on the website of Medical University of Plovdiv.

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NB: The numbering of the figures and tables in the present Summary do not correspond to the ones in the Dissertation.

COMMONLY USED SYMBOLS AND ABBREVIATIONS

BI	Total Burnout Index
BS	Burnout Syndrome
DP	Depersonalisation
EE	Emotional Exhaustion
PCC	Person-centered Care
LC	Locus of control
NHIF	National Health Insurance Fund
GP	General Practitioner
PHC	Primary Health Care
PA	Personal Accomplishment
WHO	World Health Organisation
SDM	Shared decision-making
EGPRN	European General Practice Research Network
EURACT	European Academy of Teachers in General Practice
WONCA	World Organization of National Colleges, Academies and Academic Associations of General Practitioners/Family Physicians

I. INTRODUCTION

The significance of General Practice for patients, students, residents, researchers, and health politicians is closely related to its philosophy and deep roots.

The interaction of the main competencies of GPs, the fields of their application and the main characteristics of the discipline highlight its complexity. General Practitioners are coordinators in the healthcare system, and they are expected to possess a broad spectrum of qualities to meet the requirements of the system and practice in the circumstances of achieved satisfaction.

Twenty years following the start of the healthcare reform in Bulgaria General Practice is still strengthening its position as a clinical specialty and a separate academic and scientific discipline, and it is not attractive for young physicians in Bulgaria.

The period after the reform requires a dynamic consideration of the characteristic of the GPs and simultaneous evaluation of the level of burnout and job satisfaction in the healthcare system.

Scientific literature is abundant in studies aimed at evaluation of stress and burnout syndrome and, in specific, the influence of some demographic factors and the working environment. The evaluation of the positive factors in the job of GPs, the psychological and social working conditions, the psychologically complex patients in General Practice such as multimorbidity patients, as well as some personality characteristics of GPs (e.g. locus of control) have not been studied thoroughly. At present in Bulgaria there is no data on the dynamics of burnout syndrome and the level of GP satisfaction in the course of the affirmation of the specialty. There is no information on the relation between the psychological construct locus of control among GPs, the degree of patient-centeredness and burnout levels and job satisfaction.

An active and focused discussion of the philosophy of the specialty, which is the foundation of its affirmation and provision of quality medical care, is necessary.

Thorough knowledge of factors related to the personality, philosophy of the specialty and the work environment, and the search for interrelations between them would contribute to the detailed characteristic of the specialty and would be a prerequisite for a conscious choice on the side of young physicians.

The experience gained over the years shows many advantages and strong aspects of General Practice. The key role of GPs is becoming increasingly recognisable which would make the specialty more attractive for young colleagues.

On the other hand, the professional phenomenon “Burnout syndrome” which influences all aspects (physiological, emotional, and behavioural) of the personality is getting more and more widely discussed among healthcare specialists. The development of strategies for managing the problem is based on the contemporary theoretical framework of the burnout syndrome which integrates individual and situational factors.

Strengthening the identity of GPs/FDs should begin as early as student education by presenting all aspects of the specialty including the personality features of physicians, patients, working conditions and the specifics of the profession.

II. AIM AND OBJECTIVES OF THE STUDY:

The aim of the thesis is to study the factors related to resilience in the profession and susceptibility of GPs to developing Burnout syndrome in order to create an interventional model for career guidance.

To achieve the aim, we undertook the following objectives:

1. To study the positive factors in General Practice
   - 1.1. To identify attractive aspects related to the specialty General Practice from the position of GPs and medical students.
   - 1.2. To prioritise, validate and confirm the identified positive factors.
2. To characterize the contemporary GP based on personal aspects of the GP, factors, related to the philosophy of the specialty and the working environment.
   - 2.1. Socio-demographic indicators
   - 2.2. Lifestyle parameters
   - 2.3. Professional characteristics and organisation of the activity
   - 2.4. Locus of control of GPs
   - 2.5. Difficulties in managing multimorbidity patients
   - 2.6. Shared decision-making in General Practice
   - 2.7. Correlation between locus of control, perceptions of GPs related to managing multimorbid patients and shared decision-making in General Practice.
3. To perform a complex evaluation of professional burnout syndrome among GPs in General Practice
   - 3.1. Analysis of the level of the burnout syndrome in General Practice in dynamics in different periods, an interval of 8 years - 2003, 2011 and 2019.
   - 3.2. To analyse the level of burnout syndrome depending on the factors: personality aspects of GPs; factors related to the philosophy of the specialty; factors related to the working environment; patient-centeredness training
4. To analyse the level of satisfaction relevant to the contemporary characteristic of GPs.
5. To conduct a comparative evaluation of the profile of GPs in 2003 and 2019.
6. To create an interventional model for career guidance with the aim of preventing burnout syndrome.

III. MATERIALS AND METHODS:

Subjects of the study – to study **burnout syndrome** and job **satisfaction** in General Practice

Objects of observation are general practitioners and students

Units of observation. Logical units of observation are the GPs who signed a contract with the NHIF and students of Medicine in their 5th year of study who agreed to participate in the study. Technical units of observation are outpatient clinics for individual or group practice for primary health care, and for the students Medical University of Plovdiv.

Signs of the units of observation. Factorial signs for GPs include social and demographic (gender, age, material status etc.); professional (work experience, kind of practice, the type of population served, organisation of the work etc.); lifestyle (smoking, alcohol consumption, taking psychotropic substances etc.), locus of control etc. Resultative ones are related to the level of burnout, level of satisfaction, opinions and attitudes towards difficulties in managing multimorbidity patients, degree of patient-centered approach etc.

For the students - factorial ones – gender, year of study and resultative ones- views, expectations etc. related to the professional activity in General Practice.

Organs of observation

The primary information was gathered from the author of the study.

Methods of research

To achieve the research aim and complete the pre-formulated objectives, a complex methodology from originally prepared and standardised tools was used.

QUANTITATIVE METHODS FOR COLLECTING AND ANALYSING DATA

Direct anonymous individual survey among GPs for complex evaluation of burnout syndrome and level of job satisfaction

A representative survey among GPs for complex evaluation of burnout syndrome and job satisfaction was conducted. 340 GPs were surveyed, 21 of them were excluded due to insufficient or missing data in the questionnaire.

The grounds for choosing the incorporated tools in the questionnaire are based on a systematic literature review, implemented international and university projects, and the research studies of the topic related to them.

The developed tool includes the following panels:

1. Socio-demographic data, professional characteristic, lifestyle of GPs.

2. Satisfaction of GPs To evaluate job satisfaction, a 7- point agreement Likert scale from 0- not satisfied to 6- completely satisfied; additionally, for part of the analysis a precoding was performed and the levels were down to three- dissatisfied, moderately satisfied and satisfied.

3. Maslach Burnout Inventory (MBI) The used research method for measuring burnout syndrome is Maslach's (MBI), it includes 22 questions with 3 subscales for evaluation of the different aspects of burnout- emotional exhaustion, depersonalisation, personal accomplishment. Each subscale includes different number of statements

assessed by a 7 - point Likert scale – 0 – never, 1 – a few times a year or less frequently, 2 – once a month or less frequently, 3 – a few times a month, 4 – once a week, 5 – a few times a week, 6 – every day.

The higher average results are *emotional exhaustion* and *depersonalisation* which correspond to higher levels of burnout, higher average results from *personal accomplishment* correspond to higher levels of "personal effectiveness", resp. to low levels of burnout.

The obtained results are transformed into category variables determining three degrees/levels of severity (low, average, and high) for each category. Cut-off values are as follows:

EE – low burnout<=13; average burnout 14-26; high **burnout** >=27

DP – low burnout <=5; average burnout 6-9; high **burnout** >=10

PA – **high burnout** <=33; average burnout 34-39; low burnout >=40

Additionally, a provisional division of high and non-high level of burnout for the different categories was adopted, as follows:

EE – non-high burnout <=26 and high burnout >=27

DP – non-high burnout <=9 and high burnout >=10

PA – high burnout <=33 non-high burnout >=34

Total burnout index was calculated as a sum of the levels of the three subscales (minimum 3, maximum 9)

4. <u>Difficulties in managing multimorbidity patients</u>

Cross-cultural validation of the term multimorbidity. The WHO gives the following definition for multimorbidity - presence of two or more concomitant chronic conditions/diseases. In the context of General Practice this definition can be perceived as inaccurate or incomplete having in mind the idea of adopting a holistic approach in family medicine and the necessity for long-term care for patients with chronic diseases. Within an international project, the definition for multimorbidity in Bulgarian was validated by the author of the dissertation and a team.

The most commonly used statements as leading barriers in General Practice

Based on the conducted review of literature, statements as leading barriers in General Practice were identified. For each statement GPs state to what extent the statements apply to them, the 5-point Likert scale was used (from 1- not at all to 5- to a large extent). The finalised statements (17 in total) were formulated with the help of a successfully run University project - 15/2014 "Multimorbidity and polypharmacy in geriatric patients in general practice - introduction and adoption of the patient-centered approach."

5. <u>Questionnaire for shared decision-making "9-Item Shared Decision-Making Questionnaire – physician version (SDM-Q-Doc-Bulgarian)"</u>

Linguistic validation of SDM-Q-Doc Bulgarian in Bulgarian in accordance with the standardised methodology for translation of questionnaires and directions supplied by the authors. All stages of the procedure were strictly documented. The questionnaire for shared decision-making is developed with the aim of measuring the extent to which patients participate in the decision-making process from the point of view of the patient (patient version SDM-Q-9) and from

the point of view of the physician (physician version SDM-Q-9). It contains two open questions and nine statements. Each statement includes different aspects of shared decision-making evaluated in the 6-point balanced Likert scale varying from 0 (totally disagree) to 5 (totally agree). The total result is a sum of the answers from the nine elements and is presented in a scale varying between 0 and 45, the high result being a proof of a higher extent of patient-centered approach. The questionnaire is accepted as correctly filled when at least 7 out of 9 statements are marked. The questionnaire reveals high internal consistency and validity of the original version with all translated versions of SDM-Q.

Studying the reliability of the questionnaire. The questionnaire was filled twice within a 3-week interval by 33 GPs. The Test-Retest method for the stability of the results through repeated measurement and the internal consistency of the scale was measured through Cronbach's alpha. The obtained high results for rho show that the questionnaire possesses a very good reliability. This result was also confirmed by the analysis of Cronbach's α whose value for all domains is **0.876.** When the main coefficients (r_{ho} и Cronbach's alpha) have high values, the average value of the correlational coefficients between the test units (inter-item correlation coefficient) is also measured. The average value of the inter-item correlation coefficient r=0,454 is moderate which is another proof for good validity.

6. <u>Questionnaire on locus of control.</u> A questionnaire on locus of control, adapted and validated by Angel Velichkov et al. was used for the purposes of the present research. The adapted text on locus of control includes a total of 20 pairs of alternative statements, the first assessing external locus of control and the second - internal one. Five of the pairs of statements are "dummy" and are not assessed. Their purpose is to "hide" the actual content of the assessed construct in order not to mislead the respondents in the logic of the test. A total result is calculated for each respondent. In a total number of up to 7 points, it is accepted that the respondent has internal locus of control. A total result of 8 and more points means that the person exhibits external locus of control.

Fully structured telephone interview among GPs for studying positive aspects in General Practice

A representative survey for studying GPs' opinion for positive aspects of their work was conducted. 892 GPs from the whole country of Bulgaria were interviewed. 832 of respondents answered all questions. The sample includes GPs from all 28 regions of Bulgaria.

The questionnaire includes a limited number of closed questions from the following domains: demographic characteristics; presence of a specialty, attractive aspects in the work of GPs, factors which would make the job more attractive and wish of GPs to change their present job.

Criteria for inclusion in the choice of logical units of observation - GPs who have signed contracts with NHIF, consent to participate in the study and not less than a year of professional experience as a GP/FD.

Statistical methods for data analysis

The obtained initial information is checked, coded and entered in the computer data base for further statistical grouping, precoding and analysis. A software product for statistical analysis SPSS 17.0 for Windows XP and MS Office Excel 2007 for the graphical analysis were used. Appropriate statistical analyses in correspondence with the obtained data were used.

- We applied **descriptive statistics** for the description of the results. The analysed quantitative values are presented as Mean ± SE. 95% confidence interval was calculated.
- The score of the relative share and the frequency distributions of qualitative (non-numerical) and grouped data were performed with the help of the **alternative analysis**. The qualitative values are presented by absolute and relative frequency distributions (number and relative share (N, %)).
- The check for normal distribution of the studied values was performed by the **Kolmogorov–Smirnov** test.
- The influence of the social and demographic professional characteristics, as well as the factors related to lifestyle were evaluated with the help of the χ^2 **criterion** for multiple way tables and Fisher's exact test for 2x2 tables.
- When comparing two independent quantities to a distribution, different from the normal one, we applied Mann-Whithey U-test and Kruskal-Wallis Test with more than two quantities.
- We applied one-way ANOVA when comparing more than two normally distributed quantities.
- The comparison of two independent normally distributed quantities was performed with the help of independent sample t-test.
- Correlational analysis. The correlational analysis is used to study the relation between burnout levels in each subscale of the MBI questionnaire (dependent variable) and the other observed variables in the survey (independent variables). **Pearson's** correlational coefficient and **Spearman's rho** were calculated to evaluate the correlational relation between the studied variables.
- Regression analysis. We evaluated the predictive value of the studied groups of factors (independent variables) in relation to professional burnout (dependent variable) by applying unifactorial and multifactorial stepwise logistic regression.
- To illustrate the phenomena, the potential of **graphic analysis** was used.

P<0.05 was accepted as the level of significance of the null hypothesis.

QUALITATIVE METHODS FOR OBTAINING AND ANALYSING DATA

Semistructured face-to-face interview among GPs for identifying positive aspects of the job.

Semistructured face-to-face interviews were conducted with 14 GPs for identifying positive aspects from professional activity. A list with preliminary questions whose order could be changed according to the perception of the interviewer for what he/she considers most appropriate was used. The method allows the wording of the questions to be changed, whenever necessary, as well as to give explanations.

Audio recordings were made with the consent of the respondents obtained in advance. When recruiting the participants, we chose the strategy to interview experts - specialists in General Practice / Family Medicine. The inclusion of new participants continued up to the reaching data saturation - a moment in which the obtained data become unnecessary (saturation - overload of data). When one and the same interpretation pattern begins to repeat itself, this is a sign that the array of interpretation has begun to exhaust itself, i.e. identical explanatory models are used. The number of conducted interviews (14) was sufficient for achieving the saturation of the current study.

Focus groups among students in their fifth year of medical studies**.**

This method is gaining great popularity in the recent years and is the most widely spread quantitative method for obtaining data and analysis. The name of the method originates from the fact that the attention focuses on one problematic area and the discussion is lead not with one but with several interlocutors. The topic, place and time of the meeting are planned. A script which includes introduction, presentation of the participants, clarification of the aim of the discussion and its topic is prepared in advance. The list should contain several basic questions, as well as supporting material for illustration of the topic. The discussions are led by an experienced presenter (moderator) who introduces the topics and directs the course of the discussion. A co-moderator observes the focus group and assists and intervenes if necessary and takes notes during the discussions.

The duration of the discussions is around an hour and a half. The group discussion is conducted with a limited number of people (8-12 participants), the participants discussing several main topics related to the current study, monitoring or evaluation. The research tasks are transformed into a series of questions which are to be answered and which have to be discussed during the group work. When selecting the participants, we preferred the "snowball sampling" strategy - a choice with a recommendation from participants or people chosen in advance who are related to potential participants. With the help of this method, the typical attitude and orientation of the participants with respect to the discussed issue are established. The aim is to identify the main advantages and positive aspects of General Practice which are the attractive aspects for professional choice among young physicians.

For the period of one week at the Section of General Practice at Medical University of Plovdiv, five focus groups were conducted, the participants discussed the topic within the intended time of about 60 minutes. The moderators of the groups were G.F. and R.A. The average number of participants in each group was 15 students in a balanced distribution according to gender (50/50).

Delphi consensus procedure and a Nominal group for validation of the identified positive aspects in the job of a GP and their prioritisation.

The procedure is thoroughly described in the methodology of the present paper in relation to the cultural validation of the term multimorbidity. To validate the deduced positive aspects of the job of a GP, the electronic platform Survey Monkey was chosen. The choice of the participants was based on the judgement of the researchers on the

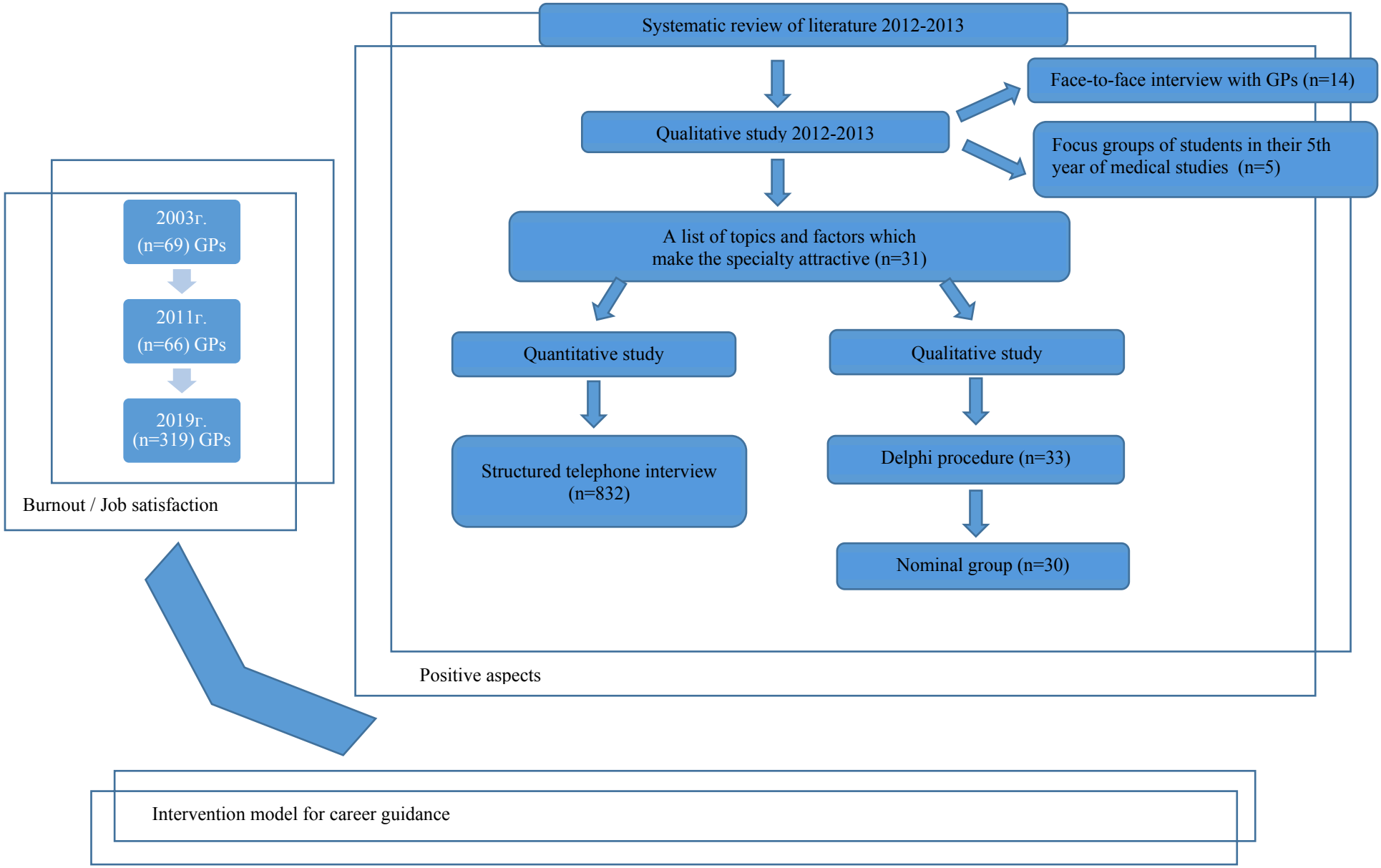
expertise of the participants. (Purposive sampling). The prepared tool with a short description of the study and precise instructions on the procedure was sent by e-mail to 38 participants. With the aim of seeking common ground in the opinion of experts in various fields, students of Medicine, residents and specialists in General Practice, representatives of medical universities, and participants with experience in health politics were included.

