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Degree of Master (Two Year) in Health Science
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Satisfaction of the full time employed Latvian adult population with general practitioners

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Introduction: Satisfaction of primary care is an important factor that improves persons' trust in primary care and encourages them to visit their GP more often. Therefore, it is one of the key points to provide society with lasting and continuous medical care. Good access to GPs is even more important to full-time employed persons due to limited time resources. However, there is a lack of studies about factors that influence Latvian full-time employed adult population satisfaction with GPs.

Objective: The aim of the study was to analyze socio-economic factors, usage of health care resources, GP availability, and communication influence to full-time employed adult satisfaction with GPs in Latvia.

Method: Quantitative survey study design was used based on data from Health Behaviour among Latvian Adult Population 2016 survey (FINBALT). Data from 1864 persons were used for data analysis with SPSS Statistics 25.0.

Result: Opening (contact) hours, way of contacting GP practice, seeing GP in the appointed time, GP characteristics, patient's self-assessed health condition, and visiting GP in the last year were factors that affected full-time employed person's satisfaction with GPs in Latvia.

Conclusion: Targeted measures in state, practice, and individual level could be introduced to improve full-time employed person's satisfaction with GP.

Keywords: Primary care, general practitioners, satisfaction, communication, availability, full-time employees, Latvia
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1. Introduction

General practitioners (GP) are often the first point where persons can seek access to the medical care system. Therefore, it is important that all population groups have access to them, including full time employed persons who have limited time resources.

Most GP in Latvia has his/her own practice. Although registering at a GP is voluntary, most of the population choose to signing up with one practice, because of guaranteed access to it. GP are providing treatments, diagnostics and prophylaxis. GP are the gateway for patient’s access to other levels of health care, so for appointments at most specialists, patients must first receive referrals from GP (OECD, 2016).

According to OECD (2016), in 2013 there were 67 GP’s per 100 000 population in Latvia. Count of GP’s has increased significant in last decade, however there still are less primary care providers than in other European countries. Another factor is an unfair distribution of GP’s practices, as they are mostly located in the capital Riga or near the capital (OECD, 2016).

Ministry of Health of Latvia (Latvijas Republikas Veselības ministrija, 2017) regulations set 1,42 € charge for GP appointments. Once a year each person can visit GP for preventive examination without paying the patient fee. These are mechanisms how the Latvian government tries to promote visitation of general practitioners for preventive purposes, and therefore promote timely diseases diagnostic and continuation of medical care (Latvijas Republikas Veselības ministrija, 2017).

National regulations in Latvia determine primary care providers localisation, opening hours, maximal count of patients and availability of opening hours for acute cases (Latvijas Republikas Veselības ministrija, 2017).

It is important that full time employed persons has easy access to the primary care in convenient time, is satisfied with the provided primary care and the constructive communication by the GP, to get their health conditions treated and effective preventive measures could be administered. According to State of Health in the EU Companion Report 2017, accessible and satisfactory primary care could reduce the burden of emergency services and hospitals, as well as prevent high mortality by cardiovascular diseases and improve cancer diagnostic and treatment.

Furthermore, accessible and satisfactory primary health care could decrease length and frequency of sick leaves among full time employed persons.
According to Central Statistical Bureau of Latvia (Centrālā Statistikas pārvalde, 2014) in 2014, 29.4% of employed persons were absent from work due to sickness. In comparison, 27.9% employees were on sick leave in 2008.

2. Background

Several factors influence persons' satisfaction with primary care.

Sanchez-Piedra et al. (2014) study in five European countries showed that the satisfaction with primary care has been varying between countries, from just 57.21% (n=246) satisfied patients in Germany to 86.74% (n=374) in Italy. According to the study there has been a statistical significance between satisfaction of primary care and patients age, visits to general practitioner, place of residence and if patient had GP.

Another study from Finland (Risto et al., 2014) showed that younger patients were less satisfied with primary care than older patients. Older patients rated GPs' work better in Hearnsahaw et al. (2002) study as well.

Paddison et al. (2013) in hand of the English General Practice Patient survey (EGPPS) analysed patients’ satisfaction with the general practices in context with the access and communication by the doctor. The results showed that the communication by the doctor was the most significant factor for patient satisfaction. In contrary to governmental assumptions, making an appointment was not a significant factor for the overall satisfaction with primary care.

However, studies in Germany (FORSA, 2018) and 10 other European countries (Grol, 2000) showed that the main reason for patients dissatisfaction with their GP’s practice were the waiting times. A study by FORSA (2018) showed that persons from rural areas and persons with lower education level were less satisfied with their GPs.

Kontopantelis, Roland and Reever (2010) used EGPPS data for their research too, that showed that full time employees rated access to primary care poorer as part time employees and retired persons. There was no difference in satisfaction to access between variations in opening hours.

The Burt et al. (2017) report showed that there was a higher rate of unsatisfied patients among different minority groups. Hanssens, Detollenaere, Hardyns and Willems (2016) QUALICOPC study data suggest that minorities haves restricted access to primary health care because of the working times.
Another factor that influences patient satisfaction is the amount of empathy shown by their GP (Derksen, Hartman, Bensing and Lagro-Janssen, 2017). Kenney, Lourenco, Wong, Haas and Goodall (2015) study with Australian population sample analysed the significance of information given by the GPs about diagnosis and treatment possibilities. Results showed that for 91.2% of questioned persons (n=2263) were important that GP gives sufficient information about health condition and treatment; for more as 90% patients were important that GP listens and explains the diagnosis, treatment clearly and the possibility to discuss the treatment. For 78% (n=1935) persons was important that the GP praxis was located nearby.

The Canadian Haggerty and Levesque (2015) study suggested that affordable primary care could be restricted in general funded health care systems too. Low-income patients in Canada more often did not receive health services due to lower income (13.8%, 24 from 174 persons with low income) and additional costs (9.2%, 16 from 174 persons with low income) (such as getting to the doctor, parking, etc.). However, high-income patients were avoiding health care services due to costs and therefore 27.9% (n=88) of respondents could not afford to deal with at least one health issue. There were significant differences between high- and low-income groups regarding results of delayed health care.

