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Factors that motivate young pharmacists to work in rural communities in the Ukraine

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ABSTRACT

Introduction: A number of identified factors can influence clinicians' location of practice decisions; however, little is known about the location decisions of pharmacists. In general, males are more likely to work in rural and remote regions, and students with a rural background are more likely to work in rural communities after graduation. In the Ukraine, pharmaceutical health care is important because a patient's first visit is often to the pharmacy, rather than to a GP. This study sought to understand what motivates Ukraine pharmacy students to practice in rural areas.

Methods: The first part of the study used a quantitative design with questionnaires based on Füglistaller's model for measuring the motivation of entrepreneurs, because working in a rural Ukraine pharmacy means, in most cases, operating a privately owned pharmacy. The second part was qualitative to verify these results.

Results: The students' motivation to work in rural areas after graduation depended on their sex and place of birth, but this was not decisive. More influential were the factors that motivate operating a privately owned pharmacy. Within the group that considered working in a privately owned pharmacy in a rural community, motivation was more intrinsic (eg enjoys helping people), while negative factors were more external (eg financial risk).

Conclusion: Students from the National University of Pharmacy in Kharkiv comprise the majority of pharmacists in the Ukraine. They are interested in working in a rural area as long as opportunities align with their individual expectations. The two main factors found that would supply more young graduates to rural areas were: (1) improving rural living conditions; and (2) fostering the

mental attitude required for operating a private pharmacy. In addition, decreasing related bureaucracy, and increasing financial and fiscal grants may enhance medical and pharmaceutical health care in rural communities of the Ukraine.

Key words: graduate pharmacists, living conditions, motivation, privately owned pharmacy, Ukraine.

Introduction

Background

The Ukraine is the second largest country in Europe, situated strategically between Europe and Asia. On 1 October 2006 the Ukraine population was over 47 million. Of these, 32% were rural dwellers and 54% were female. Since independence from the USSR in the late 1980s, the Ukraine's population has fallen by 3.6 million or 7.5%, with a projected decline of 1% per year in the period 2000–2005[1]. In 2006, the population growth was negative with a birth rate of 8.82/1000 population and a death rate of 14.39/1000 population.

The late 1980s collapse of the Soviet Union had a major impact on demographic and health indicators in the Ukraine. Reports from WHO reveal the depth of the subsequent economic crisis and its challenges to the Ukraine healthcare system, which is now also in crisis[2]. However, because restoring the healthcare system has not been a major reform priority it has remained inefficient and chronically under-funded.

The Ukraine Constitution (Ch 49) states that each person has the right to health care, medical care and medical insurance. However the Ukraine has not yet implemented a national health insurance system, although discussions continue. Health care is provided from state-funded socioeconomic, medical, sanitary, allopathic and prophylactic programs. The state creates the conditions for effective and accessible medical services via state health institutions where medical care is provided free of charge.

Ukraine healthcare legislation also assists and promotes the activity of individual entrepreneurs in the sphere of health care. Although the majority of medical healthcare services are still provided by publicly owned health facilities, the majority of pharmacies have now been privatized. Up to one-third of households in the Ukraine were unable to obtain necessary health care in 2000, largely because of the high costs of drugs or lack of access to a local pharmacy[3].

'Urban bias' is an often-cited characteristic of state socialist regimes due to an ideological focus on workers and economic focus on industry. Such regimes have tended to generate systems that concentrate social goods in urban areas, and this is observable with pharmacy services in the Ukraine. A strong urban–rural divide is apparent, with the number of pharmacies in cities greater than the market can support, while in rural communities the number of pharmacies is constantly decreasing[4]. Currently in the Ukraine, 33% of the population lives in a rural area but only 15% of pharmacies are rural[5].

Rural disadvantage was particularly acute in all former Soviet republics, where high rates of unemployment compounded the difficult social and economic situation[6]. The occupational structure of rural areas was heavily skewed toward agriculture, a sector in which wages were among the lowest in the economy and where a high unemployment rate exists[7,8].