To prioritise the deduced factors for which a consensus is reached by the Delphi procedure, a qualitative method – a nominal group among the same participants - was applied. The nominal group is a widely applied method giving the opportunity to seek consensus on a certain issue through the points of view of experts in the field. It facilitates the creative problem solving through making decisions in situations in which routine responses would not be useful enough. The nominal group is well-known technique which can include various aspects such as generating ideas, evaluation, and analysis of ideas etc. The object of the present paper is the use of the technique for prioritisation of already discussed statements by determining the relative importance of the topics, formulated on the ground of the interviews conducted with GPs. 30 factors for work satisfaction were confirmed as significant and determining the sustainability of the profession and the attraction of young specialist. All participants had to classify the proposals in accordance with the degree of significance which they attach to them and to determine the three factors with greatest significance to them. Based on the obtained data, a list of the prioritised categories will be made.

Content analysis of the conducted interviews with GPs and focus groups of students in their fifth year of medical studies.

The content analysis method is used for the processing of the data in accordance with a procedure described by Braun and Clarke. What is characteristic for this method is the recording of the frequency of certain units of speech or categories of meaning. Beginning as a qualitative method, content analysis seeks and disclosed repetitive categories of meaning, recording the frequency of the appearance of each of them marks the transition towards quantitative evaluation. These types of research methods have numerous positive aspects: high objectivity - the effect from the presence of the observer is eliminated; high degree of reliability- documents are the most appropriate for verification; opportunity for multiple repetition of the study; opportunity for control from an independent researcher. Audio recordings are transcribed word by word. With this method the researcher studies opinions, attitudes, positions expressed which are already „made" into a text from an audio material. The text is "sorted" by at least two researchers irrespectively of one another in order to guarantee the validity by using the pile sorting method and based on thematical analysis which is related to descriptive presentation of the data. Gathering data continues up to achieving saturation. A list of the codes characterising the positive aspects of the job of the GP, which have been discussed and grouped in topics having in mind the overall context when conducting the interview.

The study has received a positive evaluation by the Ethical Committee at Medical University of Plovdiv.



Scheme 1. Design and stages of the study

IV. RESULTS AND DISCUSSION

1.1. Results from the conducted face-to-face interview with GPs concerning the positive factors in General Practice

The semi-structured face-to-face interview (average duration of 15 minutes) was conducted with all participants by the leading researcher. Following the end of the interview, the interviewer takes notes. He supplements the questions which are to be asked during future interviews, marks specific observations on the participant, analyses the obtained data and feelings which the interview provokes. In the beginning, the GPs were asked to share a short positive story from their practice (a question for lessening the tension/ "ice breaking") after which the interviewer moved towards the list of prepared questions in advance.

Characteristics of the participants in the semi-structured face-to-face interview are presented in Table 1.

Table 1. Characteristic of the participants in the face-to-face interview with GPs (n=14)

Characteristics	Брой
Total number of participants	14
Gender	
Male	3
Female	11
Type of practice	
Individual	11
Group	3
Population served	
Mostly urban population	11
Mixed	2
Mostly rural population	1

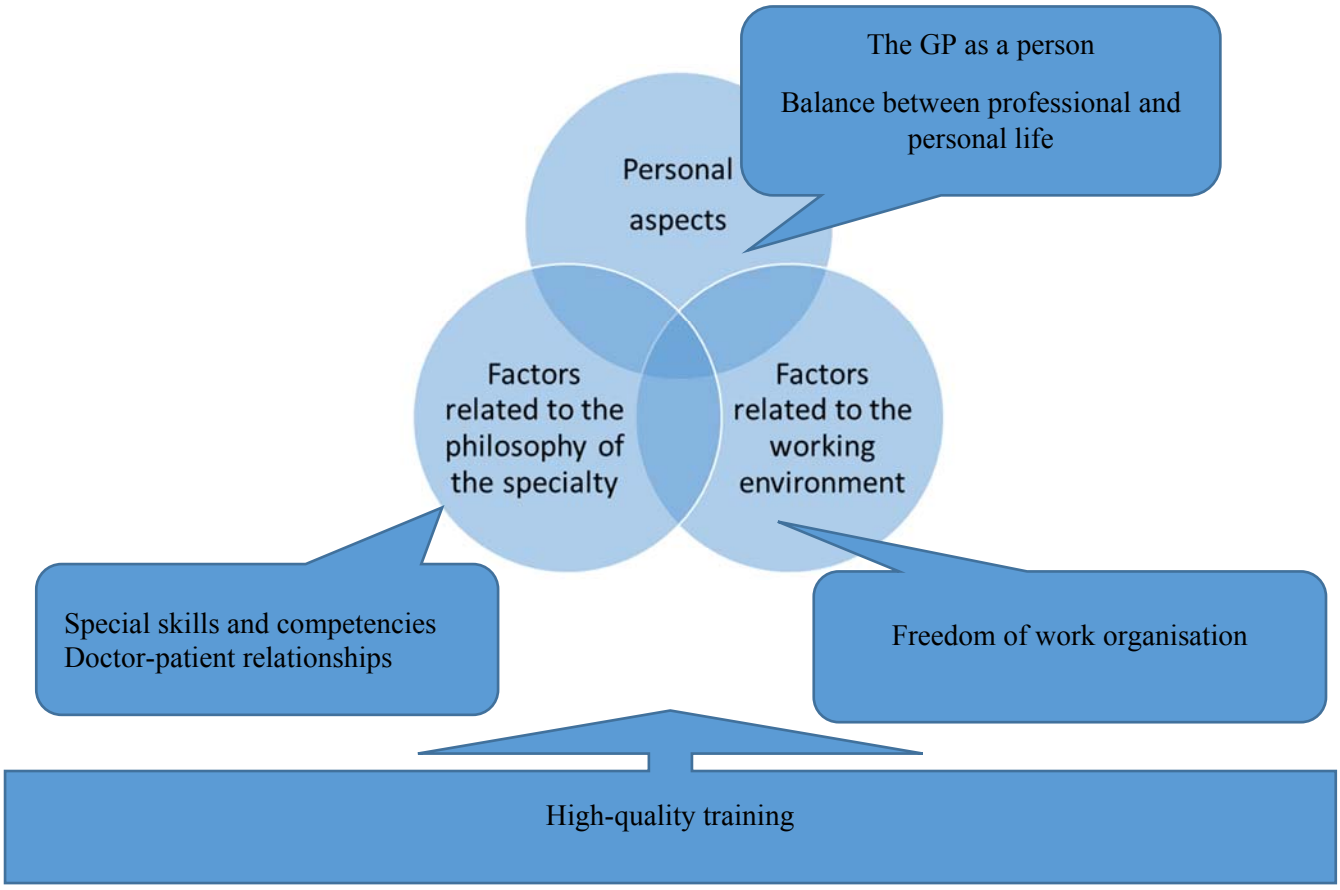
The research tasks, transformed in a series of questions and discussed during the interviews, aimed at studying the positive factors in the activity of GPs in order to establish which of them ensure job satisfaction. The experience accumulated over the years in the system allowed the identification of these positive factors which would persuade GPs to stay in the system. The study was conducted after more than ten years since the beginning of the health reform in Bulgaria, i.e. a stage in which the specialty is no longer unfamiliar and there is a certain element of adaptation of GPs to the current requirements.

Content analysis was applied to the written recordings from the discussions during the interviews, which were transcribed word for word. Each interview from the data base was analysed and the information necessary for the aim of the study was retrieved. After confirming the fact that there is no new data, we moved towards the next extract. Theoretical saturation was achieved after the fourteenth interview. The content analysis was conducted independently by two researchers with the aim of improving validity.

The initial coding aimed at determining the thematic segments with the attempt to organise the data set into categories. Open coding was performed separately by two researchers. The prepared lists with identification codes were discussed and a consensus was reached for each of them, having in mind the overall context in conducting the interview. The differences between the analyses were insignificant. During data analysis of the questions asked in advance, 73 codes were derived by open coding.

We moved toward axial coding for seeking relations between the separate concepts. Axial coding was performed on the international level with the aim of identifying positive factors for the job of the GP which are common across Europe. 31 subtopics were formed, common for all countries. The following stage of selective coding included categorization of the topics, i.e. their grouping into clusters according to similarities and their assignment to broader categories. In our case, the deduced interpretative codes were combined into six main topics which are included in the International Codebook on GP satisfaction.

For the purposes of using the results for career guidance for General Practice by creating an intervention model, a regrouping and consolidation of the topics into four main domains, fundamental for the successful practising of the specialty was performed (personal aspects, philosophy of the specialty and working environment, as well as with respect to training). The results are summarised graphically in a synthesized pattern in Scheme 2.



Scheme 2. A synthesized model

Personal aspects

In this aspect, the topics The GP as a person and Balance between professional and personal life are combined.

General practitioners state they would like to be perceived as ordinary people and that they feel the need to take care of their personal well-being. This implies much more than just the idea of having free time and time for a hobby. GPs share that they need other intellectual challenges and personality enriching activities in their free time. They love practising their profession and the passion for their job is much more important than financial implications. The data analysis shows that the GP is a person with inherent characteristics including interest in the life of people, with high ability to cope with different situations and patients. GPs report that they prefer being by the side of their patients, to find common language with them, however they would also like to control the level of involvement. They describe the ability to balance empathy with professional distance when interacting with their patients so that they could manage insecurity in the profession.

The factors which support the effective balance between professional and personal life are the possibility for fulfilling family life and to save free time for it. Money is not the most important thing, however income needs to be sufficient for a comfortable family life, which means enough resources for sound education for the children and possibility for holidays. GPs think that it is important for them to choose how to separate professional from personal life. They value the possibility for social contacts in the community which would broaden their perspective in relation to their patients. Relationships with patients outside the practice are also considered important. GPs share that they must be part of the social community in order to remain in General Practice. FDs are convinced they are secure in their workplace which allows them to feel safe and free from concerns over unemployment.

The topics on the GP as a person and the balance between professional and personal life are important since all the above-mentioned conditions are necessary for GP satisfaction and their wish to continue practising.

Factors related to the philosophy of the specialty

In this respect the topics on the *Special skills and competencies of GPs* and the *Doctor-patient relationship*, which are special for General Practice, stood out.

Understanding the philosophy of the specialty is essential for achieving satisfaction from practising the profession. Being a professionally competent, patient-oriented doctor is a rewarding challenge. The doctor-patient relationship based on trust and mutual respect increase considerably FD satisfaction.

GPs express their satisfaction both with making correct diagnoses in challenging situations, with poor equipment, which is the case in General Practice, and with the gratitude expressed from the patients.

The intellectual aspect of making medical decisions is related to effective medical management and is considered a positive factor by GPs. General Practice is the first confrontation of the patient with the healthcare system and GPs highlight their role as coordinators and advocates in solving health problems of their patients. For them to be

competent at the level of primary health care, they are required to have stable interprofessional relationships, good communication skills and effective support from other medical and non-medical specialists.

FDs believe that it is of the utmost importance to communicate effectively in order to fulfill their complex tasks in full. GPs are patient-oriented and provide comprehensive care by applying a holistic approach.

GPs wish to combine their broad medical knowledge with high level of compassion for their patients seeking the balance between patients' apprehension and application of the recommendations from the disease management guidelines. The role of an educator is important for FDs who additionally pay efforts in changing the manner of life of their patients whenever necessary. This topic is also associated with another key competence of GPs - applying a holistic approach.

Patients are free to choose their family doctor, and this is important due to the specific aspects of the doctor-patient relationship in primary health care. Quite frequently GPs attend several generations, they witness how their child patients become parents and they take care of their offspring as well. Mutual trust and respect in their relationships are important dimensions.

Factors related to the working environment

It was established that the freedom of work organisation is an important positive factor for GPs. They share that it is related both to the freedom of being "a boss of yourself" and to the personal responsibility of the physician on whom successful functioning depends fully. GPs stay in the profession more frequently if they have chosen the place of practice themselves. The environment should be attractive for the family. FDs attach importance to their personal preferences when choosing the equipment they use. The choice of colleagues in their team, who share common goals and have the same vision of their practice, is even more important. Flexibility of the workplace should not be interpreted only with respect to their working hours, but in a broader sense, in flexibility of decisions which the GP makes. Most GPs prefer additional possibilities in a career, such as teaching and conducting clinical trials. To fulfill all these conditions, they want to work in a well-organised practice, with a competent, supporting team and the necessary equipment. Another condition is the organisation of out of hours service. FDs do not wish to be disturbed beyond their working hours without an appointment.

High-quality education

Education stood out as a unifying direction among the positive factors of the specialty and concerns each of the discussed dimensions which are to be studied. FDs state they want to acquire new medical knowledge and skills. They love sharing what they have learned in their work. They are proud of their profession, and they would like to teach and to have an effective relationship with trainees. Teaching contributes to the feeling of satisfaction with the profession.

GPs mention the importance of teaching with respect to attracting young colleagues and the positive aspect of mutual benefit both for GPs and residents. Teaching gives them more stimuli for their own continuing professional development

and allows them to improve their competencies. GPs feel satisfied when General Practice is recognised as a specialty at the University and by the public authorities and the society.

Studying all presented aspects and targeted training can directly serve the purposes of vocational guidance.

Conclusions:

- Positive factors in General Practice could stem from professional work itself, in the form of environment and philosophy, as well as from the personality of the doctor.
- Education is a unifying guideline in the positive factors for the specialty and could be structured in a manner so as to stimulate GPs in a positive direction.
- Studying all herby presented aspects can directly serve the purposes of career guidance.

1.2. Positive aspects of General Practice through the point of view of students in their 5th year of medical studies

The aim of the conducted qualitative study is to deduce the main advantages and positive aspects of General Practice, which are the attractive sides of the profession for young physicians.

Table 2. Characteristics of the participants of the focus groups of students in their 5th year of medical studies (n=73)

Characteristics	Number
Total number of participants	73
1st focus group	14
2nd focus group	15
3rd focus group	16
4th focus group	13
5th focus group	15
Gender	
Male	36
Female	37

Five focus groups took place within a period of one week at the Section of General Practice at Medical University of Plovdiv. The number of the participants in a group varied between 13 to 16 with a total of 73 students. Each group was led by a moderator and a co-moderator, and the average duration of the discussions was about sixty minutes. Audio recordings were made, and they were subsequently transcribed. The average number of students was 15 in a balanced distribution of gender (50/50).

Several topics included in the script were discussed during the discussion, all participants were given the opportunity to express their point of view from their position as future physicians.

Content analysis was applied to the written recordings from the discussions into small groups. Data saturation was achieved after the fifth focus group. Content analysis was conducted separately by two researchers with the aim of improving validity. A list of codes charecterising the positive aspects from the job of the GP, which were discussed and grouped bearing in mind the overall context in conducting the focus groups, was compiled. During the next stage the moderators compared the proposals, which revealed a high degree of similarity, and were grouped into several main categories. The differences between the two analyses were insignificant and the definitive formulation of the topics was based on a reached consensus.

The thematic analysis includes a summarised sequence of positive aspects in the activity of the GP (Table 3).

As a result of the discussions in the student groups it was established that the most common positive aspects are: managing various health problems, irrespective of age, gender, ethnicity or other characteristics of the patient; ensuring continuity of care and

the position of GPs as owners or managers of the practice. Managing various health problems according to students is related to the necessity for GPs to possess knowledge from numerous scientific disciplines which makes them highly competent. The long-term relationships with patients, the application of a holistic approach and work with the families are other advantages which students share. What is noteworthy is that they perceive a positive fact that GPs, as key figures in the system of the healthcare, are in contact with different institutions. During the discussion the steady income of GPs in the current condition of the healthcare system makes the job attractive.

Table 3. Topics discussed in the focus groups

Personal aspects	Balance between professional and personal life
Philosophy of the specialty	Managing various health problems, irrespective of age, gender, ethnicity or other characteristics of the patient Ensuring continuity of care
Organisation of work	The GP as a key figure in the system of healthcare with possibility to cooperation on various levels – on the horizontal and vertical lines Steady income The position of GPs as owners and managers of their practice Freedom of work organisation

According to the students these positive aspects are not related to the specific conditions of the healthcare system but with the philosophy of the specialty General Practice. The opinion forms that the relative independence of GPs as well as the work with patients from all age groups are determined as positive aspects related to the healthcare system as far as such can exist.

The predominant opinion of the students interviewed by us is that the work of a GP is appropriate for both men and women. Only in isolated instances do they agree that the job is more appropriate for females.

An interesting discussion was triggered by the issue what is included in the concept good balance between professional and personal life. Students agree that there needs to be a differentiation between the two, that they should not be confused and that they need to be combined skillfully. This could be achieved by good distribution of time, making compromise whenever necessary without transferring problems and one should not be neglected for the sake of the other.

Although students take into account the positive aspects of the job of the GP, only a few of them expressed their willingness and wish to practice the profession.

According to students, the characteristics which would make the work in General Practice even more attractive are the change in public opinion, the greater recognition and attainment of the specialty. Achieving higher level of job satisfaction which would make the doctor continue working in General Practice according to the students includes various aspects in the following dimensions: organizational and administrative (decrease in paper work; forming a good team; additional source of

financing etc.); psychological (reducing stress at work, patient satisfaction and ease in doctor-patient relationships); material resources (development and usage of informational technologies).

Conclusions:

- Managing various health problems and ensuring continuity of care are the most common positive aspects from the students' point of view.
- The attractive aspect of the job of a GP is the relative freedom of the physician in practising the profession.

1.3. Results from the conducted Delphi procedure for validation of the identified positive aspects in General Practice and Nominal group for their prioritisation

Based on the conducted qualitative study with GPs, 31 factors were identified for job satisfaction as important and determining the stability of the profession and attracting young specialist.