Some countries provide a health care system that provides an equal level of service quality for all inhabitants. Schoen and Doty (2004) study showed that in the United Kingdom was almost no difference in satisfaction between patients with different income. Another example is New Zealand and Australia, where adults from both lower and higher income layers rated their physicians equally high.

Kangovi, Barg, Carter, Long and Hannon (2013) study conducted in the USA suggested that additional costs and time can be the reason why patients with low income use emergency services or hospitalisations instead of visiting primary care points.

There is some raw data published within FINBALT survey results in Latvia (Grīnberga et al., 2017), however, no further analysis has been done. In this master thesis, a data analysis will be conducted to identify factors that influences full time employed person’s satisfaction with GP work.
2.1. Aim

Aim of the study was to analyse factors that influenced the satisfaction with GPs’ provided primary care in the context of different socio economical and primary care related factors.

Study questions were if there are statistically significant differences between satisfaction with GPs’ provided primary health care for full time employed Latvian adults and:

- Socio economic status,
- Usage of the health care resources.
- GP availability and
- Communication?

3. Research Design

Quantitative survey method design was used (Creswell, 2009). A survey design provides a quantitative description of selected characters by studying a sample of the population. From this sample analysis it was possible to draw conclusions about the situation in the Latvian full time employed adult population (Kazdin, 2002).

Quantitative data was obtained from the Health Behaviour among Latvian Adult Population 2016 survey (FINBALT) by the Centre for Disease Prevention and Control (CDPC) of Latvia (Grīnberga et al., 2017).

Application for data requirement was sent to CDPC on 14th December, 2018, signed with electronic signature. Application in Latvian is shown in Appendix 2.

3.1. Methodology

Respondents for the FINBALT sample were selected using the combined sampling method – quoting and stratified random sampling. The sample was stratified by gender, age, place of residence, nationality and city municipality region. All respondents were randomly selected from the general population of Latvia in the age group between 15 and 74 years with a total representative sample of 3,596 participants. The survey took place in 2016 from April till September, and the respondents had the opportunity to give answers in Latvian and Russian. Questionnaires were conducted by 47 interviewers from the company “Aptauju centrs” that were supervised by three regional supervisors and one project manager. All questionnaires took place in
respondents living places, underage respondents were questioned in presence of their parents or supervisors (Grīnberga et al., 2017).

Several data quality controlling methods were used, for example, calling respondents, proofing from 10% of entered questionnaires (Grīnberga et al., 2017).

The FINBALT survey questionnaire consisted of a total of 128 questions. In Master Thesis data from 33 questions were used. All used questions were divided in four categories: socio economic data, GP’s availability, communication and health resource usage. All used questions from FINBALT are stated in Appendix 1.

Socio economic groups:
- gender, age and nationality,
- education level,
- occupation and income per family member monthly,
- marital status.

Person’s usage of health resources:
- times visited GP, visited other specialists (except dentists), called emergency services or been placed in hospital during the last 12 months,
- visiting GP for free preventive health check,
- self-assessment of current health status,
- problems to get referral letter to a medical specialist, medication prescriptions to state covered medication or self-paid medication.

GP’s availability:
- place of residence,
- contacting GP in convenient way,
- contact (opening) hours of GP’s practice are convenient,
- GP’s sees patients in appointed time,
- waiting for GPs appointment more than one week in last 12 months,
- waiting in queue for GPs appointment in last 12 months.

Communication:
- GP is being kind, helpful and competent,
- satisfaction with the GP given information on availability of state paid health care services in other healthcare institutions,
- satisfaction with the information on the necessity and possibilities of preventive vaccination,
• satisfaction with information about the disease, diagnosis, examination, treatment plan, alternative treatment methods, possible consequences and complications of disease,
• satisfaction with GP given information about possible side effects of prescribed medication or treatment plan,
• satisfaction with GP given information about state covered medication for current treatment, patients’ payments (Grīnberga et al., 2017).

3.2. Study population

Altogether there were 3.596 valid questionnaires conducted. Respondents who did not have a GP or did not visit him or her regularly, were disclosed from further data analysis, as well as persons that were not full time employed. The total study population consisted of 1.864 persons.

There was no data from persons older than 74 years gathered within the FINBALT survey; however, just few persons were full time employed in this particular age group. There were just 2,1% full time employed persons in age from 65 to 74 years.

Although official legal age in Latvia is 18 years, according to the “Law Of the Rights of Patients” (2009), persons can take decisions over their health from an age upwards of 14 years. The “Labour Law” (2001) Section 37 prohibits employing children in permanent work and in the sense of this Law, children were considered persons younger than 15 years. Therefore, data from participants in age group from 15 till 18 years was included in study population.

The income groups were defined according to the “Law on Social Services and Social Assistance” (2002). It defines low-income as an income of less than monthly 128 Euro (€) per family member. A high income was considered as monthly over 300 € per family member.

3.3. Data analysis

For quantitative data analysis SPSS Statistic 25.0 was used. The primary data analysis with the Chi-square test ($\chi^2$) was applied to detect if expected values in each group differ from observed values and if the differences were significant (p<0,05). Such a p-value would suggest that comparable variables were dependent on each other (George and Mallery, 2007). Chi-square test was conducted via Crosstabulation function in SPSS.
The secondary data analysis with multinomial logistic regression was used to test a correlation between satisfaction with GP and factors that showed statistical significance in Chi-Square test (p<0,05). As reference value was used for the answer “no” to the question “Are you satisfied with your family doctor?”. First, it was determined if there was statistically significant differences (p<0,05) regarding the analysed factor, compared to population groups that answered that they were fully or partly satisfied with their GP. Secondly, in case of a statistically significant difference (p<0,05), it was possible to establish if a relation exists between the analysed factor and the dissatisfaction with a GP’s work. “B” values were predicting coefficient for the satisfaction with a GP regarding the independent variable (analysed factor) by comparing it with reference value. Exp(B) is also known as odds ratio and shows how the satisfaction with a GP would change in case of a change of analysed factor (George and Mallery, 2007).