Theoretical framework

A model introduced by Füglistaller[9], which recognizes willpower, rationality and individual benefits as the drivers of human motivation, is the theoretical basis of the present study. In this model, the benefit to society and emotionality are also cited and important factors in self-motivation. The

present research hypothesis is that there are central differences in self-motivation between rural- and urban-intent groups in general, and also among pharmacy students.

Also considered are the theoretical research works of Fehr[10], Rabinowitz[11] and Herzberg[12]. Fehr is of the opinion that self-image is not sufficient to explain all phenomena, and that other psychological realizations, such as integrating the values of fairness and mutuality, often provide reasons for economic actions. Rabinowitz outlines the importance of rural background and training in a rural environment for students. He also investigated life conditions as influencing factors for practice in rural areas. In 1959 Herzberg proposed the Motivation-Hygiene Theory of job satisfaction, also known as the 'two factor theory' (for he proposed that people are influenced by two sets of factors). Herzberg's key findings included:

- People are made dissatisfied by a unfavourable environment, but they are seldom made satisfied by a 'good' environment.
- The prevention of dissatisfaction is just as important as the encouragement of satisfaction as a motivator.
- 'Hygiene' factors operate independently of motivation factors. An individual can be highly motivated in his work but dissatisfied with his work environment.

Human behaviour and motivation

Which reasons are the most important in determining whether a pharmacist works only in a rural area? Motivation research looks for so-called 'motivation variables' that explain why people behave in a certain way[13,14]. These motivation variables are divided into two groups: intrinsic and external. Malone and Lepper[15] helpfully define intrinsic motivation as: 'what people will do without external inducement'.

In the vocational context, intrinsic motivation can be divided into enjoyment of the work (eg acting from one's own response) and the achievement of self-defined goals[16]. A typical aspect that represents external motivation in occupational life is receiving a salary for the activity[17]. The meaning of external and intrinsic motivation factors must be determined first[18,19].

The origins of self-motivation are different in each case. A pharmacist may be intrinsically motivated by, for example, the satisfaction of helping people or to reinforce an ideal self-image. Or he or she can be externally motivated by, for example, financial benefits. Other drivers act as intrinsic and external motivation for each type of individual. However, self-motivation will include concern for the wellbeing of one's partner and children.

Research question and objectives

Having established the relevance of self-motivation in the pharmacist for the success of his or her pharmacy, certain aspects will be examined more precisely. The research goal was to find differences and their drivers in self-motivation using separate predictor variables according to the work of Rabinowitz[11].

In addition to personal attributes, the researchers were interested in environmental and social factors that influence the location of a business, especially a pharmacy. Ricketts, Konrad, and Wagner[20] described a taxonomy for the categorization these factors as three 'environments':

1. Local community environment
2. Proximal healthcare resources environments
3. External health policy environment.

Therefore, the research question can be defined as looking for differences and similarities in the self-motivation of pharmacists depending on these factors. In other words, is self-motivation determined according to the named criteria, and can some aspects be found identified that motivate graduate pharmacists to start a business in a rural area?

The objective of this study was to find out what motivates students to study pharmacy, and which benefits persuade

graduates to start a pharmaceutical business in a rural area after graduation. The motivation of the pharmacist as an entrepreneur is of special interest, therefore, because opening a pharmacy in a rural area is an independent, new business venture. However, the important factor of individual expectations of living condition must also be examined.

Methods

When devising the survey, the authors were guided by quality criteria for empiric studies, while also satisfying validity requirements. The questionnaire was based on the studies of Füglistaller at the University of Sankt Gallen[21], and D'Elia and Johnson[22].It contained 38 questions: 10 multiple choice about students' motivational factors, 10 to capture information about students' personal psychological characteristics, and 18 investigating the individual importance of expectations regarding rural living conditions. The survey also included questions about the students' personal behaviour and the importance of individual expectations about life in rural communities.

Differing motivations were systematically examined. In the analysis of external motives, questions were asked about financial factors and the possibility of higher social recognition. The questions regarding intrinsic motivation covered subjects such as 'enjoyment of the work', 'enjoy helping people', and other pro-social factors. To measure the type and strength of motivation, a 'motivation index' was computed using the range -3 (strong intrinsic motivation) to +3 (strong external motivation).