With the aim of validating the statements, we conducted a Delphi procedure which goal was to achieve a consensus for each of the factors. The choice of participants was based on the researchers' judgement on the expertise of the participants and the aim to include experts from different fields in the discussions. This allows seeking common grounds in opinions. The elaborate tool with a short description of the study and concise instructions on the procedure was sent through the platform Survey Monkey to the emails of 38 participants, 33 of them completed the procedure. (Table 4)

Table 4. Characteristics of the participants (n=33)

Characteristics	Брой
Total number of participants	33
Gender	
Male	15
Female	18
Expertise *	
Students of Medicine	4
Residents in GP	9
GP specialists member of scientific and professional associations in General Practice BGPSRE, BALINT, NSOPLB, EURACT, EGPRN, EURIPA, WONCA	26
Representatives of Medical universities	10
Experience in health politics, position in the Bulgarian Medical Association	8

* The sum exceeds 33, since part of the participants are included in more than one section

33 GPs who agreed to participate evaluated the 31 statements with a number from 1 (totally disagree) to 9 (totally agree). For answers marked with ≤ 6, respondents give their motivation.

In 30 from a total of 31 factors a consensus was reached. The detailed assessment shows that in only 5 of the factors participants marked more than 7 which means a complete consensus of 100%. A certain disagreement was found in a big part of the factors discussed, the respondents explained their answers in relation to the given evaluation Only with number 13 there is no consensus reached, i.e. it is below 70%.

Due to the high level of disagreement one circle was sufficient to reach a consensus.

To prioritise the deduced factors, for which consensus was achieved in the Delphi procedure, the nominal group was applied among the same 33 participants. The total number of the GPs in the nominal group was 30.

A total of 30 factors for job satisfaction were confirmed with the Delphi method to be important and determining the resilience of the profession and the attraction of young specialists.

Table 5. Classification of GPs' 1st, 2nd and 3rd position of the separate statements and in general of the themes

Themes	N	Statement	Number of GPs				
			Position			Total for	
			1st	2nd	3rd	Statement	Theme
Part A - GP as a person	1	Love his job	6	1		7	18
	2	Taking care of yourself as a person		1		1	
	3	Mission to be a GP	7	2		9	
	4	Ability to cope	1			1	
Part B - Special skills and competencies needed in practice	5	A highly intellectual profession	1	2		3	18
	6	Coordinator of care	1	1	1	3	
	7	Good communication skills	2	2	1	5	
	8	Broad scope of activities	3	1	3	7	
Part C - Freedom of work organisation	9	A good professional collaboration				0	5
	10	Freedom of choice on the working place		2	1	3	
	11	Involvement in the healthcare organization			1	1	
	12	Good managed practice			1	1	
Part D - Doctor-patient-relationships	14	Patients' gratitude				0	26
	15	Longitudinal care	1	2	1	4	
	16	Trying to be a person-centred doctor	1	1	1	3	
	17	Successful negotiations with patients		1		1	
	18	Rich human relationships with patients	1	3		4	
	19	Mutual trust and respect in doctor-patient relationships	1	4	4	9	
	20	Being a doctor of the whole family	1	2	2	5	
Part E - Teaching and learning	21	Continuous Professional Development			2	2	12
	22	Being a teacher, a trainer		1	2	3	
	23	Positive role modelling of senior GPs				0	
	24	Being attractive for young GPs		1	1	2	
	25	Recognition of General Practice as a speciality	2		2	4	
	26	Mutual enhancements of GPs and trainees			1	1	
Part F - Supportive factors for life balance	27	Positive experiences in the beginning of your career			1	1	11
	28	A harmonious private life		1	2	3	
	29	A job security		1	1	2	
	30	A fair balance between money and workload	1	1		2	
	31	General practice as a respected profession	1		2	3	

All participants must classify their proposals (from factor 1 to 31 on job satisfaction, without number 13) according to the degree of significance which they assign and to determine the three most important factors to them – 1st, 2nd and 3rd position, respectively.

Based on the obtained data, a list of the prioritised factors for the respective themes was complied. The data is summarised in Table 5 (number 13 is missing since consensus was not reached).

The data from the conducted analysis show that the theme *Doctor-patient relationship* is on the top position, according to the classification by the GPs. What follows are the themes *Special skills and competencies needed in the practice* and the *GP as a person* – having the same number of points. Bearing in mind to which of the four domains they belong, we can conclude that the factors related to the philosophy of the profession have the greatest significance for GPs. The factors related to the freedom of wok organisation, although standing out as important aspects during the interviews, are not in the foremost positions in the classification. Out of the 30 factors included in the study, only three were not marked even once for the leading 1st, 2nd or 3rd position- *Good professional cooperation*, *Patient's gratitude* and the *Positive role modelling of senior GPs*. The obtained results are logical bearing in mind the fact that not every GP is directly involved in training young physicians. On the other hand, patients' gratitude is experience since it is a product from the care of the GPs. *Good professional cooperation* is supposed to upgrade what is achieved in the *Doctor-patient relationships*. The detailed analysis of the ranged factors for 1st position, in specific, shows that *Mission to be a GP* and *Love his job*, followed by *Broad scope of activities* have the greatest significance for GPs.

The conducted prioritisation would assist in constructing an intervention model for career guidance.

Conclusions:

- The theme *Doctor-patient relationship,* related to factors concerning the philosophy of the specialty, stands out as the most significant one for GPs.
- GPs place the factors *Mutual trust and respect in the doctor-patient relationships* and *Mission to be a GP* on the 1st position.
- Factors related to *Freedom of work organisation* do not reach the foremost positions in prioritising, despite the fact that they stood out as significant during the interviews with GPs.

1.4. Results from the conducted telephone interview with GPs on the positive aspect in General Practice and the identification of factors which would make the job more attractive choice of profession

A representative study among 892 GPs was carried out through Bulgaria, 832 of them completed the interview successfully and expressed their opinion. GPs from all 28 districts of Bulgaria participated in the study.

For the purposes of verification of the obtained information from the qualitative studies, which served to generate a list of positive factors in General Practice, a quantitative study was carried out. The prepared tool includes only closed questions based on the identified positive aspects from the interviews and the focus groups.

The participants, aged from 28 to 78 years (mean 48.38±0.24), had work experience as doctors ranging from 1 to 53 years (mean 23.05±0.24). Women GPs predominate and the fact that merely one tenth of the respondents have not taken any action in acquiring a specialty in General Practice. The internal distribution of the group with a specialty or those who have started a specialty exhibits an even distribution.

The data obtained by us shows that highest priority is given to the characteristic ”managing various health problems” which category is specific for General Practice. As a confirmation of the data from the qualitative study, and in the quantitative evaluation given by GPs, the steady income takes a lower position, from which we can conclude that understanding the philosophy of the specialty plays a key role in preferring the profession. The medical profession is related mainly to clinical activity and focus on the health problem of the patient which could be related to the position which GPs gave to the priority to be an owner or manager of the practice, which requires additional knowledge and skills in the field of management.

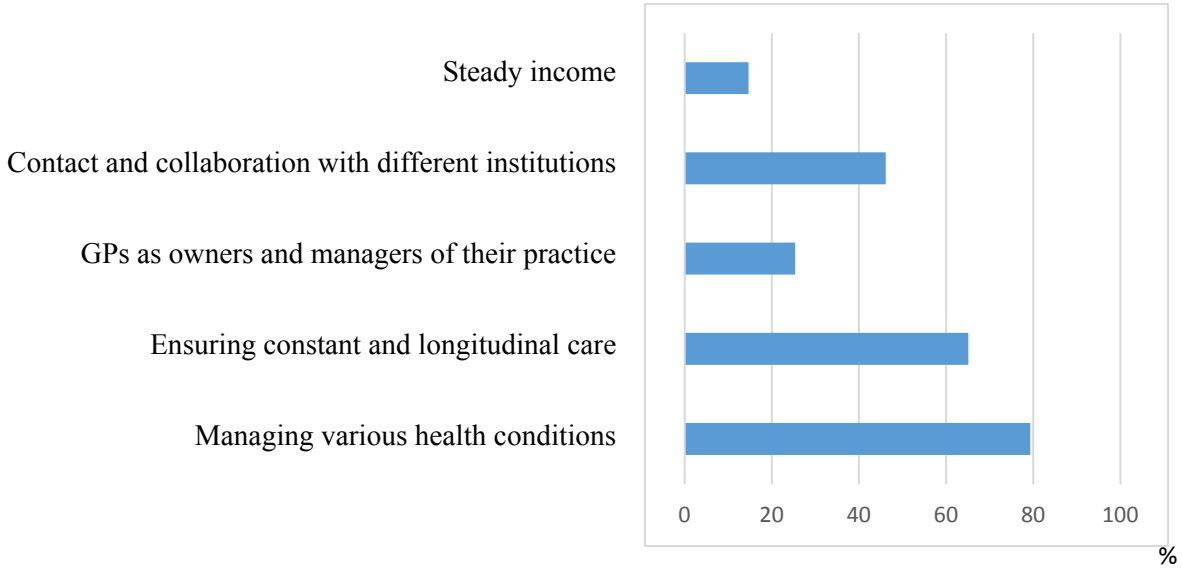


Figure 1. Opinion of GPs concerning the attractive aspects of General Practice

We found that gender and the specialty have a certain impact on part of the discussed attractive aspects on the GP's job such as "managing various health problems" resp. (p=0.017, p=0.023), "ensuring constant and longitudinal care" (p=0.001, p=0.002) and "steady income" (p=0.001, p=0.004). Women, as well as GPs with a specialty render greater significance to the first two aspects while a statistically significant greater share of men and respondents without a specialty have indicated "steady income" as an important attractive characteristic of the job. The stable incomes are a factor with statistically significant difference for GPs from the age group of up to 50-year-olds (p=0.017). The relative share of GPs with a specialty is statistically significantly higher concerning the factor "contact and collaboration with different institutions" (p=0.033).

In order to offer recommendations to the respective institutions, healthcare politicians and medical universities, it was important for us to study GPs' opinion on the factors which would make their job more attractive.

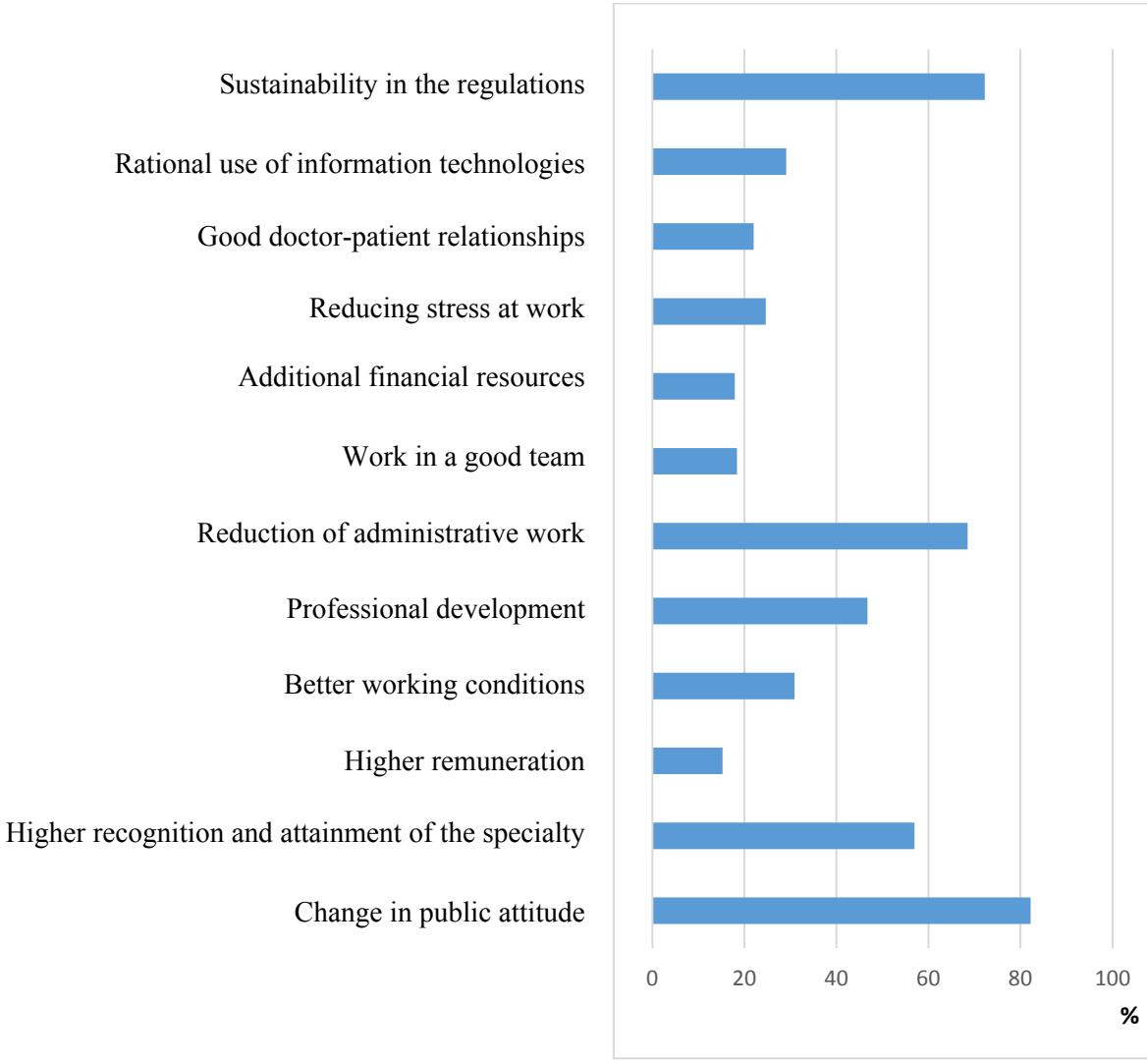


Figure 2. Distribution of GPs according to the significance they render to factors which would make their job more attractive

What makes an impression is that GPs stress most of all on factors related to the image of the specialty. Leading positions are also taken by factors which ensure sustainability in the regulatory framework which guarantee clear rules in the long term. The third position - reduction of administrative work was also expected. GPs wo participated in the study do not underestimate the possibility for professional development as a necessary condition for achieving job satisfaction. The financial aspect takes the bottom place.

We found that gender appears to be relevant with respect to the respondents' opinion on higher remuneration, men giving it more significance ($p=0.022$). The data shows that the relative share of women who gave their positive opinion for the categories *Reduction of administrative work* and *Good doctor-patient relationships* is significantly higher than that of men ($p=0.001$, $p=0.025$).

Age is also related to the GPs' opinion in the categories *Change in the public attitude* ($p=0.035$) and *Professional development* ($p=0.013$) - for both categories the relative shares of the group of doctors below 50 years are higher than those of the group at more than 50 years old.

The results show that the most considerable differences are found between the group of GPs who have not tried to acquire a specialty in General Practice and those who paid efforts in starting one or have managed to complete successfully their specialisation in General Practice. Out of the 12 categories, in six we found statistically significant difference, in only one (*Higher remuneration*), the relative share of GPs (specialists in General Practice) is higher than that of physicians who postponed the specialisation ($p=0.015$). It is possible that it is related to the expectation for financial stimulus on the side of GPs who paid efforts in this respect. In the rest of the categories with registered differences - *Change in public attitude*, *Higher recognition and attainment of the specialty*, *Possibility for professional development*, *Rational use of informational technologies* and *Sustainability in the regulations*, the relative share of GPs without a specialty is higher ($p<0.05$). These results could be interpreted as lack of awareness in the respondents that acquiring a specialty could significantly influence the image.

In the light of the results obtained, the conclusion that the study of the GPs' attitudes on the factors which would prioritise the choice of General Practice is important with a view to the search for optimal decisions is reached. Initiation of research in this field should begin as early as the level of the student. Such studies highlight the attractive aspects of General Practice.

As a conclusion, the GPs shared the opinion on their wish to change their job. The fact that a little more than half of them have a positive attitude on continuing their practice - 52.28% is disturbing. We found that GPs' attitude towards changing their job is influenced by factors such as gender, age, work experience and specialty. Men are more likely to continue practising their profession ($p=0.007$). GPs above 50 years of age have considered changing their job in a significantly lower degree ($p=0.006$). Despite that age and work experience are indices which are interrelated, i.e. the higher the age, the longer the work experience, we found that the colleagues who are still in the beginning of their career, i.e. up to 10 years work experience, would rather continue

practising their job in a significantly higher degree (p=0.023). This fact gives us the grounds to accept that it is with young colleagues that the profession is a conscious personal choice, and it is not imposed by the conditions as was the case at the beginning of the health reform when part of the GPs was forced to practise the specialty. When considering the disfunctions related to the specialisation, we would seek explanation of the data according to which those who have not tried to start a specialisation prefer to continue their practice (p=0.016). One of the hypotheses is that GPs from remote districts and small settlements would be hindered by the constantly changing conditions related to the specialisation in General Practice. At the time of the study, three regulatory documents (Ordinances №31, №34 and №15) are into force and they place GPs on unequal positions. Therefore, the lack of any positive stimulus for GPs who have already acquired their specialty and paid efforts in this respect should be considered and highlighted.

The region of practice definitely influences the GPs' evaluation of the different categories of positive aspects of their job ($p<0.05$ for all studied categories except age).

Conclusions:

- The conducted study encompassed all 28 regions and is representative for Bulgaria.
- The quantitative validation of the conclusions reached from the qualitative studies confirms the results.
- The aspects related to the clinical work and relationships with patients are given higher priority by GPs.
- The organizational and managerial aspects do not take leading positions.

2. Characteristic of the contemporary GP on the basis of personal aspects of the GP; factors related to the philosophy of the specialty and factors related to the working environment.

2.1. Socio-demographic indicators

Table 6 shows distribution of the group of participants. The gender distribution is 121 (37.93%) male and 198 (62.07%) female. GPs above 50 years old, married with one or two children predominate.

Table 6. Distribution of the studied group according to gender and socio-demographic characteristics (n=319)

Characteristics	Categories	Total	Men	Women	p-value
		N (%)	N (%)	N (%)	
Age	Up to 50 years	118 (36.99)	49 (40.50)	69 (34.85)	0.340
	Above 51years	201 (63.01)	72 (59.50)	129 (65.15)	
Marital status	Single	29 (9.09)	14 (11.57)	15 (7.58)	**0.048**
	In a consensual union	23 (7.21)	9 (7.44)	14 (7.07)	
	Married	222 (69.59)	84 (69.42)	138 (69.70)	
	Divorced	28 (8.78)	13 (10.74)	15 (7.58)	
	Widowed	17 (5.33)	1 (0.83)	16 (8.08)	
Number of children	None	42 (13.17)	15 (12.40)	27 (13.64)	**0.035**
	One	128 (40.13)	50 (41.32)	78 (39.39)	
	Two	138 (43.26)	47 (38.84)	91 (45.96)	
	Three	9 (2.82)	7 (5.79)	2 (1.01)	
	Four	2 (0.63)	2 (1.65)	0 (0.00)	

A statistically significant difference was found with respect to the gender of GPs, their marital status, and the number of children. The relative share of single men is higher than that of the females. Another more important difference derives from the fact that the share of women who have lost their partner is significantly higher than that of men. The difference in the relative shares of women and men with respect to the category “more than three children” is also significant.