As different output values were compared in the primary and secondary data analysis, it was possible, that Chi-Square test shows a statistically significant result in primary data analysis (p<0,05), however in the secondary data analysis the Chi-Square test did not show any statistically significant results, as reference values in this case were respondents who were not satisfied with their GPs (George and Mallery, 2007).

### 3.4. Ethical consideration

Before the beginning of the FINBALT survey questionnaire all respondents were informed that the data is gathered anonymous. No personal related data was received from CDPC.

CODEX (2018, Handling research data & records) declared that the data is facilitated from new research, and unnecessary double work is prevented. In this case, it was possible to access data that is anonyms, proved and coded from an already completed survey. Data was analyzed in a way that was not done previously and therefore contribute to the common knowledge about the factors which influence the satisfaction of Latvian full time employed adult population with their GP.

From CDPC obtained data file was storage in password protected notebook, was used just for Master Thesis and was not shared or made available to other persons. Data going to be deleted after finishing Master Thesis. Information was stated in Application form (Appendix 2) and accepted by CDPC.
4. Results

4.1. Description of study population

Study population consisted from almost the same number of males (50.2%, n=936) as females (49.8%, n=928). As just full time employed persons had been included, only 8.9% (n=166) from all respondents were in the designated age group from 15 to 24 years and 2.1% (n=39) in the age group 65 to 74 years. Regular retirement age in Latvia in 2016 was 62 years and 9 months.

In the majority of families (64.8%) monthly income per family member was over 300 €, that consist of the fact that just full time employed persons were selected. Just 4.4% from the study population had a monthly income under 128 € per family member, which was the poverty threshold. Most persons had vocational (38.1%) or university education (38.1%).

From the total quantity 64.1% of the study population was fully satisfied with GP’s work, 31.4% was partly satisfied with GP’s work and just 4.5% was dissatisfied with GP’s.

Table 1. Descriptive statistic: Socio-economical characteristics and satisfaction with GP work of the 1864 respondents study population of the FINBALT 2016 survey

<table>
<thead>
<tr>
<th></th>
<th>Men, n</th>
<th>%</th>
<th>Women, n</th>
<th>%</th>
<th>Total, n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, m (SD)</td>
<td>40.41</td>
<td>12.229</td>
<td>42.95</td>
<td>12.004</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nationality, n%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Latvian</td>
<td>576</td>
<td>61.5</td>
<td>578</td>
<td>62.3</td>
<td>1154</td>
<td>61.9</td>
</tr>
<tr>
<td>Russian</td>
<td>279</td>
<td>29.8</td>
<td>281</td>
<td>31.4</td>
<td>550</td>
<td>30.6</td>
</tr>
<tr>
<td>Other</td>
<td>81</td>
<td>8.7</td>
<td>58</td>
<td>6.3</td>
<td>139</td>
<td>7.5</td>
</tr>
<tr>
<td>Martial Status, n%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>454</td>
<td>48.5</td>
<td>434</td>
<td>46.8</td>
<td>888</td>
<td>47.7</td>
</tr>
<tr>
<td>Cohabiting</td>
<td>182</td>
<td>19.4</td>
<td>132</td>
<td>14.2</td>
<td>314</td>
<td>16.8</td>
</tr>
<tr>
<td>Single</td>
<td>207</td>
<td>22.1</td>
<td>150</td>
<td>16.2</td>
<td>357</td>
<td>19.2</td>
</tr>
<tr>
<td>Separated or divorce</td>
<td>80</td>
<td>8.5</td>
<td>162</td>
<td>17.5</td>
<td>242</td>
<td>13.0</td>
</tr>
<tr>
<td>Widowed</td>
<td>13</td>
<td>1.4</td>
<td>49</td>
<td>5.3</td>
<td>62</td>
<td>3.3</td>
</tr>
<tr>
<td>Education level, n%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary education</td>
<td>74</td>
<td>7.9</td>
<td>33</td>
<td>3.6</td>
<td>107</td>
<td>5.7</td>
</tr>
<tr>
<td>Secondary education</td>
<td>201</td>
<td>21.5</td>
<td>133</td>
<td>14.3</td>
<td>335</td>
<td>18.0</td>
</tr>
<tr>
<td>Vocational education</td>
<td>381</td>
<td>40.7</td>
<td>330</td>
<td>35.8</td>
<td>711</td>
<td>38.1</td>
</tr>
<tr>
<td>University</td>
<td>280</td>
<td>29.9</td>
<td>431</td>
<td>46.4</td>
<td>711</td>
<td>38.1</td>
</tr>
<tr>
<td>Place of Residence, n%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Riga</td>
<td>282</td>
<td>30.1</td>
<td>335</td>
<td>36.1</td>
<td>617</td>
<td>33.1</td>
</tr>
<tr>
<td>City</td>
<td>211</td>
<td>22.5</td>
<td>210</td>
<td>22.6</td>
<td>421</td>
<td>22.6</td>
</tr>
<tr>
<td>Town</td>
<td>148</td>
<td>15.6</td>
<td>141</td>
<td>15.2</td>
<td>289</td>
<td>15.5</td>
</tr>
<tr>
<td>Rural area</td>
<td>294</td>
<td>31.4</td>
<td>242</td>
<td>26.1</td>
<td>536</td>
<td>28.8</td>
</tr>
<tr>
<td>Income per family member, n%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0–128 €</td>
<td>39</td>
<td>4.2</td>
<td>42</td>
<td>4.5</td>
<td>81</td>
<td>4.4</td>
</tr>
<tr>
<td>129–300 €</td>
<td>261</td>
<td>27.9</td>
<td>259</td>
<td>27.9</td>
<td>519</td>
<td>27.9</td>
</tr>
<tr>
<td>Over 300 €</td>
<td>604</td>
<td>64.5</td>
<td>604</td>
<td>65.1</td>
<td>1208</td>
<td>64.8</td>
</tr>
<tr>
<td>Satisfaction with GP, n%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes, fully</td>
<td>585</td>
<td>62.5</td>
<td>610</td>
<td>65.7</td>
<td>1195</td>
<td>64.1</td>
</tr>
<tr>
<td>Yes, partly</td>
<td>312</td>
<td>33.3</td>
<td>273</td>
<td>29.4</td>
<td>585</td>
<td>31.4</td>
</tr>
<tr>
<td>No</td>
<td>39</td>
<td>4.2</td>
<td>45</td>
<td>4.8</td>
<td>84</td>
<td>4.5</td>
</tr>
</tbody>
</table>
4.2. Socio economic groups