Study design

Decisive questions about motives and personal behaviour were related to students' reasons for pharmaceutical study and work as a pharmacist, as well as the importance and expectations of aspects of life in rural areas. The questions were carefully ordered to avoid the problem of subjects conforming to socially desired behaviour, which is present in all surveys. Nevertheless, this problem can never be completely eliminated from personality research[23].

The survey

The original English-language questionnaire was translated into Russian by a professional translator for use with Russian-speaking students. Demographic data were collected and the various factors influencing students' first positions after graduation was examined. Students' interest in traditional rural or urban pharmacy practice, including pharmacy ownership, was analyzed.

Study settings: sampling frame, recruitment process and ethical considerations

The investigation was performed in two parts: quantitative and qualitative. Participants in the quantitative investigation were recruited randomly from classrooms. They were fully informed about the research and invited to complete a questionnaire. Students for the quantitative investigation were recruited via advertising on the university notice board, and staff-member participants were nominated the second author (a faculty member).

In the quantitative investigation in July 2009, 60 students in their final 2 years of study completed the Russian-language standardised questionnaire. Participation was voluntary and anonymous.

For the second, qualitative investigation in the period September 2009 to March 2011, the participants were 10 volunteer students who were not included in the quantitative investigation, and 15 members of the academic and scientific staff. The individual interviews were of 60 min duration and conducted in English using a professional translator for the Russian translation. A second person checked the translation to ensure it accurately represented what the interviewers observed and what they were told. This was necessary to avoid linguistic errors.

Ethical considerations included anonymity for all students (in both the quantitative and qualitative parts of the study) but not for the academic and scientific staff. The authors informed the participants about anonymity.

Statistical methods

Data were analysed using SPSS v16 statistical software (www.spss.com). The SPSS two-step cluster method was used to separate the data into homogeneous groups, because both continuous and categorical variables can be accommodated, as well as automatically selection of the number of clusters[24].

To test for possible differences between survey groups the Mann–Whitney *U* test[25,26] was used. Kendall's tau correlation coefficient[27] was used to measure possible correlations between observed variables.

Results

The respondents comprised 47 females (average age 23.9 years) and 9 males (average 24.4 years); sex was unknown for 3. Thirty-two were studying full time, 26 part time and one unknown. Regarding place of birth, 30 were urban, 28 rural and one unknown.

The respondents were grouped by birth location and sex and tested for future work plans according to the following options:

- work in rural or urban areas
- open their own pharmacy
- work in a pharmacy as an employee
- 15 motivation questions.

A positive relationship to work in a rural community was indicated by male students (Kendall's tau b: 0.301; 2-tailed significance: 0.041), students with a rural background (tau: 0.312; sig: 0.035), and students with plans to open their own pharmacy (tau: 0.359; sig: 0.013).

Factors that influenced the students to undertake pharmaceutical studies were approximately 50% external and 50% intrinsic. The frequency of external reasons for pursuing pharmaceutical studies (on multiple choice; $n = 82$) were prestige ($n = 21$; 25%) and higher salary expectation (19; 23%); while intrinsic reasons were worthiness (21; 25%) and interest (21; 25%).

Cluster analysis

The SPSS two-step cluster method identified two clusters that covered 96.6% of the interviewed students (3 students [3.4% of those interviewed] were within no cluster).

Cluster 1 covered 25 female students (44.1%) but no male students. Places of birth were approximately equal at 13 urban and 12 rural. No student wanted to privately own a pharmacy or work in a rural pharmacy. However, all wanted to work as employees in an urban pharmacy.

Cluster 2 covered 31 students (52.5%): 22 female and 9 male. Within this cluster the majority (19 students) had a rural background. The majority (23 students) wanted to open a private pharmacy but 24 students preferred not to work as a pharmacy employee. In total 19 students would not choose work in an urban area while 26 preferred rural work.

Members of cluster 1 were identified as 'urban intent students' while members of cluster 2 were 'rural intent students'. Motivation factors were tested against the 2 clusters (Table 1).

First position after graduation

In total 23 students (39%) had seriously considered owning a pharmacy. Because of the lack of independently owned pharmacies in rural areas, all students were asked to explain why they would, or would not, consider owning a community pharmacy.