2.2. Lifestyle of GPs

The predominant part of GPs takes the necessary time for sleep. What is noteworthy is that more than 4/5 of them did not take a sick leave in the previous year and when that was the case the leave did not exceed 30 days. The obtained results are explained by the necessity for GPs to organise the care for their patients personally in case of absence from their practice.

Table 7. Distribution of the studied group according to gender and lifestyle of GPs (n=319)

Characteristics	Categories	Total	Men	Women	p-value
		N (%)	N (%)	N (%)	
Hours of sleep per 24 hours	>8 hours	49 (15.36)	28 (23.14)	21 (10.61)	**0.007**
	4-8 hours	264 (82.76)	92 (76.03)	172 (86.87)	
	<4 hours	6 (1.88)	1 (0.83)	5 (2.52)	
Sick leave	Yes	60 (18.81)	21 (17.36)	39 (19.70)	0.659
	No	259 (81.19)	100 (82.64)	159 (80.30)	
Sick leave (duration) (n=60)	<30 days	47 (78.33)	19 (90.48)	28 (71.79)	0.114
	>30 days	13 (21.67)	2 (9.52)	11 (28.21)	
Tobacco smoking	Yes, an active smoker	101 (31.66)	36 (29.75)	65 (32.83)	**0.001**
	Quit smoking (>6 months)	74 (23.20)	30 (24.79)	44 (22.22)	
	Never smoked	144 (45.14)	55 (45.46)	89 (44.95)	
Change in the status of active smokers (n=101)	Increase in the number of cigarettes	63 (62.38)	19 (52.78)	44 (67.69)	0.198
	No change	38 (37.62)	17 (47.22)	21 (32.31)	
Regular alcohol consumption	Yes	68 (21.32)	43 (35.54)	25 (12.63)	**0.001**
	No	251 (78.68)	78 (64.46)	173 (87.37)	
Change in the status of those drinking alcohol (n=68)	Increased use	8 (11.76)	5 (11.63)	3 (12.00)	1.00
	No change	60 (88.24)	38 (88.37)	22 (88.00)	
Use of psychotropic substances	Yes	14 (4.39)	4 (3.31)	10 (5.05)	0.579
	No	305 (95.61)	117 (96.69)	188 (94.95)	
Diagnosed chronic disease	Yes	139 (43.57)	53 (43.80)	86 (43.43)	1.00
	No	180 (56.43)	68 (56.20)	112 (56.57)	

Almost 1/3 of GPs are active smokers and 1/5 consume alcohol regularly. The fact that in a considerable share of active smokers there is a registered increase in the number of smoked cigarettes is unfavourable. We evaluate positively the lack of the trend on alcohol consumption.

A relatively low percent of GPs (4%) resort to psychoactive drugs. A chronic disease is registered in a big share of GPs which may be linked to the high average age of GPs bearing in mind the statistical data for demographic and health indicators for the country.

We found considerable differences between the two genders regarding the time for sleep. What is noteworthy is that the relative share of women who sleep more than 8 hours per 24h. is considerably lower. On the other hand, the share of those who spare less than 4 hours is significantly bigger than that of men. We also established

differences in behavioural risk factors such as tobacco smoking and alcohol consumption. According to the data from the study, the relative share of women smokers is bigger than that of men while regarding alcohol consumption the reverse trend is observed.

2.3. Professional characteristics and organisation of activities in General Practice

GPs with more than 11 years of length of service predominate, as well as those working in individual practices for primary health care. Both of them are characteristic of Bulgaria and are reported in most of the studies on General Practice in our country (Table 8).

The distribution of the practice according to settlement shows that a little more than half of physicians attend urban population.

The average number of patients in the practices is about 1500, variations are observed depending on the settlement of the practice (Table 9). The registered average number of patients we consider optimum both regarding the possibility for the practice to function in view of financial provisions, and regarding the possibility for optimum access to the practice. There are practices with an extremely big number of patients which would invariably affect the quality of the provided care and overload unless an extended well-functioning team is ensured (300-5000 patients).

The average relative share of patients with multimorbidity also varies and corresponds to the data from other studies we conducted - within 12% of the population served. Here differences are determined by the age structure of the practice. It is well-known that GPs attend patients at all ages but again based on a territorial principle or previous experience, or additional qualification in the field of internal medicine or paediatrics most of the practices have predominantly patients at advanced age or children. The distribution of practices according to the relative share of patients with multimorbidity is even and with values which allows us to reach the conclusion that the discussed topic is relevant for everyday medical practice. This is in support of the idea that the problem multimorbidity has social significance and seeking approaches to optimise the activity of medical practices would be of considerable importance.

According to the regulatory requirements for length of working hours, the fact that the regular number of working hours (41.65±9.54) for outpatient's clinic per week is within the limits of the regulated time of a 40-hour week is logical. It is natural for respondents with bigger practices, as well as those attending mainly rural population, to have greater number of hours for work with their patients.

This indicator has a direct connection with the weekly number of attended patients which exhibits a great variation with a maximum number of 500 patients who visited the practice.

Our data shows that twenty years after the beginning of the health care reform in Bulgaria ¼ of GPs continue to provide a 24-hour service to their patients, the causes for this being various. The main reason is that in certain areas in Bulgaria the GP is the only medical specialist and the communication with other specialists is too limited and difficult.

The positive thing is that GPs who stated their wish to continue practising and do not intend to change their job predominate. Even though the relative share of this group is considerably higher, there is still ¼ of GPs who have considered the issue.

Upgrade of knowledge and skills is a continuous process and of extreme importance for GPs. Targeted training on patient-centered approach in General Practice were conducted in correspondence with the topic of the dissertation. 16% of GPs from the group studied by us took part in such a training.

Table 8. Distribution of the gender and professional characteristics of the studied group (n=319)

Characteristics	Categories	Total	Men	Women	p-value
		Number (%)	Number (%)	Number (%)	
Work experience as a GP	Less than 10 years	56 (17.55)	21 (17.36)	35 (17.68)	1.00
	More than 11 years	263 (82.45)	100 (83.33)	163 (82.32)	
Type of practice	Group	52 (16.30)	20 (16.53)	32 (16.16)	1.00
	Individual	267 (83.70)	101 (83.47)	166 (83.84)	
Settlement	Mainly urban	167 (52.35)	53 (43.80)	114 (57.58)	**0.001**
	Mainly rural	58 (18.18)	36 (29.75)	22 (11.11)	
	Mixed practice	94 (29.47)	32 (26.45)	62 (31.31)	
Average number of patients	Less than 1500	210 (65.83)	71 (58.68)	139 (70.20)	**0.039**
	More than 1501	109 (34.17)	50 (41.32)	59 (29.80)	
Relative share of patients with multimorbidity	Less than 10%	149 (46.71)	65 (53.72)	84 (42.42)	0.064
	More than 11%	170 (53.29)	56 (46.28)	114 (57.58)	
24-hour service	Personal provision	75 (23.51)	37 (30.58)	38 (19.19)	**0.021**
	Payment to another medical unit	244 (76.49)	84 (69.42)	160 (80.81)	
Considering to change their job	Yes	85 (26.65)	27 (22.31)	58 (29.29)	0.193
	No	234 (73.35)	94 (77.69)	140 (70.71)	
Training in PCC	Yes	51 (15.99)	18 (14.88)	33 (16.67)	0.754
	No	268 (84.01)	103 (85.12)	165 (83.33)	

Differences were found between the gender of GPs and the settlement of the practice, and the average number of patients in the practice and 24-hour service. The relative shares of female GPs are higher mainly in urban and rural practices, while with the mixed practices the share of men is bigger. Women more often have practices with an average number of patients of up to 1500 patients and rarely provide 24-hour service in person.

No statistically significant difference was found in gender and average scores for age and the studied professional characteristics (Table 9).

Table 9. Average score in the separate characteristics

Characteristics	Total	Men	Women	p-value
	Mean±SE (min-max)	Mean±SE (min-max)	Mean±SE (min-max)	
Age	53.05±0.50 (25-74)	52.67±0.76 (27-72)	53.29±0.66 (25-74)	0.633
Work experience	18.45±0.53 (1-56)	17.83±0.85 (1-56)	18.84±0.67 (1-45)	0.370
Work experience as a GP	15.23±0.28 (1-18)	15.07±0.47 (1-18)	15.33±0.35 (1-18)	0.465
Average number of patients	1490.34±37.51 (300-5000)	1539±64.52 (400-2850)	1460±45.80 (500-5000)	0.372
Relative share of multimorbidity patients	11.91±0.50 (0.60-50)	11.43±0.81 (2.22-46.67)	12.21±0.64 (0.60-50)	0.202
Average number of attended patients for a week	150.14±4.81 (30-500)	151±9.02 (30-500)	149.60±5.48 (60-500)	0.290
Average number of hours at practice for a week	41.65±0.53 (30-60)	44.89±1.74 (30-60)	41.55±1.41 (30-60)	0.646
Number of night visits per month	6.32±0.54 (1-20)	7.03±0.80 (1-20)	5.75±0.74 (1-20)	0.153

2.4. Locus of control of GPs

According to the data from our study slightly more than half of GPs (n=177; 55.49%) have internal locus of control. The results show internal conviction and confidence for control over their activity. This may be viewed as a successful strategy for managing General Practice. The average score of the scale of locus of control in the group of GPs is 7.20±0.14. It is possible that the predominance of internal locus is due to the fact that it can vary in different situations. The locus of control may also change with advancing age and transition to a higher level of maturity when people know themselves better and their own strengths and abilities to influence those around them, to change situations and solve problems. Another important point is General Practice training at the level of students and residents with a focus on person-centered care in which the accent is on how important the formation of personality with greater internal endurance, discipline, control and motivation for success is which is part of the profile of the personality with an internal locus of control.

In the conducted study, no statistically significant difference was found between the two-way separation of locus of control (internal and external) and the factors age, gender, marital status and number of children ($p>0.05$).

Regarding lifestyle, we found a statistically significant bigger share of GPs with internal locus of control who have diagnosed chronic diseases ($p=0.01$) and use psychotropic substances ($p=0.05$). The results obtained by us are in support of the data from the literature according to which people with internal locus of control have better somatic and mental health in comparison to those with external locus of control. We sought a relationship between the locus of control and factors related to the professional environment. Regarding the professional profile of the GP, family doctors with internal locus of control who attend mainly mixed population ($p=0.001$), participated in a person-centered approach training ($p<0.0001$) and have bigger number of night visits ($p=0.017$) predominate. It is expected that the type of the attended population has its peculiarities which require strict organisation, flexibility, and adaptiveness. The presence of a bigger number of visits could be interpreted in two directions - on the one hand, due to GPs' impossibility to sign a contract with another medical institution, especially in small settlements. On the on the hand, this may be a personal choice in the presence of circumstances which require more regular visits of patients, e.g. peculiarities of the attended population.

Conclusions:

- GPs with internal locus of control predominate among the participants in the study.
- The GPs with external locus of control more frequently have diagnosed chronic diseases and use psychoactive substances.
- The locus of control does not show statistical significance from the factors age, gender, marital status, and number of children.
- GPs who participated in person-centered approach training exhibit internal locus of control.

2.5. Difficulties in managing patients with multimorbidity

From the results obtained in our study we found that patients with multimorbidity are a common problem in General Practice.

Based on the literature review, 17 statements were identified as main barriers in attending patients with multimorbidity in everyday practice. For each of the statements GPs determine to what extent the statements refer to them, the 5-point Likert scale was used (1- not at all to 5 – a large extent)

The GPs' evaluation regarding the difficulties in attending patients with multimorbidity are presented in Figure 3. The answers of the respondents show that among all the studied domains in our study, there is no registered factor that stands out significantly as a major problem.

The three most important difficulties in attending patients with multimorbidity in every-day practice as determined by the respondents are: *Limited time for consultations* (n=205, 64.26%); *Administrative difficulties* (n=193, 60.50%) and *Limitations in the regulations*, *concerning the possibility for GPs to make decisions* (n=165, 51.72%).

We analysed the influence of some important socio-demographic, and professional characteristics on GPs' evaluation related to attending patients with multimorbidity.

We found a statistically significant difference in the responses of the family doctors concerning the indicator related to providing 24-hour service of their patients. What is noteworthy is that GPs who pay another medical institution gave the category *Limited time for consultations* greater significance (p=0.018).

Regarding the domain *Administrative difficulties*, we found a statistically significant difference in the average number of patients in the practice, logically, practices with more than 1501 patients give greater significance to this barrier in service (p=0.007).

In analogy, in the domain *Limitations in the regulations related to the freedom of GPs to make decisions*, the practices exceeding 1501 patients have marked a higher extent (p=0.055). GPs with work experience above 11 years also stress on this indicator (p=0.077). Regarding the category *Disorganisation and fragmentation of healthcare* for patients with multimorbidity, it was found that with the increase of the number of patients in a practice and more specifically, that of patients with multimorbidity, this factor has a statistically greater significance (p=0.006 and p=0.001).

A statistically significant difference was found in GPs' responses and in the category *Poor or lack of coordination with consultants* and some socio-demographic, and professional factors. This category presets a greater challenge for women in comparison to men (p=0.003), as well as to GPs working in practices with a higher relative share of patients with multimorbidity (p=0.041), attending urban and rural population (p=0.034).

A similar dependence was found regarding *Poor or lack of coordination with consultants* where practices with a higher relative share of patients with multimorbidity (p=0.002) and mainly attending rural population (p=0.011) have ascribed greater significance to the category.

The category *Inadequacy of guidelines and evidence-based medicine for multimorbidity patients* appears to be a greater problem FDs from practices with higher relative share of patients with multimorbidity (p=0.0001), and those attending urban and rural population (p=0.030).

Regarding the category *Polypharmacy and related adverse drug interactions and events* in our study, it was found that GPs up to 50 years old (p=0.041) and those who pay another medical institution give greater significance to the category (p=0.022).

Difficulties in communicating with relatives/caregivers was registered with a statistically higher degree in practices with more than 1501 patients (p=0.006).

We also found a statistically significant difference between GPs below and above 50 years old regarding the statement *Poor cooperation on the side of the patient* (p=0.017). In a greater extent this statement refers to FDs above 50 years old.

The relative share of men who gave low significance for difficulties in attending patients with multimorbidity in relation to *Poor collaboration with social services* is significantly higher than that of women (p=0.022).

It should be noted that organisational barriers related to attending patients with multimorbidity have the greatest significance for the respondents in our study.

Among them GPs placed *Limited time for consultation,* which is completely understandable bearing in mind the fact that these patients require more time both in relation to communication and in the approach to therapy optimisation since numerous recommendations have to be considered for each specific disease as well as the possibility for drug interactions and adverse drug reactions.

This fact may explain why it is GPs who pay another medical institution that gave higher significance to this factor as well as to *Adverse drug reactions*.

On the other hand, the fact that although GPs ascribe greater significance to the factor *Lack of financial resources*, it is not among the three categories determined as most important by FDs.

The result for the third position - the category *Administrative difficulties* and the found dependence for higher significance in practices with a greater number of patients are expected.

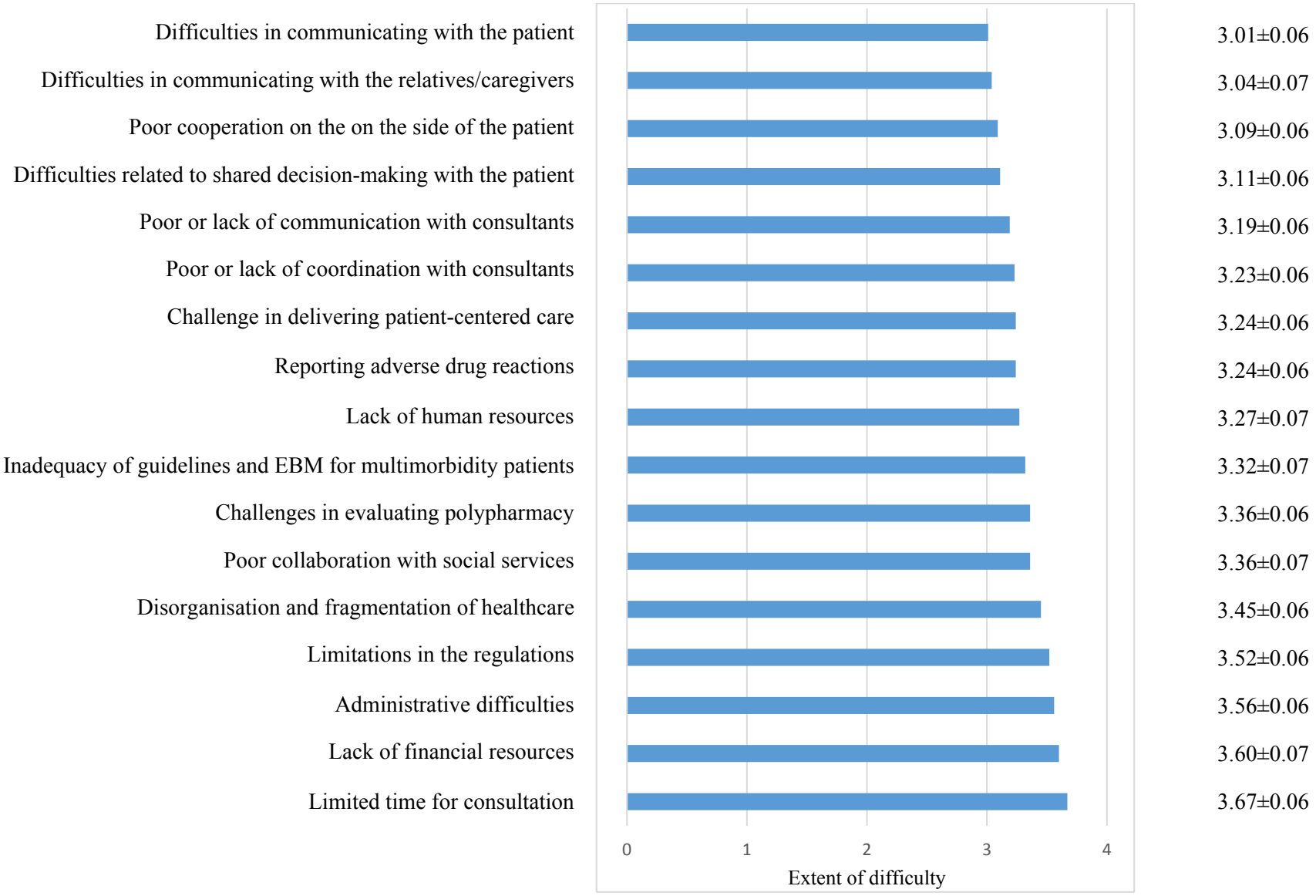


Figure 3. Average evaluation of the difficulties in managing patients with multimorbidity (n=319)

Conclusions:

- *Limited time for consultation* is a leading barrier in attending multimorbidity patients followed by *Administrative difficulties* and *Limitations of regulations*.
- *Communication with the patient* and *Coordination between medical specialists* can be identified as the other important factors who are significant in attending multimorbidity patients by GPs.
- *Poor coordination with consultants* and *Poor collaboration with social services* are the barriers which were statistically significantly identified by female GPs.