The Chi Square Test results showed that there were no statistical significances (p>0.05) between a full time employed person’s satisfaction with GP’s work and persons gender, nationality, marital status, education level and age group.

The only socioeconomically factor that showed a statistically significant difference was income. However, further data analysis with multinomial logistic regression did not confirm any correlation between the level of income and a person’s fully/partly satisfaction with GP (see Table 2).

Table 2. Income: Multinomial Logistic Regression.

<table>
<thead>
<tr>
<th>Are you satisfied with your family doctor?</th>
<th>B</th>
<th>Std Error</th>
<th>Sig.</th>
<th>Exp(B)</th>
<th>95% Confidence Interval for Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, fully</td>
<td>&lt;128€</td>
<td>0.206</td>
<td>.634</td>
<td>.746</td>
<td>0.814</td>
</tr>
<tr>
<td></td>
<td>128-300€</td>
<td>0.310</td>
<td>.244</td>
<td>.203</td>
<td>0.733</td>
</tr>
<tr>
<td></td>
<td>&gt;300€</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>Yes, partly</td>
<td>&lt;128€</td>
<td>0.723</td>
<td>.632</td>
<td>.253</td>
<td>2.060</td>
</tr>
<tr>
<td></td>
<td>128-300€</td>
<td>0.206</td>
<td>.252</td>
<td>.414</td>
<td>0.814</td>
</tr>
<tr>
<td></td>
<td>&gt;300€</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
</tbody>
</table>

a. The reference category is: No
b. This parameter is set to zero because it is redundant.

4.3. Use of health care resources

According to the primary data analysis with the Chi Square test, there was no statistically significant difference (p<0.05) between person satisfaction with GPs’ work and if a full time employed person:

- visited other health care specialist in the last 12 months,
- the count of visits to other health care specialists,
- a person was hospitalised in the last 12 months,
- the count of hospitalisations,
- usage of emergency services in last 12 months.

This means that the satisfaction or dissatisfaction with GP’s work did not influence the usage of other health care resources, as an example; emergency services, hospitals and appointments to other medical specialists.

There was a statistically significant difference (p<0.05) between full time employed persons satisfaction with GP work and if person visited their GP in the last 12 months. Other factors were the number of visits at the GP in the previous 12 months, the usage of free preventive health checks and current self-determined health status.
Table 3 shows the results of the secondary data analysis with the multinomial logistic regression analysis. Full time employed persons who visited their GP’s in the last 12 months were significantly more satisfied with them (Exp(B)=2.819). Another significant correlation was found between satisfaction with GP and self-assessed health status – persons who rated their health status as (reasonably) good was more likely to be satisfied with their GPs (Exp(B)=0.552). There was statistical significance (p<0.05) between satisfaction with full satisfaction with GPs’ and the count of GP visiting times in the last 12 months (Exp(B)=2.819). However, there was no relation detected when partly satisfied persons were compared with persons who were not satisfied with their GPs’ work.

No further association was found between satisfaction with GP and usage of preventive health checks.

Table 3. Use of health care resources: Multinomial Logistic Regression.

<table>
<thead>
<tr>
<th>Are you satisfied with your family doctor?</th>
<th>B</th>
<th>Std. Error</th>
<th>Sig.</th>
<th>Exp(B)</th>
<th>95% Confidence Interval for Exp(B)</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, fully</td>
<td>.015</td>
<td>.037</td>
<td>.683</td>
<td>.985</td>
<td>.916</td>
<td>1.059</td>
<td></td>
</tr>
<tr>
<td>How many times have you visited your family doctor in the last year?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Did you visit your GP in last 12 months</td>
<td>1.036</td>
<td>.288</td>
<td>.000</td>
<td>2.819</td>
<td>1.602</td>
<td>4.860</td>
<td></td>
</tr>
<tr>
<td>How do you estimate your current state of health?</td>
<td>.595</td>
<td>.138</td>
<td>.000</td>
<td>.552</td>
<td>.421</td>
<td>.722</td>
<td></td>
</tr>
<tr>
<td>Yes, partly</td>
<td>.090</td>
<td>.042</td>
<td>.030</td>
<td>.914</td>
<td>.842</td>
<td>.991</td>
<td></td>
</tr>
<tr>
<td>How many times have you visited your family doctor in the last year?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Did you visit your GP in last 12 months</td>
<td>.983</td>
<td>.299</td>
<td>.001</td>
<td>2.700</td>
<td>1.504</td>
<td>4.850</td>
<td></td>
</tr>
<tr>
<td>How do you estimate your current state of health?</td>
<td>-.293</td>
<td>.141</td>
<td>.038</td>
<td>.746</td>
<td>.586</td>
<td>.984</td>
<td></td>
</tr>
</tbody>
</table>

4.4. GP availability

No statistically significant differences were found between full time employed person’s satisfaction with GP’s work and the waiting period for a GP appointment for more than one week and waiting in queue.

