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ORIGINAL PAPER

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Palliative Care: a Cross Sectional Study Focused on Different Capacity Building Programmes Evaluated Through Self-Rated Knowledge and Efficiency in Family Medicine Tutors

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ABSTRACT

Aim: Educational possibilities in palliative care have been overseen in this part of Europe and therefore this important issue should be addressed to implement current treatment palliative care in Slovenia. This study was the first in Slovenia dealing with the self-rated knowledge and self-efficacy associated with educational programmes attended about palliative medicine at primary health care level. **Material and methods:** Material for our work was general practitioner (GP) who work in education like tutors. A cross-sectional study was carried out from July to November 2015 with participation of them. For the purpose of the study (self-assessment of knowledge and efficacy), the validated questionnaire Palliative Kompetenztest (PKT) was applied with added some demographical data. 138 of the 250 invited GP answered the questionnaire. **Results:** Knowledge was averagely assessed with 23.0 ± 4.0 (out of 34) and self-efficacy achieved 38.5 ± 8.6 out of 54 points. Physicians who attended “Step by step” educational model, rated their knowledge (26.2 ± 3.4 ($p < 0.001$)) and self-efficacy higher (41.9 ± 7.7 ($p < 0.010$)) in comparison with those who attended conferences and other palliative care related capacity building programmes. **Conclusion:** When taking into account self-assessed knowledge and efficacy in palliative care, it was shown the capacity-building program “Step by step” to be an effective model for GPs. However, self-perceived efficiency due to past experience was also shown to be associated with the efficiency score, therefore we should be restrained in favouring specific capacity building programme at this time.

Keywords: family medicine tutorial programs, palliative care.

1. INTRODUCTION

In the early 1900s, dying was considered as a natural event, people used to die in their own homes surrounded by families; as Clutter stated: “Death was very much a family life-cycle event” (1). Nowadays in the western society, dying no longer occurs at home, but instead, in institutions; the majority of Americans, approximately 75%, die in institutions (1), so do approximately 34% inhabitants of Netherland and 63% of Welsh (2). Another study that compared the site of death, health care utilization, and hospital expenditures in seven countries among patients older than 65 years who died with cancer in in 2010, came to the conclusion that the end-of-life care was more hospital-centric in Belgium, Canada, England, Germany, and Norway than in the Netherlands or the United States (3). Researches are shown that healthcare failed in providing an adequate palliative care, i.e. care that concentrates on quality of life both for individuals and families who are facing life-threatening illnesses (4). The emphasis of palliative care has been on pain and symptoms management, such as nausea and vomiting, nutrition, and dyspnoea; it has been shown to attempt reducing the discomfort associated with chronic diseases, not just terminal illness (4). It is also important to know that over 91% of home deaths could be explained by four factors: patient’s preference; relative’s preference; receipt of home palliative care in the last three months

of life and receipt of district/community nursing in the last their months of life (5).

Most researchers recognized the important role of GPs in ensuring access to palliative care for all patients (6-9). It should be emphasized that the basic for successful palliative care are a proper education and good organization that provide access to palliative care to patients and their relatives anytime and anywhere (5, 10). Gorlen and co-workers are convinced that knowledge is needed about the GPs level of confidence in assuming this task of medicine at the end-of-life (11) yet this has not been always available. Although that has been slowly changing, palliative care has traditionally not had a high profile within the general education and training of health professionals (12).

Given that palliative care is extremely important for GPs and therefore appropriate education is needed, most studies connected better end of life care with more GPs knowledge (1, 5-6, 8, 10). In Slovenia, medical students have the lectures about palliative care included in the senior year of medical school, whereas knowledge about palliative care is mainly included in postgraduate trainees' education. Capacity building programmes such as "Step by step" in organization of Slovenian Palliative Medicine Society, offer additional knowledge. Attendance congresses on that topic was also believed to offer opportunity to cover the gap in knowledge about palliative care.

There has been widely spread belief that Slovenian GPs have the same level of knowledge than GPs reported from the literature (14-18), although there have been no research carried out to support this idea. In this light this study was performed, aimed to assess the knowledge and self-efficacy in palliative care in a selected group of GPs. Given that this topic has not been researched in Slovenia yet, our findings might be interpreted and generalised with restrain.

2. METHODS

Study design

A cross-sectional study was carried out from July to November 2015 at Faculty of Medicine in Ljubljana and its sister medical school in Maribor. The access to the website questionnaire was provided to the participants via e-mail. Forwards backwards translation of the questionnaire was done. The inclusion criteria were the active involvement in tutoring the family medicine trainees and medical school students, i.e. being the active mentor at the time of the study, during the academic year 2014-15.

Selection of participants

The invitation was sent to 250 family medicine tutors. Tutors are GPs with more than five years of experience in the field of family medicine who are board certified by Medical Chamber of Slovenia. The research was realized in accordance with the terms of the "Declaration of Helsinki for recommendations guiding physicians in biomedical research involving human subjects" (<http://www.cirp.org/library/ethics/helsinki/>).