2.6. Shared decision-making in General Practice with multimorbidity patients

For the purposes of our study we also included the questionnaire for shared decision-making in General Practice described in detail in the methods. From the obtained results we found that the average value of the scale for evaluation of SDM, given to the studied GPs, is e 82.86%±0.88 (minimum 20%; maximum 100%). We consider positive the fact that shows that the patient-centered approach, which is specific for General Practice and directly related to the philosophy of the specialty, is recognised as important and highly valued by GPs.

Socio-demographic factors in shared decision-making.

Regarding socio-demographic factors we found a relation between the gender of GPs and the extent of shared decision-making, women having a statistically significant higher average value which is a proof for the higher degree of patient-centeredness among female GPs (p=0.001).

Lifestyle and shared decision-making

Regarding the studied indicators lifestyle and the degree of patient-centeredness no relation was found with exception to the factor alcohol consumption where the group of GPs who do not drink alcohol have significantly higher values from the scale of evaluation of SDM (p=0.047).

Professional factors and shared decision-making

The factors related to work organisation and professional experience of GPs are of interest. We found that family doctors with longer work experience are more likely to include their patients in the decision-making process with regard to follow-up therapy (p=0.013). With the rest of the characteristics, we did not find a relation with the degree of patient centeredness of GPs.

Data shows that the group of GPs considering changing their job in the last year (26.65%), have a lower average score of the indicator SDM, however, the found dependence is not statistically significant (p=0.091).

Conclusions:

- GPs show high scores on the scale for evaluation of shared decision-making.
- Shared decision-making is considerably more commonly practiced by female GPs.
- With the increase in professional experience, the ability for shared decision-making also increases.

2.7. Correlations between the scales for locus of control, GPs' perceptions on the difficulties in managing multimorbidity patients and shared decision-making in General Practice

2.7.1. Correlations between the scales for locus of control, GPs' perceptions on the difficulties in managing multimorbidity patients

The average score of the difficulties in managing multimorbidity patients according to the construct "locus of control" of the studied GPs is presented in Figure 4. It is worth noticing that for all statements with statistically significant difference, GPs with external locus of control found the barrier on providing care for multimorbidity patients more significant.

The found dependences are related both to the organisational aspect of managing multimorbidity patients and to clinical aspects such as polypharmacy. In the greatest degree differences are found in relation to communication with patients and their relatives, as well as shared decision making.

2.7.2. Correlations between the scales for shared decision-making in General Practice and GPs' perceptions on the difficulties in managing multimorbidity patients

The average score of difficulties in managing multimorbidity patients depending on the extent of shared decision-making in General Practice is presented in Figure 5.

Statistically significant difference in the respondents' answers was found with the help of Kruskal-Wallis Test in fifteen out of seventeen categories of difficulties. What is noteworthy is that GPs with higher levels of patient-centeredness have given higher significance to the described barriers for attending multimorbidity patients. The results in the separate categories of difficulties are similar and show a more marked sensitiveness on the side of GPs with higher levels of patient-centeredness.

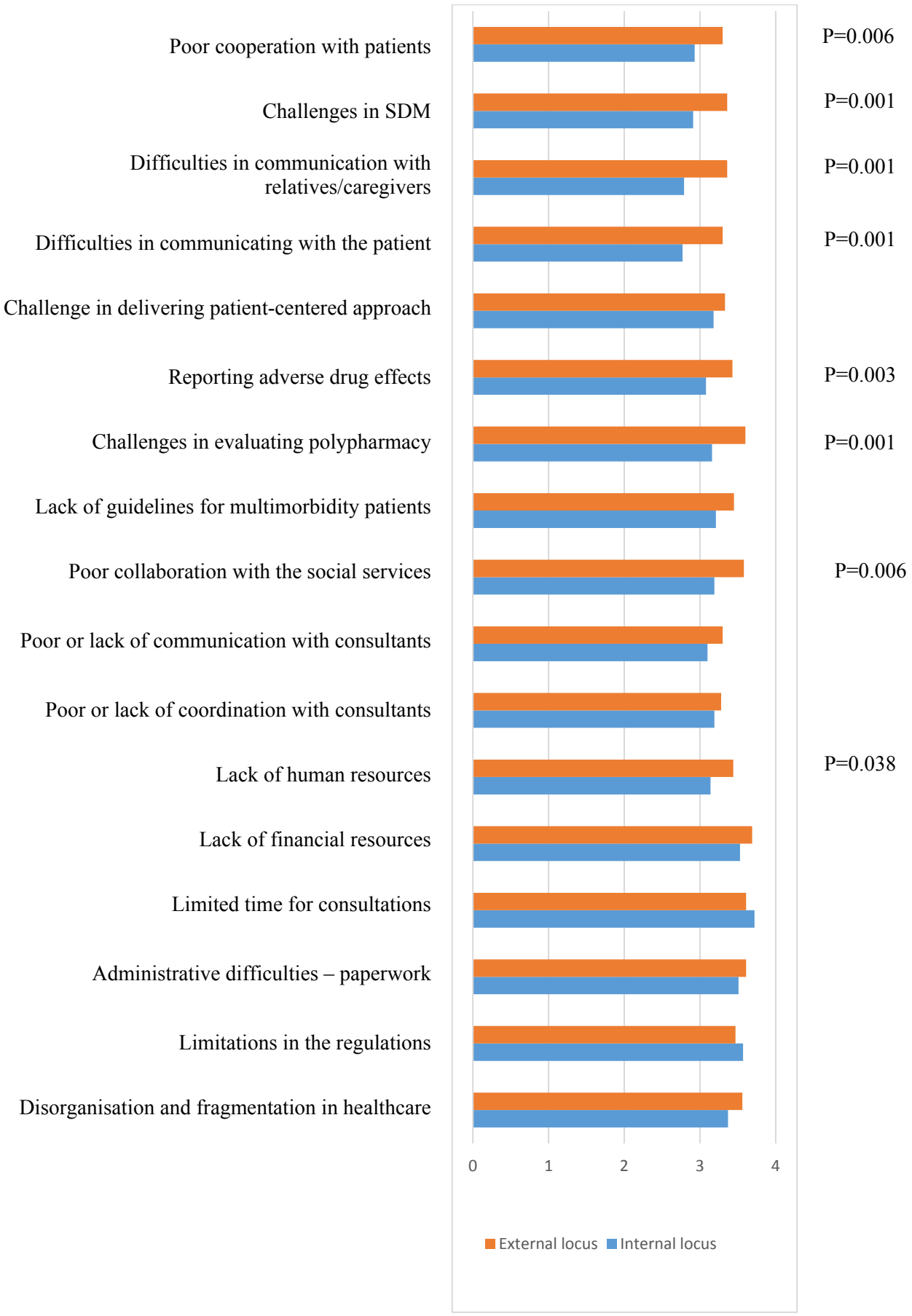


Figure 4. Average score of challenges in managing **multimorbidity patients depending on the construct "locus of control" of the studied GPs**

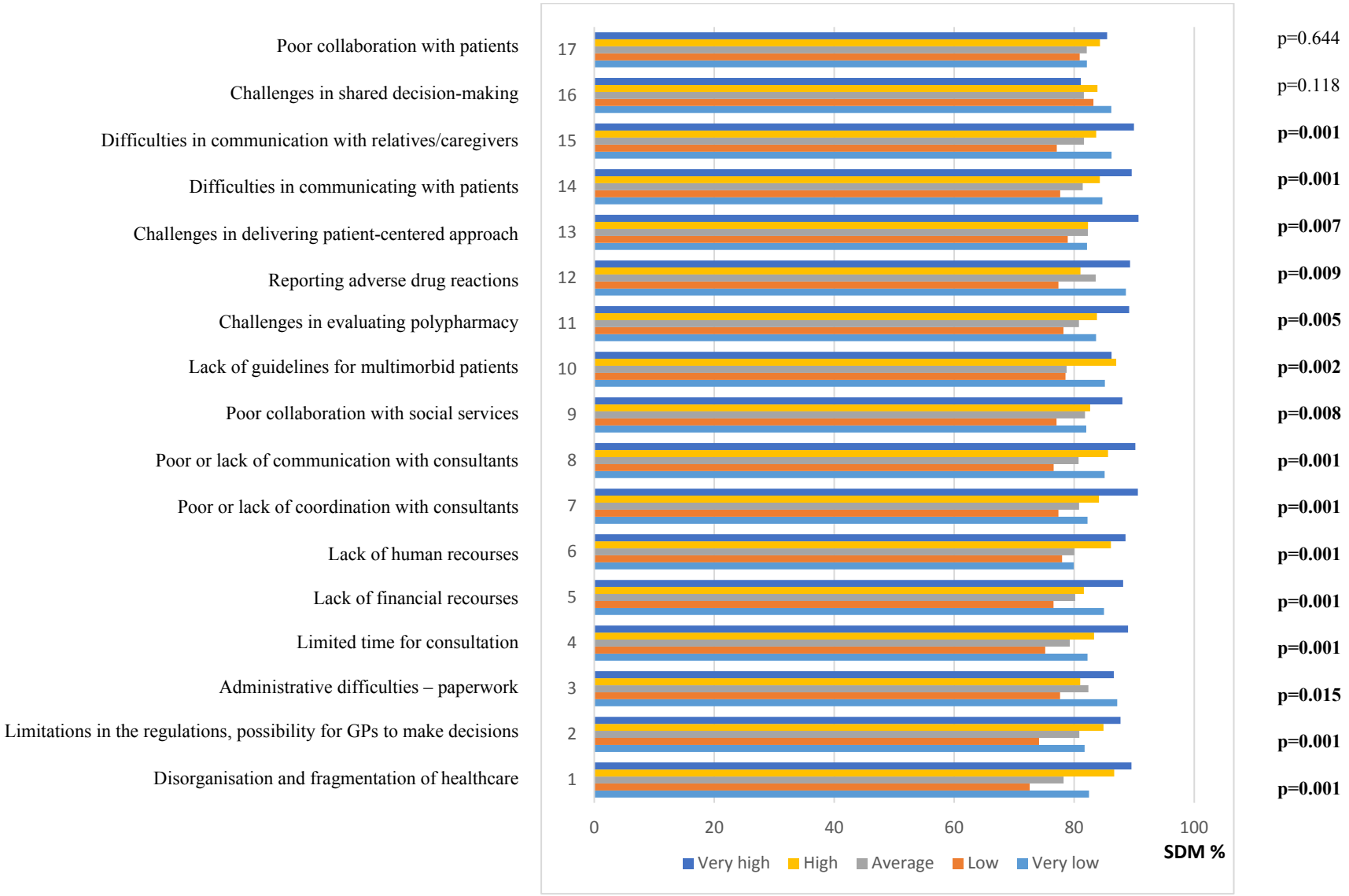


Figure 5. Correlation between extent of evaluating challenges in managing multimorbidity patients and shared decision-making in General Practice

2.7.3. Correlations between scales for locus of control and shared decision-making in general practice in managing multimorbidity patients

GPs with internal locus of control registered higher level of patient-centeredness (Figure 6) which is statistically significant (p=0.003).

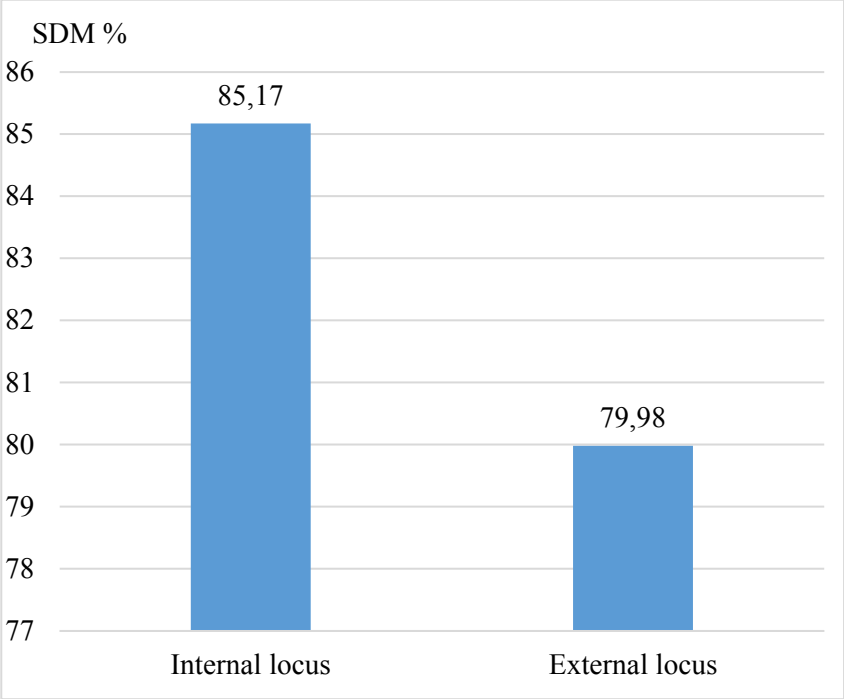


Figure 6. Average score of SDM depending on locus of control

We found a weak reverse correlation between locus of control of GPs and the level of patient-centeredness with statistical significance p<0.01 (Spearman's rho=-0.216). This means that the more expressed the internal locus of control of GPs, the higher the level of their patient-centeredness.

As we already discussed in previous chapters, GPs with internal locus of control are more likely to defend their position and to accept that the control on situations and events are determined to a high degree by themselves. It is the successful delivery of person-centered care that presupposes the presence of such qualities for successful consultations.

Conclusions:

- Statistically significant relationships between the construct locus of control, challenges in managing multimorbidity patients and shared decision-making were found.
- Physicians with external locus of control in a considerably higher degree appreciate most of the challenges in managing multimorbidity patients.
- In GPs with internal locus of control, statistically significant higher levels of patient-centeredness were identified.
- With the increase in the level of shared decision-making, GPs attach greater significance to the challenges of managing multimorbidity patients.

3. Complex assessment of burnout syndrome

3.1. Analysis of the incidence of burnout syndrome in general practice in the dynamics of the different periods - 2003, 2011 and 2019

To determine the degree of burnout among GPs, analysis of the Mean from the samples of the three studied years was made. The obtained results showed that the job of a GP is characterized by high degree of stress. The comparison of the data on the subscales for burnout syndrome among the three studies in 2003, 2011, and 2019 are presented in Table 10 and Figure 7.

Based on the Mean for the separate domains, high levels among respondents predominate only in the scales for EE in 2003 and PA in 2011. For all other participants average levels are registered according to the MBI.

Table 10. Mean and standard error for the subscales emotional exhaustion, depersonalisation and personal accomplishment of the studied GPs in 2003, 2011 and 2019

Subscales of Maslach's scale	Year	Mean±SE	Interpretation	p-value
Emotional exhaustion	2003	30.58±1.50	High level of burnout	0.0013
	2011	23.77±1.52	Average level of burnout	
	2019	25.05±0.68	Average level of burnout	
Depersonalisation	2003	8.14±0.77	Average level of burnout	0.4097
	2011	7.32±0.60	Average level of burnout	
	2019	8.33±0.31	Average level of burnout	
Personal accomplishment	2003	38.03±0.70	Average level of burnout	<0.0001
	2011	31.97±0.74	High level of burnout	
	2019	35.61±0.44	Average level of burnout	

The data from the conducted comparative analysis of the levels of burnout among GPs for the separate subscales in different years shows that 2003 is characterized by the highest levels of EE among GPs. The category DP takes the second position, the third dimension PA is the most beneficial position in comparison to the studies from 2011 and 2019, i.e. it has the smallest relative share. Our explanation to these facts concerns the phenomenon that in the very beginning of the health reform adaptation mechanisms were not present and GPs were under "acute" stress, i.e. the first manifestations were related to the emotional component of burnout syndrome.

In 2011 GPs were in the least beneficial position in relation to professional performance, and what is noteworthy is that more than 40% of GPs had high levels of burnout, i.e. low level of personal accomplishment. Regarding the other subcategories, GPs were in the most beneficial position as a relative share.

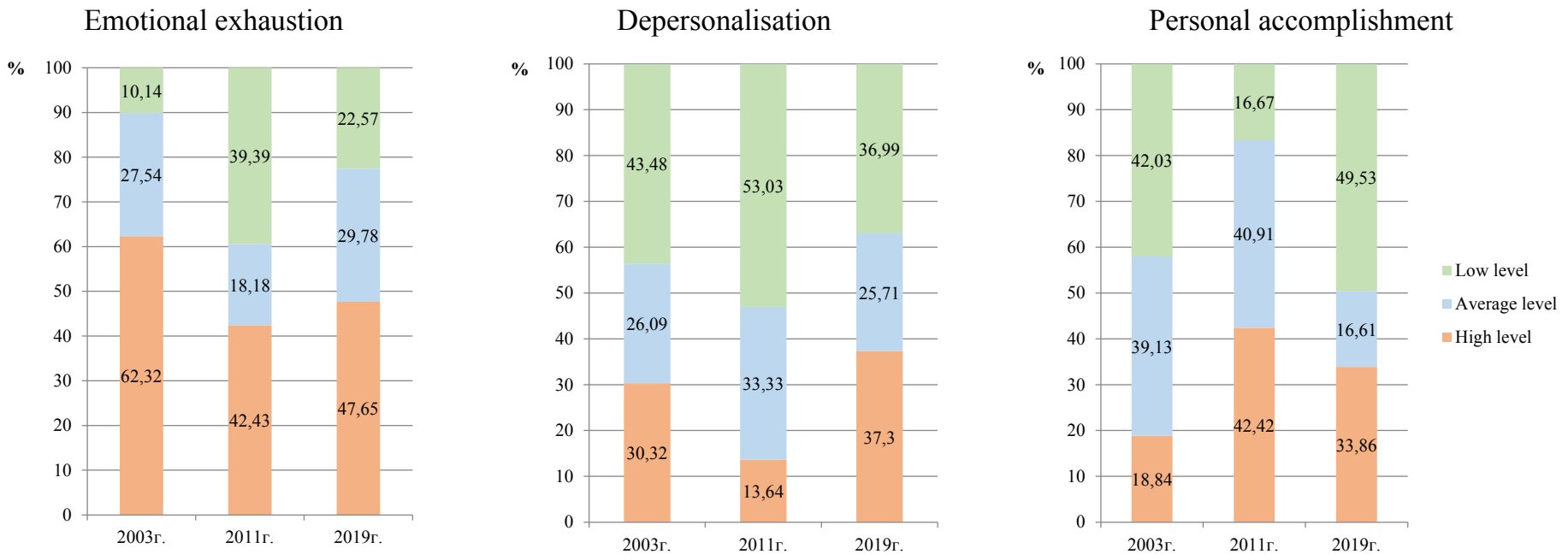


Figure 7. Distribution of GPs' burnout level for the subscales emotional exhaustion, depersonalisation and personal accomplishment in 2003, 2011 and 2019