Primary Chi-square test analysis showed a statistical significant difference (p<0.05) between satisfaction with GP and place of residence, a person’s ability contact GP in a convenient way, convenient contact (opening) hours, GP seeing patient in appointed time, problem-free getting referral letter to a medical specialist and problem-free getting medication prescriptions to self-paid or state covered medication.
Secondary data analysis shows that full time employed persons living in Latvian cities are tended to be more satisfied with GP’s work (Exp(B)=2,651/2,716). Table 4.

**Table 4.** Place of residence: Multinomial Logistic Regression.

<table>
<thead>
<tr>
<th>Are you satisfied with your family doctor?</th>
<th>B</th>
<th>Std. Error</th>
<th>Sig</th>
<th>Exp(B)</th>
<th>95% Confidence Interval for Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, fully</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lower Bound</td>
</tr>
<tr>
<td>Riga</td>
<td>1.05</td>
<td>.261</td>
<td>.688</td>
<td>1.111</td>
<td>866</td>
</tr>
<tr>
<td>City</td>
<td>2.975</td>
<td>.387</td>
<td>.012</td>
<td>2,651</td>
<td>1,241</td>
</tr>
<tr>
<td>Town</td>
<td>.215</td>
<td>.366</td>
<td>.557</td>
<td>1,240</td>
<td>605</td>
</tr>
<tr>
<td>Rural area</td>
<td>0.00</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>Yes, partly</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lower Bound</td>
</tr>
<tr>
<td>Riga</td>
<td>-.223</td>
<td>.274</td>
<td>.417</td>
<td>.800</td>
<td>.468</td>
</tr>
<tr>
<td>City</td>
<td>1.999</td>
<td>.396</td>
<td>.012</td>
<td>2,716</td>
<td>1,250</td>
</tr>
<tr>
<td>Town</td>
<td>.703</td>
<td>.372</td>
<td>.059</td>
<td>2,020</td>
<td>.973</td>
</tr>
<tr>
<td>Rural area</td>
<td>0.00</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
</tbody>
</table>

a. The reference category is: No.
b. This parameter is set to zero because it is redundant.

Multinomial logistic regression analysis showed that full time employed persons were more satisfied with GP’s office that was possible to contact in a convenient way (Exp(B)=0.055) and GPs are giving problem-free referral letter to other medical specialist (Exp(B)=0.170). More full time employed have been fully satisfied with GP with convenient contact (opening) hours (Exp(B)=0.433) and the GP seeing patients in the appointed time (Exp(B)=0.489). Table 5.

**Table 5.** GP availability: Multinomial Logistic Regression.

<table>
<thead>
<tr>
<th>Are you satisfied with your family doctor?</th>
<th>B</th>
<th>Std. Error</th>
<th>Sig</th>
<th>Exp(B)</th>
<th>95% Confidence Interval for Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, fully</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lower Bound</td>
</tr>
<tr>
<td>Contact hours of my family doctor practice are convenient for me</td>
<td>-.837</td>
<td>.194</td>
<td>.000</td>
<td>.433</td>
<td>.296</td>
</tr>
<tr>
<td>I can easily contact my family doctor in a convenient way</td>
<td>-.2094</td>
<td>.221</td>
<td>.000</td>
<td>.055</td>
<td>.036</td>
</tr>
<tr>
<td>If my visit is booked in advance, family doctor usually sees me on the appointed time</td>
<td>-.6715</td>
<td>.197</td>
<td>.000</td>
<td>.489</td>
<td>.333</td>
</tr>
<tr>
<td>Have there ever been any problems of getting a referral letter to a medical specialist from your family doctor?</td>
<td>-.1770</td>
<td>.313</td>
<td>.000</td>
<td>.170</td>
<td>.092</td>
</tr>
<tr>
<td>Yes, partly</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lower Bound</td>
</tr>
<tr>
<td>Contact hours of my family doctor practice are convenient for me</td>
<td>-.257</td>
<td>.173</td>
<td>.139</td>
<td>.774</td>
<td>.551</td>
</tr>
<tr>
<td>I can easily contact my family doctor in a convenient way</td>
<td>-.1323</td>
<td>.190</td>
<td>.000</td>
<td>.266</td>
<td>.184</td>
</tr>
<tr>
<td>If my visit is booked in advance, family doctor usually sees me on the appointed time</td>
<td>-.295</td>
<td>.173</td>
<td>.089</td>
<td>.744</td>
<td>.530</td>
</tr>
<tr>
<td>Have there ever been any problems of getting a referral letter to a medical specialist from your family doctor?</td>
<td>-.741</td>
<td>.220</td>
<td>.001</td>
<td>.476</td>
<td>.309</td>
</tr>
</tbody>
</table>

a. The reference category is: No.
4.5. Communication

The Chi Square Test showed statistically significant differences between a full time employed persons’ satisfaction with GP’s work and all communication factors that were analysed in this study (p<0,05). Both, person’s subjective opinion (GP being competent, helpful and kind) and given information (about the disease, treatment and alternative treatment) played an important role.

Further data analysis with multinomial logistic regression (Table 6) showed that full time employed persons were significant more satisfied with GP, if the persons were considering GP as competent (Exp(B)=0,090) and kind/helpful (Exp(B)=0,058).

Table 6. Communication: Multinomial Logistic Regression.