Table 1: Motivation factors of the 2 clusters

Motivation factor	Rural intent students†	Urban intent students†
Reasons for rural pharmacy work	-0.52	0.03
Reasons against rural pharmacy work	0.50	0.84
Reasons for owning a private pharmacy	-0.96	-0.35
Reasons for not owning a private pharmacy	1.08	0.25
Motivation during pharmacy studies	0.50	0.35
Motivation for starting to study pharmacy	-0.15	0.10

†A negative value means intrinsic, a positive value external motivation (maximum bandwidth ± 2): neutral

The following questions (with multiple choice answers) sought to discern the factors of influence in a student's decision-making process for opening (or not opening) a privately owned pharmacy and also the reasons to open (or not open) a privately owned pharmacy in a rural community. The numbers given apply to all students, independent of their cluster, so as to clearly define reasons for working in a rural area. Only those factors with greater than 5% agreement are discussed.

The question about owning a pharmacy had a total number of 84 agreements: 62 of the agreed items for owning a pharmacy (74%) were intrinsic, while 22 (26%) were external. Ranked first, as expected, was 'independency or autonomy' for 35 students (59%). Ranked second, 'high income' was the only important external reason (18 students; 31%). 'To care for people' was a reason to own a pharmacy for 17 students (29%); however 10 (17%) agreed on 'the feeling of being needed'. Conducting a mobile pharmacy was a reasonable choice for only 4 students (7%).

There were 70 nominated reasons against owning a pharmacy, and 64 of these (91%) were external, while 6 (9%) were intrinsic. Ranked first for 31 students (53%) was the expected 'financial risk'. Other reasons were the expectation of 'high administrative expenses' (14 students; 24%), 'regulatory requirements' (11 students; 19%) and 'large social obligation' (8 students;14%). The only intrinsic reason was the expectation that it would be necessary to 'dedicate too much time to work' for 6 students (10%).

Asked about their reasons for opening a privately owned pharmacy in a rural area, 66 items were named, of which 31 were external (47%) and 35 intrinsic (53%). The most important external reasons were 'financial aid from the state' (12 students, 20%) and 'good transport connections' (10 students; 17%). Less important reasons were 'lower tuition fees at university' (5; 8%) and 'tax concessions' 4 (7%). Intrinsic reasons with altruistic motivation were more important, with 21 students (36%) reporting 'enjoyment of helping people' and 9 (15%) 'helping to develop rural areas'. Only 5 students (8%) said starting a business 'with friends' was important.

However the reasons against a owning a private pharmacy in a rural area were quite different. Of the 78 agreements, 60 (77%) were external and only 18 (23%) were intrinsic. In all, 35 students (59%) expected it would 'not be a good business', 12 students (20%) feared the 'financial risk' involved, and 13 (22%) expected an 'absence of cultural life' in a rural area. The intrinsic reasons were of a more personal nature: 8 students (14%) thought there would be 'no personal contacts of the same age' and 10 (17%) feared their 'family cannot accompany them'.

Living conditions: individual importance and expectations

Individual expectations of living conditions is an important factor in choosing to work in a rural area. This study compared students' individual expectations with the

individual importance of this factor on a scale of from 1 (very important, strong expectations) to 4 (very unimportant, totally unexpected). The two clusters were found to differ on this dimension.

For rural-intent students, there was a lower expectation of accessible medical health care; however, their expectation of the availability of public transport, public media and the internet was higher than among the urban-intent students. Access to continuing education, the internet, public communication, cultural events and the costs of relocation were more important for rural-intent students, while the availability of jobs was less important. The discrepancy between individual importance and expectation was, for rural-intent students, larger for the accessibility of continuing education and availability of cultural events, but it was smaller for public transport and the availability of jobs.

For students born in a rural community, the accessibility of public media was more important than for urban-born students. These students also expected that fewer public schools and less child care would be available, and were concerned about housing difficulties (both home rental and purchase) and the distance of travel between home and the work place.

For female students, accessibility to health care, schools and public media was more important than for males. It was also their expectation that there would be fewer opportunities for continuing education.