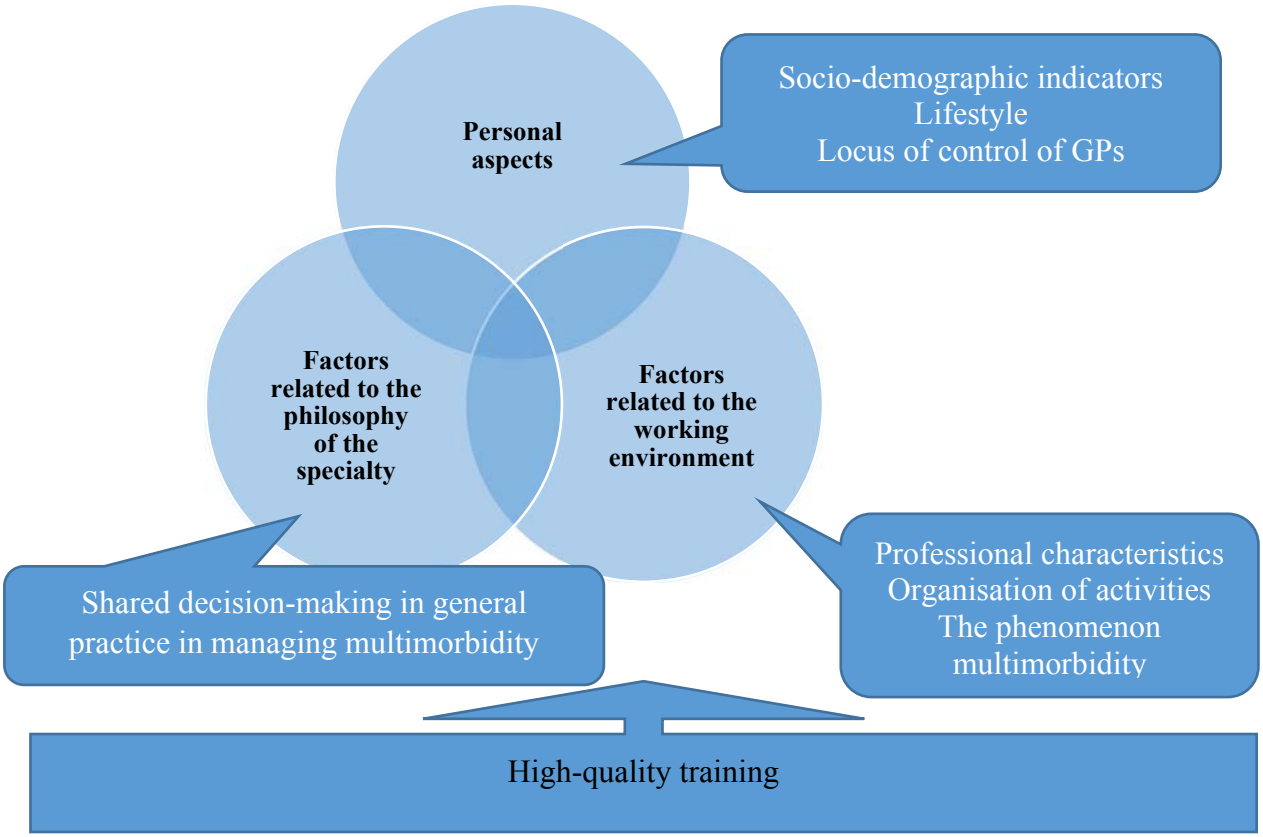
In 2019 GPs were in the least beneficial position for the category DP where the highest relative share was registered in comparison to the other two years. We would relate the high levels to the chronic form of stress in which dehumanization suffers the most.

Conclusions:

- 2003 was characterised by the highest levels of EE and in 2019 the highest relative share of subscale DP was registered which objectively reflects the initial high stress followed by exhaustion and dynamics of burnout among GPs.
- The periodic following up of burnout levels among GPs gives us the opportunity for timely prevention.
- The fact that the total score on the BS scale decreases is a positive result which reflects the adaptation of GPs to their work during the period of the studied years.

3.2. To analyse burnout level in relation to the factors: personal aspect of GPs; factors related of the philosophy of the specialty; factors related to the working environment; conducted training in patient-centered approach.

For the purposes of our study it was important to study factors related to the personality of GPs which are difficult to influence and are considered relatively constant, as well as ones which can be influenced and presuppose application of interventions to influence the occurrence and development of burnout among GPs, i.e. related to the working environment.



Scheme 3. Synthesized model

Socio-demographic indicators and burnout levels

The relation between EE, i.e., the feeling of fatigue transforming into feeling of exhaustion of emotional energy and the characteristics age, gender, marital status, and number of children was studied. After the conducted analyses, a statistically significant difference in burnout levels for the subscale EE was found one only in relation to the age of GPs, in the category of above 51-year-olds higher levels of EE are found in a bigger relative share of GPs ($p=0.001$).

Age appears to be a factor in the subscale DP too ($p=0.016$). The conclusion reached for EE is completely valid here as well, i.e., with the increase in GPs' age, the risk of DP also increases, and it is characteristic for perceiving negative attitudes or lack of interest for others.

Regarding the subscale PA, we did not find differences in the separate categories of the socio-demographic characteristics studied by us. The reduced personal accomplishment related to a feeling of worsened competence and dissatisfaction with one's own accomplishments, feeling of helplessness and reluctance to continue work, does not depend on the factors we have studied.

Lifestyle of GPs and burnout levels

The possible correlations between the burnout phenomenon and characteristics related to the lifestyle of GPs also pose an interest. We found that GPs getting more than 8 hours of sleep per 24h. have more commonly lower levels of EE ($p=0.002$**)** and DP ($p=0.002$**)**. Bearing in mind the fact that most GPs spend between 4 and 8 hours sleeping, it is important to mention that the highest relative shares of considerably increased levels of EE and DP are found exactly with this category.

The share of GPs who were temporarily incapable of working is considerably smaller (less than 1/5) in comparison to those who have not had a sick leave. The requirement to provide a replacement by the GPs themselves, who are managers of the practice, is a prerequisite, despite the necessity for a sick leave, for being in a difficult position to provide a paid specialist. From the obtained results we found that it is the GPs who had a sick leave during the previous year that have higher levels of EE, their relative share being considerably higher ($p=0.022$**)**. It is striking that the group of GPs who had a sick leave up to 30 days predominates. Regarding temporary incapacity to work, the correlation is only with the subscale for EE.

The relation between burnout and behavioural risk factors is well-established. Almost 1/3 of GPs are smokers and 1/5 of them drink alcohol. No statistically significant difference was found for the three subscales on these indicators ($p>0.05$). During the detailed analysis of the group of smokers, we found that those who changed their habits and have started smoking more cigarettes daily, the relative share of GPs with high burnout levels for EE is considerably higher ($p=0.011$**)**. We did not find difference with the other subscales.

Regarding the other factor - increased alcohol consumption, among those who drink alcohol regularly, we found a correlation on the scales for EE ($p=0.036$**)** and DP ($p=0.043$**)**.

The results are in analogy with those concerning the smokers, i.e. a higher relative share of the people with high levels of EE and DP in case of increased alcohol consumption.

The use of psychoactive substances is related to a higher relative share of GPs with high DP levels ($p=0.025$**)**.

Disturbing is the fact that 44% of GPs have a chronic disease. We found a correlation between this indicator and the three subscales of burnout syndrome. For all three of them is valid the fact that the relative shares of GPs with a diagnosed chronic disease and with high EE and DP levels, and reduced capacity for work (PA) are considerably higher in comparison to the group of the ones without a chronic disease ($p<0.0001$; $p=0.024$; $p=0.048$).

Professional characteristics and burnout levels.

The settlement of the practice and more specifically – the type of attended population exerts an influence on EE levels among GPs. Family doctors attending mainly urban population are characterized by higher levels of burnout. The biggest share of GPs with low levels of EE are registered in the ones who attend a mixed population ($p=0.019$**)**. We did not find a difference in relation to the type of practice - individual or group - and burnout levels in its three domains. It is characteristic for Bulgaria that individual practices predominate, which was also confirmed by our study.

We found a difference between DP levels and organisation of the 24 h. service of patients. The biggest relative share among high DP levels is with the GPs who personally provide a 24-hour service ($p=0.023$**)**.

The group of GPs who considered changing their position in the healthcare system have higher EE and DP levels ($p<0.0001$).

Data analysis shows that regarding the studied professional indicators and the subscale PA no relevant connection was found.

Locus of control and levels of burnout syndrome

We found a statistically significant difference in burnout levels of the three scales and locus of control of GPs. The relative share of GPs with internal locus of control and high burnout levels in the three scales is higher than that of GPs with internal locus of control (Table 11).

Table 11. Burnout depending on the locus of control

Subscale	Levels	Total	Internal locus	External locus	p-value
		Number (%)	Number (%)	Number (%)	
EE	Low	72 (22.57)	58 (32.77)	14 (9.86)	**<0.0001**
	Average	95 (29.78)	61 (34.46)	34 (23.94)	
	High	152 (47.65)	58 (32.77)	94 (66.20)	
	Total	319 (100)	177 (100)	142 (100)	
DP	Low	118 (36.99)	86 (48.59)	32 (22.54)	**<0.0001**
	Average	82 (25.71)	44 (24.86)	38 (26.76)	
	High	119 (37.30)	47 (26.55)	72 (50.70)	
	Total	319 (100)	177 (100)	142 (100)	
PA	Low	158 (49.53)	92 (51.98)	66 (46.48)	**0.038**
	Average	53 (16.61)	35 (19.77)	18 (12.68)	
	High	108 (33.86)	50 (28.25)	58 (40.85)	
	Total	319 (100)	177 (100)	142 (100)	

Person-centered care training and levels of burnout syndrome

GPs' acquisition of knowledge and skills begins at university. However, competencies are to be further developed and mastered throughout the period of work. The working capacity of physicians depends to a great extent on realizing their wishes, needs and expectations related to their job. Burnout appears to be a destructive process of loss of professional effectiveness, reduction in communicative qualities and development of mental disadaptation leading to irreversible changes in personality. Personal accomplishments reflect the degree of the specialists' satisfaction as a personality and professional. They need to have enough knowledge, skills and confidence for planning and evaluating their own professional activity which give them self-confidence, safety and motivation for increasing the quality of the provided care.

The difference between the burnout levels on its three subscales and the category PCC training is significant. We consider the obtained results an important finding according to which the carrying out of targeted training, in this case training in one of the key competencies in general practice, is of considerable importance for burnout syndrome prevention. With all three categories considerable differences were found between the GP groups with high burnout levels, i.e., a considerably smaller relative share of GPs with high burnout levels among trained GPs.

Table 12. Burnout depending on the conducted training in PCC

Subscale	Level	Total	Yes	No	p-value
		Number (%)	Number (%)	Number (%)	
EE	Low	72 (22.57)	15 (29.14)	57 (21.27)	**0.001**
	Average	95 (29.78)	26 (50.98)	69 (25.75)	
	High	152 (47.65)	10 (19.61)	142 (52.99)	
	Total	319 (100)	51 (100)	268 (100)	
DP	Low	118 (36.99)	28 (54.90)	90 (33.58)	**0.001**
	Average	82 (25.71)	16 (31.37)	66 (24.63)	
	High	119 (37.30)	7 (13.73)	112 (41.79)	
	Total	319 (100)	51 (100)	268 (100)	
PA	Low	158 (49.53)	21 (41.18)	137 (51.12)	**0.027**
	Average	53 (16.61)	15 (29.41)	38 (14.18)	
	High	108 (33.86)	15 (29.41)	93 (34.70)	
	Total	319 (100)	51 (100)	268 (100)	

Correlations between the scales for evaluation of burnout syndrome, locus of control, shared decision-making, job satisfaction

Correlational analysis was applied in the statistical study of the dependencies between the scales for evaluation of the incorporated tools in the questionnaire, with the aim of empiric confirmation of the hypothesis on the presence of specific correlation between the locus of control, shared decision-making, job satisfaction and burnout syndrome.

The results from the statistical processing of the results in the present study are presented by the coefficient of rang correlation Spearman's rho. Calculation of the correlational coefficient serves to evaluate the association among the determinants LC, SDM, JS and MBI and at the same time to measure the strength and direction of each of these associations.

Tables 13 and 14 present the summarised correlations and provide information on the degree and direction of the connection among the associations. Regarding Maslach burnout inventory, the studied GPs evaluate the frequency with which they experience each of the 22 described conditions, which fall into one of the three subscales - EE, DP and PA. High scores in the first two scales and a low one in the third indicate a high degree of experienced burnout. In addition, the total burnout index (BI) is included for the purposes of the analysis.

Correlations between the different scales are found which reveals that in increasing the scores of EE and DP, PA decreases.

Table 13. Correlation among the subscales EE, DP, PA and BI for burnout syndrome (n=319)

		EE	DP	PA	BI
EE	Spearman's rho	1.000	.585**	-.201**	.746**
	p-value	.	.0001	.0001	.0001
DP	Spearman's rho		1.000	-.102	.732**
	p-value		.	.070	.0001
PA	Spearman's rho			1.000	-.581**
	p-value			.	.0001
BI	Spearman's rho				1.000
	p-value				.

** Correlation with value of significance p< 0.01

* Correlation with value of significance p< 0.05

Very precious information is provided by the analysis of the correlation between the subscales for burnout and the construct locus of control, the scale for shared decision-making and the scale for measuring the level of GP satisfaction.

The result analysis shows that there is a dependence between burnout levels and all above-mentioned categories.

We found an average straight correlation between the locus of control and burnout levels for EE and DP, i.e. high levels of EE and DP in external locus of control. The analysis of the PA scale shows a weak presence of reverse correlation with locus of control of GPs. This result suggests that internal locus of control is associated with low burnout levels for PA.

The professional attitude of the medical specialist is associated with creating relationships with patients based on professional communication. When searching for associations among SDM, three burnout subscales and total BI, we found that there is a weak reverse correlation between EE, DP and the SDM scale, and a weak straight one in relation to PA. Data allows us to conclude that with the aim of preventing

burnout, it would be beneficial to implement widely PCC in general practice, i.e., the high levels of patient-centeredness suggest low levels of EE, DP and high PA.

It is thought that locus of control is less dependent on external factors and is more difficult to change, while training in patient-centered approach is gaining wider popularity in contemporary manuals for managing non-communicable diseases such as diabetes, arterial hypertension etc.

Burnout is also closely linked to job dissatisfaction. Our results confirm the statement that the level of satisfaction of GPs is reduced with the increase in EE and DP levels.

Table 14. Correlation between locus of control, shared decision-making, job satisfaction and EE, DP and PA subscales of burnout syndrome (n=319)

		ЕИ	ДП	РА	БИ
Locus of control	Spearman's rho	.338**	.317**	-.113*	.333**
	p-value	.0001	.0001	.044	.0001
Shared decision-making	Spearman's rho	-.134*	-.228**	.133*	-.201**
	p-value	.017	.0001	.017	.0001
Job satisfaction	Spearman's rho	-.497**	-.268**	.108	-.329**
	p-value	.0001	.0001	.054	.0001

** Correlation with value of significance p< 0.01

* Correlation with value of significance p< 0.05

A comparison between the quantitative variables of GPs depending on the burnout levels in the discussed domains, confirmed the significance of the factor age for subcategory DP (p=0.034). The total level of respondents' depersonalisation follows a trend of a gradual but successive rise with the increase in work experience. This phenomenon may be explained by the fact that with the increase of the work experience, the cumulative effect of negative aspects of professional activity emerges, the physical and mental tiredness increases, indifference towards work, a strife for emotional distancing in providing patient care and the challenges related to it appear.

Regarding EE, the study found a narrow correlational dependence with the number of children and the professional work experience p=0.032 and p=0.033, respectively. What makes a strong impression is the increase in burnout levels in GPs with a greater number of children and specialists with longer work experience.

Work content in general practice includes the qualitative and quantitative aspects of patient care: number of patients, extent of closeness with them, degree of workload.

Data on the correlation between burnout and number of patients, including those attended for a certain period, are not unambiguous, although, theoretically, it is possible to suggest that there is a positive relationship between these variables. A difference in the average number of patients per week and DP levels was found, the highest number of patients being established in the group of GPs with average burnout levels (p=0.018).

The result according to which GPs have the highest number of consultation hours have low burnout levels according to the PA scale (p=0.008).

Average score of the challenges in managing multimorbidity patients according to burnout levels

The results from the conducted analyses on the difficulties in managing multimorbidity patients shows a presence of dependence between burnout syndrome and in specific - EE and DP subscales. Personal accomplishment remains relatively stable. For EE and DP statistically significant differences in burnout levels we found in an equal number of domains (8) $p<0.05$. This is true for PA in much lesser extent (4) We found that *Poor cooperation on the side of the patient* has a relation to the three subscales of burnout, i.e., GPs with high burnout levels have ascribed greater significance to the category. Data analyses also show that there is a connection between burnout levels for EE and DP and *Challenges in delivering patient-centered care, Challenges in evaluating polypharmacy, Poor collaboration with social services* and *Lack of human recourses.* GPs with high DP levels and weak PA perceive as a challenge the difficulties in attending multimorbidity patients, *Poor or lack of communication with consultants* and *Poor or lack of coordination with consultants.* We also found specific relations only in one of the burnout scales. For EE this includes - *Difficulties in communication with patients, Limitations in the regulations, Freedom of GPs to make decisions* and *Disorganisation and fragmentation of healthcare.* In the DP scale - *Reporting adverse drug reactions* and for PA- *Lack of financial resources*. The results suggest seeking and adopting specific interventions for prevention.

Factorial regression predictive models for burnout

Burnout etiology is multifactorial and is determined by complex interaction of labour and non-labour professional factors and numerous mediators and moderators. The combination and accumulation of different stress factors (individual, interpersonal and organisational stress) trigger the process of burnout.

A unifactorial regression analysis was performed in our study for the assessment of the statistically significant factors related to burnout and job satisfaction.

The odd ratio for the studied group of factors was evaluated.

It was ascertained that out of the socio-demographic factors only age has significance as a predictor for EE. With the rest of the burnout scales - DP and PA, no significant differences were found in burnout levels for gender, age, marital status and number of children.

Regarding the factors of lifestyle, we found a statistically significant influence on EE level from the factors: *Temporary incapacity for work*, *Change in the status of active smokers*, *Change in the status of alcohol consumption*, and *Diagnosed chronic disease*. For the DP scale - *Change in the status of alcohol consumption, Use of psychotropic substances* and *Diagnosed chronic disease.* For the PA subscale only, the factor *Diagnosed chronic disease* was significant.

The analysis of the study of professional factors did not find statistical significance only for the subscale PA. It was found that the factor *Considering changing the job* is significant for all others- EE and DP. In the DP subscale significance is found in the manner of organisation of the 24-hour service.