<table>
<thead>
<tr>
<th>Are you satisfied with your family doctor?</th>
<th>B</th>
<th>Std Error</th>
<th>Sig</th>
<th>Exp(B)</th>
<th>95% Confidence Interval for Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, fully</td>
<td>-2.409</td>
<td>.312</td>
<td>.000</td>
<td>.049</td>
<td>.000 - .166</td>
</tr>
<tr>
<td>My GP is competent</td>
<td>-2.839</td>
<td>.292</td>
<td>.000</td>
<td>.058</td>
<td>.033 - .104</td>
</tr>
<tr>
<td>My GP is being kind and helpful to me</td>
<td>-1.442</td>
<td>.279</td>
<td>.000</td>
<td>.167</td>
<td>.103 - .253</td>
</tr>
<tr>
<td>Yes, partly</td>
<td>-1.142</td>
<td>.257</td>
<td>.000</td>
<td>.193</td>
<td>.139 - .258</td>
</tr>
<tr>
<td>My GP is competent</td>
<td>-2.409</td>
<td>.312</td>
<td>.000</td>
<td>.049</td>
<td>.000 - .166</td>
</tr>
<tr>
<td>My GP is being kind and helpful to me</td>
<td>-2.839</td>
<td>.292</td>
<td>.000</td>
<td>.058</td>
<td>.033 - .104</td>
</tr>
<tr>
<td>My GP is being kind and helpful to me</td>
<td>-1.442</td>
<td>.279</td>
<td>.000</td>
<td>.167</td>
<td>.103 - .253</td>
</tr>
<tr>
<td>My GP is being kind and helpful to me</td>
<td>-1.142</td>
<td>.257</td>
<td>.000</td>
<td>.193</td>
<td>.139 - .258</td>
</tr>
</tbody>
</table>

a. The reference category is: No.

5. Discussion

5.1. Methodological considerations

The FINBALT survey was an appropriate source of information for a quantitative survey method design. Reasons for this were that data was based on Latvian adult population, the studied sample was randomised and stratified, and more than 3500 respondents participated in the questionnaire. However, one bias that could influence research validity was the drop-out rate. According to Grīnberga et al. (2017) in the FINBALT survey report, 3,596 questionnaires were included in the survey. Another 4,268 contacted persons were considered as dropouts. In 2,581 cases, the selected respondents did not want to answer; in 1,071 the respondent said that he or she did not have time. Other 304 selected respondents felt sick or tired, 51 persons were not able to participate in the questionnaire because he or she was too aggressive and in 261 selected addresses nobody answered after three visits. Therefore it may be possible that
persons who did not participate in the FINBALT survey were a significant different with their health behaviour than persons who participated (Kazdin, 2002).

Data reliability was proven by contacting part of questioned persons one more time no later than one week after questionnaire and comparing given answers, altogether 1230 calls were made. For increasing validity, for some questions there were programmed limits for entered value, 10% from questionnaires were re-entered to dataset to prove quality, in questionnaire used terminology was explained to persons (Grīnberga et al., 2017; Geng, 2011a; Geng 2011b).

Study data is possible to generalise in general population of Latvia, as FINBALT study population was selected randomly from general population, however application to other countries or population groups is questionable (Kazdin, 2002).

5.2. Result discussion

With more than half fully satisfied full time employed adults in Latvia, it is the average result for European Union (Sanchez-Piedra et al., 2014). Compared with general population, full time employed population is just slightly more satisfied with GP (Grīnberga et al., 2017). Although just few full time employed persons were dissatisfied with GP, one third full time employed persons were just partly satisfied with their GP’s and it would be possible to improve their satisfaction.

The importance of the access to primary care in a broader sense means that there is a basic set to carry out for people centred on primary care that focus on health needs (World Health Organisation, 2008). Therefore, regular GP visits, could be a good indicator that GP is accessible and satisfying needs of society.

There were no statistically significant differences between full time employed persons satisfaction with GP among diverse socio economic groups. Indifference between different socio economical groups could mean that all person groups have equal access to treatment by GP. The principles declared by the United Nation Committee on Economic, Social and Cultural Rights with the General Comment 14/2000 (2000) is that primary care must be economically affordable for all; payments for health care services have to be based on the principle of equality ensuring that these services are affordable for all (Mpinga and Chastonay, 2010). According to study results, this principle was secured in full time employed adult population.
Results showed that persons who visited GP in last 12 months were significant more satisfied with GP. From other hand it would be possible to draw conclusion that more satisfied persons visit their GP more often, therefore follow their health conditions closely, use preventive measures and therefore with time decrease rate and length of sick leaves, that according to Central Statistical Bureau of Latvia (2016) have tendency to increase.

One aspect that in primary data analysis showed statistical significance is use of free preventive health check. According to Grīnberga et al. (2017), just less than quarter general population used free preventive health check in last year, and two thirds never used it. One way how to inform and motivate persons to use preventive health checks could be to send invitation letters or call persons, similar as it was done in England for cardiovascular disease assessment program (Gidlow et al., 2019).

Persons living in cities could choose between several GP practices within the city. Instead in Riga, most of GP were overloaded. On the other hand, in towns and rural area persons could be forced to register in the nearest GP practice without other options. Uneven distribution of primary care providers shows study in Canada (Shah et al., 2019). As one of long time solution for rural could be usage of video consultation, that could provide easy access to GP in working time and for GP to consult more patients in usual opening hours (Johansson, Lindberg and Söderberg, 2016; Johansson, Lindberg and Söderberg, 2014), however technology innovations are needed to provide secure communication channels from both sides.

It is not surprising that for a full time employed person convenient opening (contact) hours and way to contact are important factors that influence the satisfaction with a GP’s work. Health Ministry of Latvia already regulate that at least once a week GP’s practice must be opened till 19 o’clock and one hour in day GP must reserve for acute patients without appointment (Latvijas Republikas Veselības ministrija, 2017), however results indicate that it is not enough. Morgan and Beerstrecher (2011) study show that weekend appointments could improve satisfaction with GP work as well; however, it is not easy to provide such opening hours for practices with just one GP. As a possible solution would be to provide regional on-call practice each weekend, so that several practice could divide weekend opening hours between them.
For a full time employed person, time is an important factor; therefore, it is important that GP sees patients during the appointed time, without delays. Even if there are delays, there are methods how to make patients more satisfied. According to Chu et al. (2019) informing patients in advance about delays, by apologize to patients and providing diversion for patients can improve patients satisfaction.