Discussion

The situation of Ukrainian rural areas is complex: an aging population with relatively high rates of poverty, a poor local economy, substantial healthcare access barriers, local hospitals and other health providers endure difficult financial circumstances while there are high out-of-pocket healthcare costs for residents. The recent Ukraine government has halted all former healthcare reform and is currently not improving the healthcare sector by expenditure of public capital. Because of this, and the unavailability of a social health insurance, it is difficult to motivate young Ukraine graduates to work in rural communities[4]. The difficult rural economic situation combined with high state fees and administrative requirements, and the cost of establishing a privately owned pharmacy provide substantial reasons for students to remain in cities.

Similar motivating factors have been identified in previous studies. Somers found that rural-intent medical students were more likely to rate a sense of being highly needed than urban-intent students[28]. This was reflected in the present study where rural-intent students were more intrinsically motivated than their urban-intent counterparts. The most important factors for those with an interest in owning a rural pharmacy were: 'enjoy helping people' and 'helping to develop rural areas', and for those interested in a privately owned pharmacy: 'to care for people' and 'feeling needed'.

The importance of close social relationships has also been identified by previous studies, with some finding an association between rural practice and the rural background of the doctor's spouse[29,30], and others that students saw opportunities for a spouse/partner as important[28,31]. This is similar to the present study where the factor 'having no family there' or 'no contacts of the same age' were factors *against* rural pharmacies, while 'being with friends' was an argument *for* a rural pharmacy. This was also shown by the importance participants placed on the availability of public schools and child care in the present study.

As expected from the research of Füglistaller[9] and Fehr[10], self-motivation to operate a privately owned pharmacy was the most important reason for graduates to work in a rural community. The motives of the rural-intent group of students to operate a privately owned pharmacy, especially in a rural community, were strongly intrinsic, while the reasons against it were strongly external.

As expected from the work of Rabinowitz[11], a relationship between background (birth place) and later practice was found in the present study; however, it was not as strongly

decisive as was expected for the intention to work in a rural community. The present rural-intent students were interested in practising in a rural community as long as opportunities aligned with their personal and professional interests. Beside a pro-social attitude, two main factors were found that would bring young graduates to rural areas:

1. The student's attitude towards operating a privately owned pharmacy.
2. The student's individual expectations of living conditions in rural areas, and the personal importance of this factor.

According to Herzberg, the authors found 2 groups of factors[12]:

1. 'Hygiene' factors: financial risk, administrative requirements, missing infrastructure.
2. Motivator factors: enjoy helping people, the feeling of being needed, the independence of one's own pharmacy.

Improving hygiene factors may increase the rural-intent students' intention to practice in rural communities but urban-intent students will remain in cities.

The findings reported in this article could be used for further research and rural recruitment strategies. Increasing the numbers of rural-background medical students has been used as a strategy to increase rural recruitment[32-34] and can also be used in the recruitment of other healthcare professionals, such as primary-care physicians. It may also be possible to increase rural recruitment by increasing an interest in operating a privately owned business among urban-background students.

Limitations

The study's focus on the rural pharmacy environment and students from the Ukraine limit the generalizability of the findings. Demographics, the healthcare system, and the opinion of the Ukrainian students may vary according to country, so the needs and potential solutions may not be consistent with these findings. However, the study does highlight the importance of young graduates' motivation in starting a business or working in a rural community.

The small sample size limits the general results of the study. The number of respondents from the sample was high (59 of 60) due to the strong interest of the university staff in the study. Nevertheless the students answered the questionnaires freely, voluntarily and anonymously. The qualitative study assisted understanding of the quantitative results and those students were randomly selected and also answered freely, voluntarily and anonymously.

Conclusion

Students from the Ukraine National University of Pharmacy supply the majority of pharmacists in the Ukraine. They are interested in working in a rural area as long as opportunities align with their individual, personal and professional expectations. Two main factors were found that will bring more young graduates to rural areas: improving rural living conditions, and fostering students' attitude to operating their own pharmacy. In addition, decreasing the bureaucracy, and increasing financial and fiscal grants may enhance medical and pharmaceutical health care in Ukraine rural communities.

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