Table 15. Multifactorial regression model for EE, DP and PA

Dependent variable	Factors		OR	95% CI	p-value
	Characteristics	Categories			
Emotional exhaustion	Socio-demographic	Age			
		Below 50 years	Rc (1)		
		Above 51 years	2.134	[1.265;3.598]	0.004
	Professional	Considering the possibility for changing the job			
		No	Rc (1)		
		Yes	4.158	[2.258;7.655]	<0.0001
	Personal aspects	Locus of control			
		Internal locus	Rc (1)		
		External locus	3.634	[2.180;6.057]	<0.0001
		PCC training			
		Yes	Rc (1)		
		No	2.557	[1.162;5.629]	0.020
	Constant		0.098		<0.0001
Depersonalisation	Professional	Considering the possibility for changing the job			
		No	Rc (1)		
		Yes	3.419	[2.004;5.833]	<0.0001
	Personal aspects	Locus of control			
		Internal locus	Rc (1)		
		External locus	2.751	[1.693;4.471]	<0.0001
	Constant		0.259		<0.0001
Personal accomplishment	Personal aspects	Locus of control			
		Internal locus	Rc (1)		
		External locus	1.754	[1.098;2.801]	0.019
	Constant		0.394		<0.0001

Rc – reference category

Personality aspects include individual characteristics and attitudes of GPs. In this sense, locus of control appears to be a key predictor for the development of burnout syndrome. Conducting targeted PCC training is a protective factor for development of EE and DP among GPs. A protective factor for EE and DP is also job satisfaction.

The results from the multifactorial regression analysis for the different burnout subscales to a large extent confirm the hypothesis on the relation between locus of control of GPs and susceptibility to burnout, i.e. the locus of control is a prognostic determinant for all three dimensions of professional burnout.

On the other hand, a profile of the GP for the development of burnout forms according to the EE scale which includes age above 50 years, external locus of control, lack of motivation for PCC training who have already considered changing the job. The combination of these parameters increases statistically significantly the chance for EE among GPs ten times. The data from the analysis show that influence on the model for EE occurrence is also exerted by the combination of other factors OR=0.098.

Conclusions:

- With advanced age the resistance to burnout syndrome worsens, gender not having a statistically significant influence.
- It was confirmed that the healthy lifestyle is a protective factor for the development of burnout syndrome.
- The type of practice (individual or group) does not exert influence, however, the type of attended population is significant for developing burnout syndrome.
- GPs with internal locus of control exhibit statistically significantly lower levels of burnout in the three subscales.
- The level of job satisfaction of GPs decreases with the increase in EE and DP levels.
- Conducting person-centered care training can be used as a useful intervention for prevention.
- Burnout levels are lower with GPs who use shared decision-making as an aspect of person-centered care.
- The thorough study of the challenges in managing multimorbidity patients shows presence of dependencies with the burnout syndrome and more specifically – the subscales EE and DP; personal accomplishment remains relatively stable despite the difficulties in medical care.

4. Level of GP satisfaction depending on the factors: personal factors of GPs, factors related to the philosophy of the specialty, factors related to the working environment, conducted training in patient-centered approach

The result from the evaluation of job satisfaction of GPs, assessed by a 7-point Likert scale, are presented in Figure 8.

The fact that GPs with positive evaluation concerning job satisfaction predominate is positive.

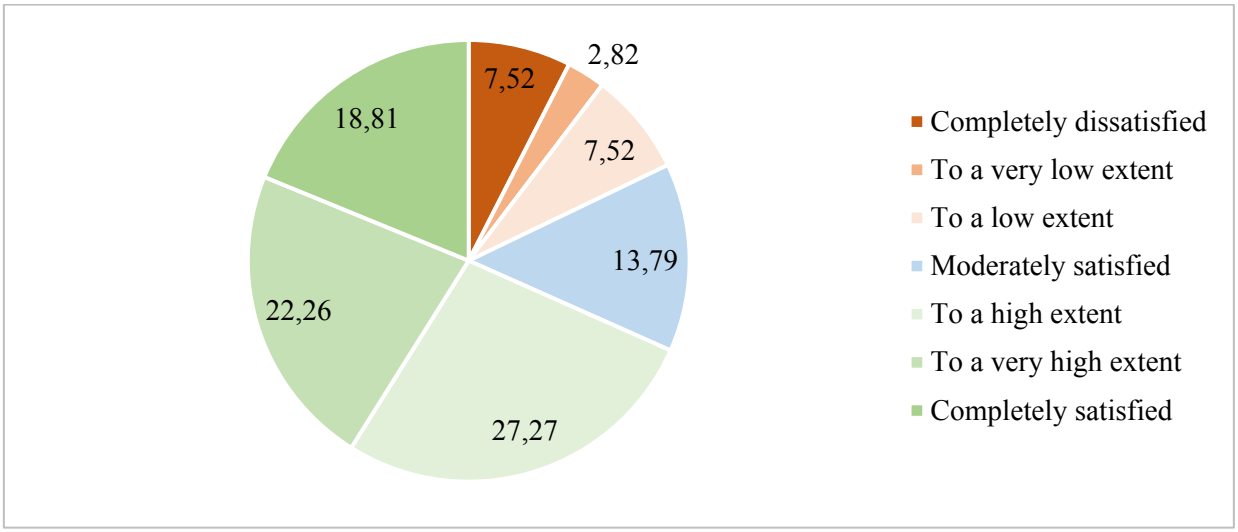


Figure 8. Extent of job satisfaction of GPs

For a more precise data processing, a precoding of the level of satisfaction was performed. It is limited to three levels – dissatisfied in 57 (17.87%), moderately satisfied in 44 (13.79%) and satisfied in 218 (68.34 %) family doctors.

Socio-demographic data and level of job satisfaction

Statistically significant difference in the studies socio-demographic data was found in marital status (p=0.006). The group of divorced and those who lost their partner have the highest relative share for high extent of job satisfaction. This result could be explained by the understanding that people find sense in being useful in cases of experience personal difficulties in the family. The most prominent share is the group living with a partner in which distribution is relatively equal without any of the categories standing out. The bigger the number of children is associated with a higher level of GP job satisfaction p=0.032.

We found that the relative share of satisfied GPs is statistically significantly bigger among physicians with internal locus of control in comparison to those with external one (p=0.038) (Figure 9 and 10). The connection between GP's satisfaction and locus of control was assessed with the help of Spearman's rho coefficient as well. On the basis of the results from the conducted analysis it is clear that there is an inversely proportional correlational dependence between the level of GP satisfaction and the construct studied by us (Spearman's rho r=-0.203, p=0.001), i.e. the higher the

extent of satisfaction presupposes lower locus of control. This shows that GPs with more pronounced self-evaluation and confidence in a higher extent work in conditions bringing job satisfaction.

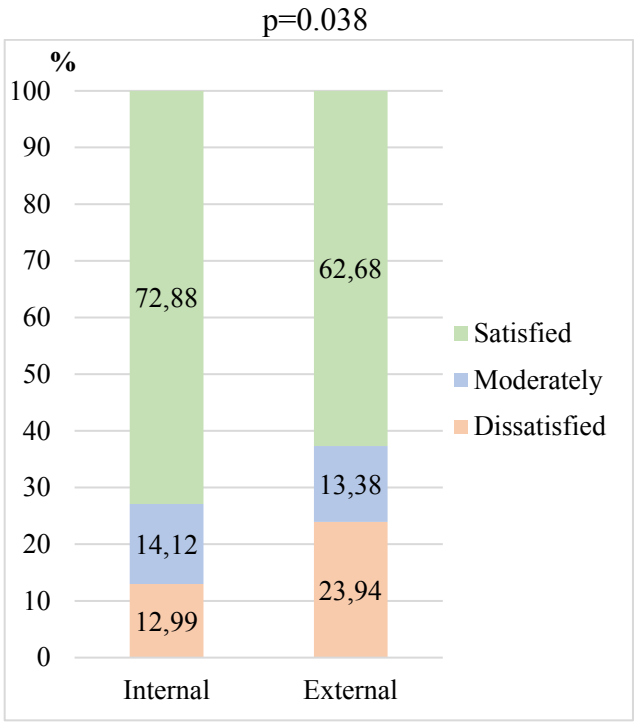


Figure 9. Distribution of GPs according to locus of control and level of job satisfaction

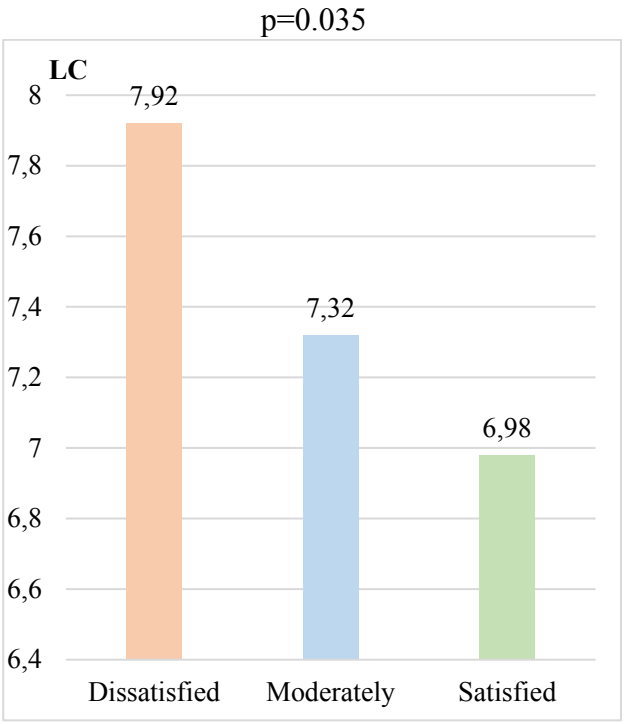


Figure 10. Average assessment of locus of control depending on the level of job satisfaction

Lifestyle and job satisfaction level

We found a statistically significantly bigger relative share of satisfied GPs who sleep more than 8 hours (p=0.003). No difference was found in relation to taking a sick leave during the previous year but what makes an impression is the fact that GPs who had to take a sick leave of up to 30 days are more often part of the category of the satisfied ones than those with a more prolonged temporary incapacity for work (p=0.002). The results concerning the habit of tobacco smoking are also interesting. The biggest relative share of satisfied GPs is found in family doctors who never smoked, followed by those who stopped smoking for more than 6 months.

In the group of non-smokers, we registered another beneficial result- those who did not increase the number of smoked cigarettes have a biggest relative share of satisfied GPs in comparison to those who continued the noxious habit and increased the number of smoked cigarettes (p=0.016). The relative share of GPs with high levels of satisfaction who do not use psychotropic substances is also higher with more than 25%(p=0.037).

Professional factors and job satisfaction

Following the data analysis of the studied categorised indicators and satisfaction level, no relation was found except for the factor whether GPs considered changing

their job in the last year. The results convincingly prove that the group of GPs for whom this issue was not current have almost three times higher relative share of satisfaction in comparison to those who considered the change. As can be expected, the result of GPs with a low level of satisfaction much more frequently answered that they considered the possibility of changing their job ($p<0.0001$, $\chi^2=93.153$).

The comparison of the average scores of the work experience of the different levels of satisfaction shows that the group of satisfied GPs have work experience of up to 15 years $p=0.033$.

It is interesting whether the level of satisfaction is related to the willingness of GPs to include the patient in the decision-making process on their problems. We found that GPs with a high level of satisfaction have a higher degree of patient-centeredness (Figure 11) as assesses by the questionnaire's scale ($p=0.002$).

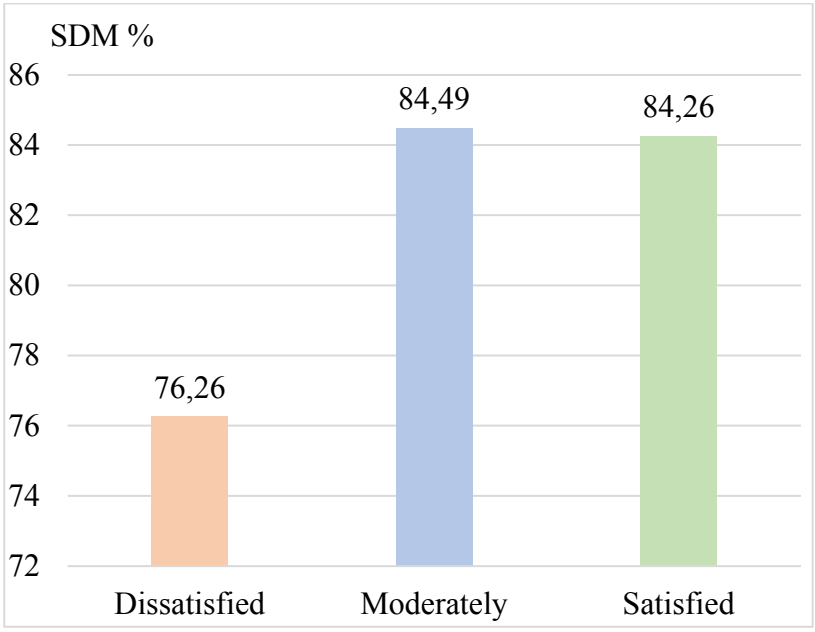


Figure 11. Average score for SDM depending on the level of job satisfaction

The correlation found by us between the extent of GPs' satisfaction and participation of GPs in training for patient-centered approach shows a positive trend ($p=0.053$), i.e., higher satisfaction among those who completed the training in PCC (Figure 12).

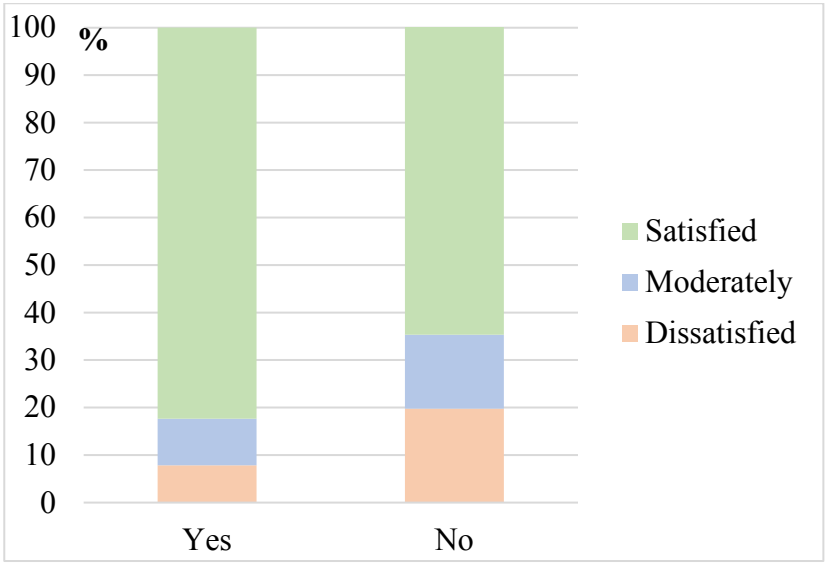


Figure 12. Correlation between the level of job satisfaction and the conducted training in patient-centered approach.

We did not find a statistically significant difference between the levels of satisfaction regarding the studied 17 types of difficulties in managing multimorbidity patients.

Factorial regression predictive models for job satisfaction

From the conducted unifactorial analyses we ascertain the obtained data for correlations between the studied factors, determined by the correlation coefficients. The factors *Duration of the temporary incapacity to work* and *Change in the status of active smokers* proved to be significant. Regarding the first category, what makes an impression is that the chance for GPs to be dissatisfied in case of a prolonged sick leave more than 30 days is six times higher. A 5-fold higher chance was found also in the group of active smokers who increased the number of smoked cigarettes.

We find logical the result according to which GPs who considered changing their job have considerably more frequently higher levels of dissatisfaction, the chance ratio being seven times higher risk.

GPs with external locus of control have twice as high risk of job dissatisfaction which again confirms the protective effect of external locus of control.

Conclusions:

- GPs with a high level of job satisfaction predominate.
- The correlation between the fact that GPs with internal locus of control are the ones who show sustainability in the profession and have higher satisfaction levels was ascertained.
- Job satisfaction of FDs has a direct positive relation with the degree of patient centeredness.
- Higher level of satisfaction was found with physicians who have a healthy lifestyle.
- GPs with higher levels of satisfaction predominate among those who did not consider changing their job.

5. Comparative evaluation of GPs' profile from 2003 and 2019

The data from our study ascertain the tendency for worsening of the problem with ageing of practising GPs. The data analysis shows that the relative share of those above 51 years old in 2019 was almost 2/3 and significantly higher than in 2003 (p=0.001). The women/men ratio is 2/1 and it is preserved. We sought relation in the two studies on factors related to the lifestyle of GPs. The analysed data shows an unfavourable constellation regarding behavioural risk factors - alcohol consumption and tobacco smoking. Statistically significantly bigger share of GPs drank alcohol regularly (p=0.006) in 2019, the relative share of people who increased the quantity of alcohol in the last year was smaller (p=0.003). Regarding tobacco smoking, we recorded a relative stability in the share of active smokers (p>0.05), however, in this group the fact that the obnoxious habit worsened in the last year was ascertained (p=0.033). What is interesting is the result according to which the share of GPs taking psychotropic substances has decreased considerably (p=0.001).

The changes in the professional profile of GPs are also of significance. Regarding the results on the age structure, in 2019 4/5 of GPs have work experience in the system of more than 11 years which logically is considerably higher than that from 2003 (p=0.001). Discussing the factors related to the working environment, we can conclude that the recorded changes in the kind of attended population are present and with the years more and more GPs begin working in rural or mixed practices (p=0.026). This result is closely related to the fact that in Bulgaria the procedure for registration of a new practice is not well established, therefore, it is not easy for young doctors to enroll their patients. (p=0.001).

A specific characteristic of our system is the need for FDs to be available 24 h. Data shows that the relative share of GPs who provide 24-hour service personally has decreased twice in comparison to 2003. Since 2010 they receive additional remuneration for their 24-hour service. Most of them prefer to pay directly to another healthcare establishment which would attend their patients during days off work and nights.

The comparison of the quantitatively measured characteristics in comparing data from the two studies shows that regarding the average number of patients per week, no difference between the two studies was found, unlike the registered duration of number of consultation hours which in 2019 is smaller than the one in 2003 (p=0.001).

Satisfaction is a subjective category and can include multilateral aspects related to work. It is an important prerequisite for providing qualitative and efficient care for the patients who choose their GP. The level of job satisfaction is also associated with the sustainability in the profession. Our data convincingly show that with the affirmation of the specialty General Practice, the levels of satisfaction of GPs are higher, the difference increasing statistically significantly from 2003 to 2019 (Figure 13).