As GP is the access point for all secondary health care resources, it is important to get referral letters to other health care specialists. Since 1st January 2019 it is possible to order and use electronic referral letters (E-Nosūtījums, 2019), therefore for minor causalities or repeated consultation to other medical specialists it is possible to request letter without visiting GP practice and therefore save time. Further research must be done to evaluate of electronic referral letters make easier full time employed persons access to other medical specialists.

Study results show that communication and nature of GP has an important role in a person’s satisfaction with GPs’ work. A GP must be competent, helpful and kind. Gillespie et al. (2018) study show that GP’s who are responsive, accessible and appreciated patients, are bounding with patients better and therefore patients are feeling empowered to be actively involved in their care. From other hand Schäfer et al. (2015) study showed, that patients in Latvia see low potential for improvements in communication, however this results must evaluate with caution, as patients are likely to score poor communication as good one (Burt et al., 2018). As main recomendation is to make GP aware about importance of their empaty skills and strengt their selfconfidence for using empatic skills (Hermans, Hartman and Dielissens, 2018).

Primary data analysis results show patients were interested in taking an active part in the therapy. It was mentioned as important factor in Kenny, Laurenco, Wong, Haas and Goodall (2015) study. This phenomenon could be explained with a shared decision making model, where Hölzel, Kriston and Härter (2013) study shows that patient involvement increase patients satisfaction with GP. Importance of patient involvement could be highlighted in Latvian Medical Association further education courses and conferences (Latvian Medical Association).

6. Conclusions

Although more than half from the study population were satisfied, study results show that there are potential to improve further Latvian full time employed
adults satisfaction with GPs’ work. Measures to improve satisfaction should be done in state level (regulations regarding GP praxis distribution, opening hours, weekend service), praxis level (way how to contact praxis, seeing patients in appointed time, issue electronic referral letters, active offering free preventive health checks) and personal level (GP characteristics; explaining to patients diagnostics, treatment, importance of vaccination etc.).

However, further studies are needed to understand what factors are important to analyse full time employed persons access to other health care resources, for example, diagnostics, other health care specialists and hospitals, as well as investigate patients experience with electronic referral letters and medicine prescriptions.
7. References


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Appendix 1

Questions used in Master Thesis from FINBALT survey questionnaire

Respondent sex

- Male
- Female

Respondent age

- 15-24
- 25-34
- 35-44
- 45-54
- 55-64
- 65-74

Place of residence

- Riga
- City
- Town
- Rural area

Monthly income

- Low
- Average
- High

Nationality

- Latvian
- Russian
- Other

Occupation

- Full time employed
- Part time employed
- Unemployed
- Student
• Housewife
• Pensioner, unemployed disabled person

Level of education:
• Primary
• Secondary
• Vocational
• University

Marital status
• married
• cohabiting
• single
• separated or divorced
• widowed

How many times have you visited your family doctor in the last year?
• None
• 1-2 times
• 3-4 times
• 5-6 times
• 7-8 times
• 9-10 times
• 11 or more

How many times have you called an ambulance during the last year?
• None
• 1-2 times
• 3-4 times
• 5 or more

How many times have you been placed in hospital, specialised clinic or day hospital in the last year?
• None
• 1-2 times
• 3-4 times
• 5 or more

How many times have you visited a specialised doctor (except dentist) during the last year?
• None
• 1-2 times
• 3-4 times
• 5 or more

Have you ever visited your family doctor to make a free preventive health check?
• During the last year
• In the last 3 years
• Longer than the last 3 years ago
• Never

How do you estimate your current state of health?
• Good
• Reasonably good
• Average
• Rather poor
• Bad

Are you satisfied with your family doctor?
• Yes, fully
• Yes, partly
• No
• No opinion, I have not visited him/her
• I do not have a family doctor

My family doctor is being kind and helpful to me
• Completely agree
• Rather agree
• Rather disagree
• Completely disagree
I can easily contact my family doctor in a convenient way
- Completely agree
- Rather agree
- Rather disagree
- Completely disagree

My family doctor is competent
- Completely agree
- Rather agree
- Rather disagree
- Completely disagree

Contact hours of my family doctor practice are convenient for me
- Completely agree
- Rather agree
- Rather disagree
- Completely disagree

If my visit is booked in advance, family doctor usually sees me on the appointed time
- Completely agree
- Rather agree
- Rather disagree
- Completely disagree

In the last year did you have to wait for more than a week to get a medical service from family doctor?
- Services were not used
- Has not waited in a queue
- Has waited in a queue

How many times during the last 12 months have you waited in a queue to visit family doctor?
- One time
- Two times
- Three times and more
Satisfaction with the information provided by family doctor on availability of state-paid health care services in other healthcare institutions

- Fully satisfied
- Rather satisfied
- Rather dissatisfied
- Fully dissatisfied

Satisfaction with how family doctor provides the information on the necessity and possibilities of preventive vaccination

- Fully satisfied
- Rather satisfied
- Rather dissatisfied
- Fully dissatisfied

Satisfaction with how family doctor provides the information about your disease diagnosis

- Fully satisfied
- Rather satisfied
- Rather dissatisfied
- Fully dissatisfied

Satisfaction with how family doctor provides the information about the examination and treatment plan of your disease

- Fully satisfied
- Rather satisfied
- Rather dissatisfied
- Fully dissatisfied

Satisfaction with how family doctor provides the information about other treatment methods of your disease

- Fully satisfied
- Rather satisfied
- Rather dissatisfied
- Fully dissatisfied
Satisfaction with how family doctor provides the information about possible consequences and complications of disease

- Fully satisfied
- Rather satisfied
- Rather dissatisfied
- Fully dissatisfied

Satisfaction with how family doctor provides the information about possible side effects of prescribed medication or treatment methods

- Fully satisfied
- Rather satisfied
- Rather dissatisfied
- Fully dissatisfied

Satisfaction with how family doctor provides the information about state covered medication that is due in your case of disease

- Fully satisfied
- Rather satisfied
- Rather dissatisfied
- Fully dissatisfied

Satisfaction with how family doctor provides the information about the procedure of patient payments

- Fully satisfied
- Rather satisfied
- Rather dissatisfied
- Fully dissatisfied

Have there ever been any problems of getting a referral letter to a medical specialist from your family doctor?

- No, has not experienced
- Has experienced once
- Has experienced several times
- Regularly

Have there been any problems getting medication prescriptions from family doctor?
• No, has not experienced
• Has experienced once
• Has experienced several times
• Regularly

Have there been any problems to get prescriptions for state covered medication from family doctor?

• No, has not experienced
• Has experienced once
• Has experienced several times
• Regularly
IESNIEGUMS

Es, Lāsma Vispere, lūdzu sniegt sekojošus datus elektroniskā formā no Latvijas iedzīvotāju veselību ietekmējošo paradumu pētījuma, 2016 (FINBALT) aptaujas:

- Dzimums
- Vecums
- Ģimenes stāvoklis
- Izglītības līmenis
- Ienākumi mēnesī
- Dzīvesvieta
- Tautība
- Nodarbošanās
- Cik reižu Jūs pēdējā gada laikā apmeklējāt ģimenes ārstu?
- Cik reižu Jūsu pēdējā gada laikā atradāties slimnīcā, specializētā klīnikā, dienas stacionārā?
- Cik reižu Jūs pēdējā gada laikā izsaucāt ātro palīdzību?
- Vai Jūs kādreiz esat bijis pie sava ģimenes ārsta uz bezmaksas profilaktisko veselības pārbaudi?
- Kā Jūs pats (pati) novērtējat savu pašreizējo veselības stāvokli?
- Vai Jūs esat apmierināts (a) ar savu ģimenes ārstu?
- Mans ģimenes ārsts pret mani izturas iejūtīgi
- Ar savu ģimenes ārstu es varu viegli sazināties man ērtā veidā
- Mans ģimenes ārsts ir kompetents
- Mana ģimenes ārsta pieņemšanas laiks man ir ērts
- Pēc iepriekšēja pieraksta ģimenes ārsts mani parasti pieņem norunātā laikā
- Vai pēdējā gada laikā nācies gaidīt rindā – pie ģimenes ārsta, lai saņemtu medicīnisku pakalpojumu ilgāk par nedēļu?
- Cik reizes pēdējā 12 mēnesī laikā Jums ir nācies gaidīt rindā ilgāk par vienu nedēļu pie ģimenes ārsta?
- Apmierinātība, kā ģimenes ārstos nodrošina ar informāciju par valsts apmaksāto veselības aprūpes pakalpojumu pieslēgumu citās ārstniecības iestādēs
• Apmierinātība, kā ģimenes ārsts nodrošina ar informāciju par profilaktiskās potēšanas nepieciešamību un iespējām
• Apmierinātība, kā ģimenes ārsts nodrošina ar informāciju par Jūsu slimības diagnozi
• Apmierinātība, kā ģimenes ārsts nodrošina ar informāciju par Jūsu slimības izmeklēšanas un ārstniecības plānu
• Apmierinātība, kā ģimenes ārsts nodrošina informāciju par citam Jūsu slimības ārstēšanas metodēm
• Apmierinātība, kā ģimenes ārsts nodrošina ar informāciju par iespējamām slimības sekām un komplikācijām
• Apmierinātība, kā ģimenes ārsts nodrošina informāciju par Jūsu slimības izmeklēšanas un ārstniecības metožu iespējamām blakus parādībām
• Apmierinātība, kā ģimenes ārsts nodrošina informāciju par kompensējamo medikamentu receptes
• Apmierinātība, kā ģimenes ārsts nodrošina informāciju par pacientu iemaksu veikšanas kārtību
• Vai bijušas problemas saņemt no ģimenes ārsta nosūtījumu pie ārsta speciāliste?
• Vai bijušas problēmas saņemt no ģimenes ārsta medikamentu receptes?
• Vai bijušas problēmas saņemt no ģimenes ārsta kompensējamo medikamentu receptes?
• Vai pēdējā gada laikā ir gadījies, kad bija nepieciešama vizīte pie ģimenes ārsta, bet Jūs to nepieejāt?
• Ģimenes ārsta neapmeklēšanas iemesli pēdējā gada laikā, ja vizīte bija nepieciešama

Dati tiks izmantoti maģistra darba izstrādei Kristianstadas augstskolā Zviedrijā (Kristianstad University Sweden) maģistra programmas Integrative Health Science ietvaros. Kontaktpersona – programmas direktore Carina Elgán, E-mail: carina.elgan@hkr.se, telefona nr. 044-2503848.

Magistra darba mērķis ir noskaidrot faktorus, kas ietekmē apmierinātību ar primārās veselības aprūpes un ģimenes ārstu darbu Latvijas populācijā. Maģistra darbs tiks izstrādāts angļu valodā.

Dati netiks nodoti trešajām personām, tiks ievērota konfidencialitāte izmantojot datus. Darbā tiks norādīta atsauce uz datu avotu – Slimību profilakses un kontroles centru. Datubāze tiks uzglabāta ar paroli aizsargātā datorā un pēc maģistra darba pabeigšanas dzēsta.

Darba vadītājs ir Kristianstadas augstskolas profesors Martin Persson, PhD, MPH, MSc Associate Professor. Kontaktinformācija: Faculty of Health Science, Kristianstad University, SE-291 88 Kristianstad, Sweden, E-mail: martin.j.persson@hkr.se.

jūnijam. Apņemos pēc maģistra darba pabeigšanas, to nosūtīt Slimību profilakses un kontroles centram elektroniskā formātā.

Pielikumā:


Vienošanās ar darba vadojumu Martin Jens Persson par magistra darba vadīšanu – 1 lpp.

Ar ciešu,

Lāsma Vispere

Dokuments ir parakstīts elektroniski un satur laika zīmogu.

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