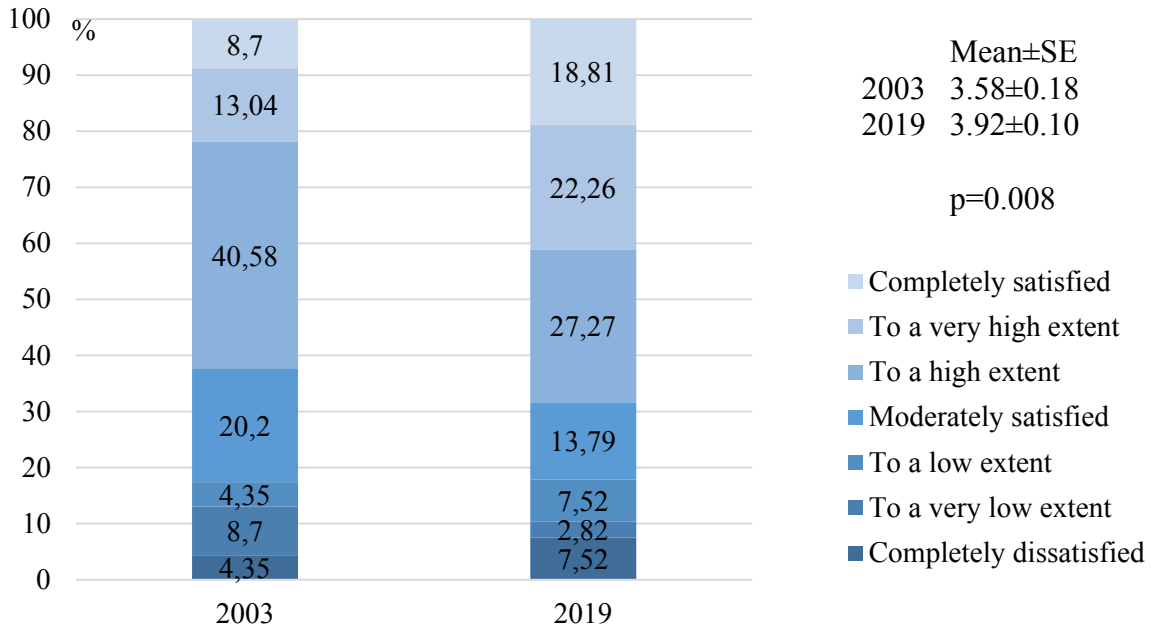


Figure 13. Distribution of GPs according to the level of satisfaction in 2003 and 2019

It was important to us to find out whether GPs considered changing their job in the last year. The data from our study found a positive tendency according to which the relative share of GPs who state their wish to continue working has increase almost twice from 2003 to 2019 ($p=0.001$). Furthermore, in 2019 GPs have given definitive answers - *Yes* or *No*, i.e. there is no registered answer - *Undecided*. The data obtained by us ascertain the fact that GPs appear more determined in their intention to stay in the profession. It is expected that GPs with lower levels of job satisfaction much more frequently respond that they considered the possibility of changing their job ($p<0.05$ for both studies).

Regarding the subscales emotional exhaustion and depersonalisation, we found a statistically significantly bigger share of GPs with higher levels of the above-mentioned subscales who considered changing their job ($p<0.05$). No such correlation was found for the subscale personal accomplishment. The conclusion is valid for both studied years.

It is not surprising that the relative share of GPs with high level of emotional exhaustion increased with the decrease of satisfaction. The established correlation is statistically significant for 2019.

We also found a relation regarding the subcategory depersonalisation and the level of job satisfaction. In the group of satisfied GPs, the highest relative share is of FDs with low level of depersonalisation and the reverse - in the group of the dissatisfied ones, the highest relative share is of GPs with high level of depersonalisation. Statistical significance was registered only in the study of 2019.

Regarding the third domain - personal accomplishment, the results show that satisfaction is related to low level of burnout, however significant difference is registered on for 2003. The analysis of the group of satisfied GPs shows that the biggest relative share are the ones who have low burnout levels, i.e., high levels of PA.

The relative share of GPs with high burnout levels in the subcategory emotional exhaustion who want to change their job is considerably bigger. We obtained analogous results for the subcategory depersonalisation, again with a statistical significance. Regarding the subcategory personal accomplishment, no statistical significance was found for both studies.

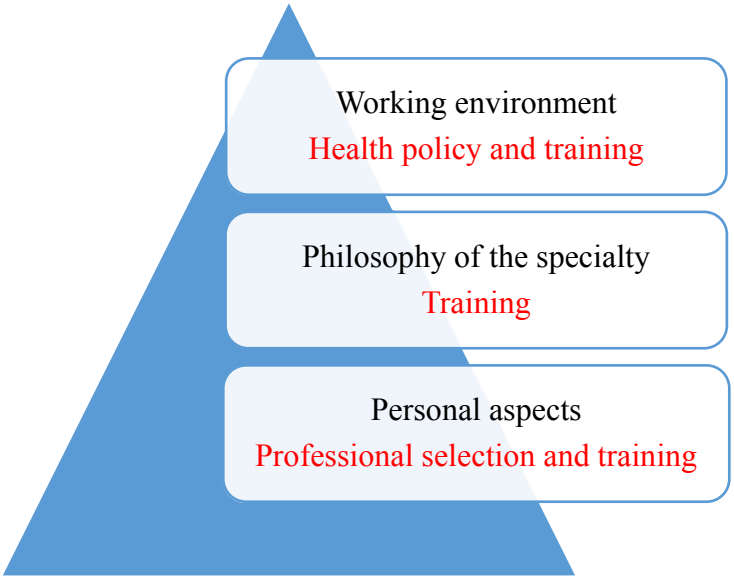
Conclusions:

- The comparison of data obtained soon after the reform on our healthcare system and 15 years later shows the actual condition of the primary health care.
- Considerable aging of the FDs in Bulgaria is reported.
- No change in the feminization of General Practice was found.
- The behavioural risk factors such as tobacco smoking and alcohol consumption among GPs worsened.
- The relative share of GPs who work mainly with rural population and in mixed regions has increased.
- The number of GPs who provide personally 24-hour service to their patients has decreased twice.
- The high workload of more than 50 consultations daily is preserved.
- The prevalence of individual and not group practices in Bulgaria persists.
- The decrease in emotional exhaustion and the increase in the level of job satisfaction are positive and they directly influence GPs' wish not to change their job position.

6. Intervention model for career guidance of prevention of burnout syndrome

There is no uniform approach to burnout prevention among GPs and achieving job satisfaction.

Based on the literature review and the obtained results from the present and previous studies of ours, an Intervention model for career guidance with the aim of preventing burnout and increasing job satisfaction is formed. The model includes three domains. Graphically it can be presented as a pyramid in the base of which are the personal aspects, followed by understanding the philosophy of the specialty General Practice and providing a favourable working environment. Each level is based on diagnostics (evaluation of the needs) in a certain domain related to burnout development and achieving a high level of GPs' satisfaction and specific intervention for prevention (Scheme 4).



Scheme 4. Guidelines for achieving sustainability in GPs' profession and application of corresponding interventions to them

Personal aspects are a compulsory and integral factor for professional development. This aspect includes both individual characteristics of the personality which are known to be relatively uncontrollable (e.g. personality type, temperament, locus of control), as well as attitudes of GPs and character categories which are formed and modelled by personal experience, the family and university education. This aspect of the model includes two types of interventions:

- Career guidance based on evaluation of the vulnerability of the future GPs
  - Evaluation of locus of control (Velichkov's questionnaire)
  - Evaluation of the level of patient-centeredness (SDM-Q-Doc Questionnaire-Bulgarian)
  - Periodic evaluation and monitoring of the risk factors for burnout development (risk factor assessment questionnaire)
  - Evaluation of the peculiarities of temperament and character of the of GPs' personality (TCI-R, Stoyanov-Cloninger's model)

- Periodic training aimed at:
  - Teamwork
  - Time management and organisation skills
  - Burnout prevention training
  - Communicative skills training
  - Person-centered care training
  - Training in stress management techniques

The next aspect is related to the philosophy of the specialty. The results identified its significance and the main intervention includes a large variety of possibilities for training related to the specialty assisting in burnout prevention and achieving job satisfaction.

- Periodic training in:
  - Delivering person-centered care
  - Application of holistic approach
  - Managing multimorbidity in general practice

The working environment is at the top of the pyramid. The results show that it is only a framework of professional performance and at this level interventions are related to health policies and conducting training in providing a safe and healthy working environment. It is surprising that the working environment for which there is the largest number of studies and most attention is paid to in the society, is not among the priority determining factors for sustainability of the profession. This is most probably because in Bulgaria GPs are owners of their own practices and despite the considerable limitations, this gives them the freedom to manage all activities in the practice. Furthermore, the results identified the dynamics and stabilization of the position of GPs through the years. This group of factors can be influenced by appropriate interventions such as:

- Health policies
  - Ministry of health
    - Optimisation of the regulations related to specialisation, providing the appropriate conditions for trainers and residents.
  - Medical university
    - Practical training of students in accredited practices for primary care.
  - NGO
    - Providing professional and logistic support of GPs
    - Participation in Balint groups
  - Practices for primary health care
    - Periodic assessment and monitoring of the levels of burnout and job satisfaction
    - Periodic assessment of the psychoclimate (IMPC, Stoyanov-Cloninger's model)
- Training in healthy and safe working conditions

Protective factors include internal locus of control, high degree on the SDM scale, young age, healthy lifestyle, lack of a chronic disease, participation in trainings, job satisfaction, low levels on *harm avoidance* scale and high ones on the *persistence* scale

as well as the character trait *self-direction,* psychoclimate on the working environment ensuring low levels of the *cohesion* and *pressure* scales.

The outlined trends and interventions, and the identified GP profiles are to be further studied which would serve the purposes of career guidance and the affirmation of general practice as a possible conscious choice which brings job satisfaction.

When discussing the choice of a specialty, it is important for young doctors to know that GPs with internal locus of control are healthier and more satisfied with their professional life. They have more pronounced patient-centeredness and exhibit increased awareness of the difficulties in working with multimorbidity patients in shared decision-making. The good news is that although it is considered that locus of control is a relatively stable characteristic and originates in childhood, there is evidence that GPs can change their locus of control by focusing on what could be controlled.

The application of shared decision-making as an aspect in person-centered care has a protective effect on the development of burnout syndrome.

Healthy lifestyle regarding behavioural risk factors has its significance for burnout prevention.

Characteristics of temperament are inherited while character types are modelled by personal experience. A protective effect on the characteristic of temperament is exerted by low levels on the *harm avoidance* scale which suggests that FDs are more optimistic, confident, and active. High levels of *persistence* describe a temperament of ambitious people striving for high achievements, such as workaholics and professionals. It is mostly expressed by perfectionism on the side of GPs and increases their professional development and improvement. The character category *self-direction* which means that GPs are responsible and purposeful, interested in developing and improving is also important for burnout prevention.

GPs are subject to pressure both on the side of their patients, and on the side of other institutions. In addition, some of them work in the conditions of isolation and difficult communication when they are in remote regions. The beneficial psychoclimate is associated with avoidance of the feeling for *pressure* and *unity* which is related to their work devotion.

Multimorbidity is widespread in general practice. Ranging the difficulties in attending multimorbidity patients shows a necessity for training in communication skills with the aim of improving communication with patients, consultants, and social services as well as training in time management and work organisation in their practice.

Therefore, career guidance and training during university studies in Medicine with focus on the necessity for developing communication skills and application of person-centered care is significant.

V. CONCLUSIONS

1. The characteristic of the contemporary GP confirms the trend for ageing and feminisation of the profession. GPs above 50 years old, mainly married with one or two children predominate. The lifestyle of GPs is characterised by worsened behavioural risk factors, presence of a chronic disease, having sufficient time to sleep, avoiding psychoactive substances. Professional experience includes GPs working in individual practices for primary health care attending mainly urban population with an average number of patients around 1500, a big number of multimorbidity patients, providing 24-hour service with the help of another medical unit, avoiding sick leaves in cases of temporary incapacity to work. GPs with internal locus of control, satisfied with their job, with a high level of patient-centeredness, perceiving the limited consultation time as a leading barrier in attending multimorbidity patients predominate.
2. Burnout syndrome poses a significant problem wide-spread among general practitioners. Almost half of GPs have high levels of emotional exhaustion, slightly more than a third of them have high levels of depersonalisation and low levels of personal accomplishment. Burnout predictors are external locus of control of GPs, age above 50 years, lower degree of patient-centeredness, lack of training in person-centered care, intention of changing their job.
3. With the affirmation of the specialty General Practice, the level of emotional exhaustion decreased while the level of job satisfaction of GPs is statistically significantly higher in comparison to the moment of introduction of the specialty which directly influences their wish to remain in their job position.
4. The profile of the satisfied GP by the positive factors of general practice was outlined, satisfaction being associated mainly with the personal aspects of GPs, philosophy of the specialty and less associated with the environment of practice. The family doctor is a person with inherent characteristics which include interest in people's lives, high capacity to cope with different situations and patients, ability to achieve a balance between professional and personal life. The intellectual aspect of decision-making in medicine is a rewarding challenge, it is associated with effective medical management which requires professional competence and orientation towards the patient for each physician. The doctor-patient relationships based on trust and mutual respect increase the satisfaction of GPs. In the context of the working environment, freedom of practice organisation is an important positive factor for family doctors.
5. The results prove the significance and necessity for training on student level in the discipline General Practice in its three aspects: personal; related to the philosophy of the specialty; the working environment. Training could serve simultaneously as career guidance, burnout prevention and achieving job satisfaction. In order to be successful, it should be upgraded throughout one's career path.

6. The modified factors for sustainability and vulnerability for the studied aspects are identical and by modelling and managing them it is possible to achieve positive professional realisation. The reported trends suggest the necessity for adequate interventions and national policy for encouraging young doctors in their choice of specialty and making them stay in Bulgaria.

VI. CONTRIBUTIONS

Contributions with original nature

- An original combination of qualitative and quantitative research methods was used, which allows a detailed assessment and outlines correlations regarding the vulnerability and sustainability in the profession of a GP.
- A complex characterisation of the positive aspects of General Practice in Bulgaria was performed.
- Assessment of burnout levels of GPs in dynamics was carried out; the influence of personal and professional factors, lifestyle associated with prevention of burnout was studied.
- For the first time specific correlations between the scales for assessment of locus of control, patient-centeredness and multimorbidity patients, burnout levels and job satisfaction of GPs in Bulgaria were found.

Contributions enriching the existing knowledge (confirmatory)

- Thorough analytic information was obtained. It confirms the trends described in scientific literature associated with the burnout syndrome and positive aspects of the specialty General Practice.

Contributions with applied nature (with practical application)

- A SDM-Q-Doc Bulgarian questionnaire for assessment of shared decision-making was validated.
- An internationally approved definition of multimorbidity was validated in the Bulgarian language.
- The use of the results from the research work led to the establishment of a professional network - Bulgarian General Practice Society for Research and Education (BGPSRE) which promotes the specialty and creates international, interdisciplinary connections:
  - Declaration between BGPSRE and WONCA EUROPE (World Organization of National Colleges, Academies and Academic Associations of General Practitioners/Family Physicians);
  - Declaration between BGPSRE and EURACT (European Academy of Teachers in General Practice).
- An interventional model for career guidance reporting the results from the research work was developed and it could serve for effective prevention of burnout.

VII. PUBLICATIONS RELATED TO THE TOPIC OF THE DISSERTATION

associated with meeting the compulsory scientific indicators for acquiring the scientific degree "Doctor of Sciences"

B. Le Floch, H. Bastiaens, J. Y. Le Reste, H. Lingner, R. Hoffman, S. Czachowski, R. Assenova, T. H. Koskela, Z. Klemenc-Ketis, P. Nabbe, A. Sowinska, T. Montier and L. Peremans. Which positive factors give general practitioners job satisfaction and make general practice a rewarding career? A European multicentric qualitative research by the European general practice research network. **BMC Family Practice 2019**, 20:96.
IF 1.062 https://doi.org/10.1186/s12875-019-0985-9

Le Floch B, Bastiaens H, Le Reste J, Lingner H, Hoffman RD, Czachowski S, Assenova R, Koskela TH, Klemenc-Ketis Z, Nabbe P, Sowinska A, Montier T, Peremans L. Which positive factors determine the GP satisfaction in clinical practice? A systematic literature review. **BMC Family Practice 2016**, 17:133
IF 1.641 DOI: 10.1186/s12875-016-0524-x

Le Reste JY**,** Nabbe P**,** Lingner H, Kasuba Lazic D, Assenova R, Munoz M, Sowinska A, Lygidakis C, Doerr C, Czachowski S, Valderas J, Le Floch B, Deriennic J, Jan T, Melot E, Barraine P, Odorico M, Lietard C, Van Royen P, Van Marwijk H. What research agenda could be generated from the European General Practice Research Network concept of Multimorbidity in Family Practice? **BMC Family Practice 2015**,16(1):125.
IF 1.67 DOI: 10.1186/s12875-015-0337-3

Le Reste JY, Nabbe P, Lazic D, Assenova R, Lingner H, Czachowski S, Argyriadou S, Sowinska A, Lygidakis C, Doerr C, Claveria A, Le Floch B, Derriennic J, Van Marwijk H,Van Royen P. How do general practitioners recognize the definition of multimorbidity? A European qualitative study. **European Journal of General Practice 2016, Volume 22, Issue 3:**159-168 **IF 1.22** DOI: 10.3109/13814788.2015.1136619

Le Reste JY, Nabbe P, Rivet C, Lygidakis C, Doerr C, Czachowski S, Lingner H, Argyriadou S, Lazic D, Assenova R, Hasaganic M, Munoz M, Thulesius H, Le Floch B, Derriennic J, Sowinska A, Van Marwijk H, Lietard C, Van Royen P. The European General Practice Research Network Presents the Translations of Its Comprehensive Definition of Multimorbidity in Family Medicine in Ten European Languages. **PLoS ONE 2015 IF 3.54** DOI:10.1371/journal.pone.0115796DOI:10.1371/journal.pone.0115796

B Le Floch, H Bastiaens, Jy Le Reste, H Lingner, Rd Hoffman, R Assenova, T Koskela, Z Klemenc-Ketis, P Nabbe, T Montier & L Peremans (2020): Which positive view of general practice do medical students and trainees have? A systematic literature review, Education for Primary Care, DOI: 10.1080/14739879.2020.1716200, ISSN: 1473-9879 (Print) 1475-990X (Online) Journal homepage: https://www.tandfonline.com/loi/tepc20

Assenova R, Le Reste JY, Foreva G, Mileva D, Czachowski S, Sowinska A, Nabbe P, Argyriadou S, Lazic D, Hasaganic M, Lingner H, Lygidakis H, Muñoz MA, Claveria A, Doerr C, Van Marwijk H, Van Royen P, Lietard C. Cross-Cultural Validation of the Definition of Multimorbidity in the Bulgarian Language. Folia Medica 2015; 57(2):127-132. DOI: 10.1515/folmed-2015-0031

Асенова Р, Форева Г, Димчева Т, Матева Н. Психологическият конструкт „локус на контрол“ при общопрактикуващите лекари. Обща медицина 2021;XXIII (1):3-9.

Асенова Р, Форева Г, Димчева Д, Атлиев К, Матева Н. Приложение на въпросник за споделено вземане на решение SDM-Q-Doc Bulgarian сред общопрактикуващите лекари Обща медицина 2021;XXIII (2):9-13.

Асенова Р, Форева Г, Матева Н. Възприемането от страна на личните лекари на трудностите в управлението на полиморбидни пациенти в зависимост от психологическия конструкт локус на контрол. Обща медицина 2021;XXIII (2):3-9.

Асенова Р, Форева Г, Матева Н. Проблемни области в управлението на полиморбидността в общата медицинска практика. Обща медицина 2020;XXII (5):44-49.

Асенова Р, Форева Г, Димчева Д, Атлиев К, Матева Н. Споделено вземане на решение в общата медицинска практика при полиморбидни пациенти. Обща медицина 2021;XXIII;3:3-8.

Asenova R. The Way Forward From Burnout to Professional Satisfaction in General Practice/Family Medicine. The World Book of Family Medicine – WONCA Europe Edition 2020 online