Instruments

The Palliative Competence scale (originally PKT, i.e. Palliative Kompetenztest) was developed and validated in Austria (14). Pilot study was performed after the instrument was translated in Slovenian. The scale consisted of 34 questions

about the knowledge (Cronbach's alpha=0.753), while additional 18 questions dealt with self-assessment of the efficiency (Cronbach's alpha=0.911). Aside from PKT, participants were asked about gender, age, years of practice as GP and attendance on conferences/seminars at the last 12 months regarding palliative care.

Data analysis

Categorical variables were presented by frequencies and percentages, continuous variables were presented by mean values and standard deviations. The answers were counted in two separate sum variables: knowledge and self-efficacy. One-way analysis of variance was used to test knowledge and self-efficacy scores according to past palliative education. Multiple linear regression was used to calculate associations between knowledge, self-efficacy scores (dependent variables) and various GP's characteristics (demographic data, working experiences, obtained palliative education, palliative research interest as independent variables). The statistical analyses were performed with IBM SPSS version 22.0 (IBM

| | | |
|--|-----------|-------|
| Gender | | |
| Men | 32 | 23.2 |
| Women | 106 | 76.8 |
| Education about palliative care | | |
| Between undergraduate education | 27 | 19.6 |
| Didn't have any of education | 36 | 26.1 |
| 50 hours "Step by step" | 16 | 11.6 |
| Additional courses or training hours | 59 | 42.8 |
| Congresses about palliative care | | |
| More than once per year | 7 | 5.1 |
| Once per year | 22 | 15.9 |
| Less than once per year | 59 | 42.8 |
| Never | 50 | 36.2 |
| Age in years (M±SD, range) | 43.1±10.9 | 27-68 |
| Years of physician's experiences (M±SD, range) | 16.9±11.5 | 1-42 |
| Knowledge scores (M±SD, range) | 23.0±4.0 | 13-34 |
| Self-efficacy (M±SD, range) | 38.5±8.6 | 18-54 |

Table 1. Main Characteristics of the Participants. M: mean value, SD: standard deviation

| | | N | M±SD | F* | p |
|---------------|--------------------------------------|----|----------|-------|-------|
| Knowledge | Between undergraduate education | 27 | 21.3±3.8 | 6.125 | 0.001 |
| | Didn't have any of education | 36 | 22.3±4.0 | | |
| | 50 hours "Step by step" | 16 | 26.2±3.4 | | |
| | Additional courses or training hours | 59 | 23.4±3.7 | | |
| Self-efficacy | Between undergraduate education | 27 | 37.0±9.6 | 3.962 | 0.010 |
| | Didn't have any of education | 36 | 35.2±6.9 | | |
| | 50 hours "Step by step" | 16 | 41.9±7.7 | | |
| | Additional courses or training hours | 59 | 40.3±8.7 | | |

Table 2. Bivariate comparison between knowledge score, self-efficacy score and type of education in palliative care. * one-way analysis of variance M: mean value, SD: standard deviation

Corp., Armonk, NY). Level of significance was set at p < 0.05.

| | β | t | p |
|--|---------|-------|-------|
| Female gender | -0.16 | -1.98 | 0.049 |
| Age | -0.14 | -1.59 | 0.104 |
| Frequency of attending congresses about palliative care | 0.19 | 2.27 | 0.027 |
| Undergraduate education about palliative care | -0.11 | -1.19 | 0.238 |
| 50 hours »Step by step« education model | 0.26 | 2.80 | 0.005 |
| Additional courses or hours of education about palliative care | 0.13 | 1.24 | 0.213 |

Table 3. Associations between demographical data, education and achieved knowledge about palliative care: A multiple linear regression model ($R^2=0.180$; $F=4.809$; $df=6$; $p<0.001$)

| | β | t | p |
|--|---------|------|--------|
| Female gender | 0.00 | 0.03 | 0.978 |
| Age | 0.30 | 3.72 | <0.001 |
| Frequency of attending congresses about palliative care | 0.26 | 3.16 | 0.002 |
| Undergraduate education about palliative care | 0.04 | 0.44 | 0.662 |
| 50 hours »Step by step« education model | 0.15 | 1.61 | 0.110 |
| Additional courses or hours of education about palliative care | 0.13 | 1.28 | 0.203 |

Table 4. Associations between demographical data, education and self-efficacy: A multiple linear regression model ($R^2=0.243$; $F=7.011$; $df=6$; $p<0.001$)

3. RESULTS

Participating family tutors were mostly women (76.8%), aged 43.1±10.9 years, who in majority (42.8%) gained knowledge about palliative care at additional courses (Table 1).

The most difficult questions for our responders were the questions under number 6,9,11,19,20,26,27,31 and 33, were less than 50% physicians answered correctly (Appendix 1).

Bivariate comparison regarding the instances of palliative education showed that the completed "Step by Step" educational model resulted both in highest knowledge ($p=0.001$) and self-efficacy ($p=0.010$) scores. Respondents who reported no education or undergraduate courses during study provided lowest scores (Table 2).

Results of multiple linear regression showed that respondents who completed the "Step by Step" educational model ($\beta=0.26$, $p=0.005$) and reported more frequent attendance at congresses about palliative care ($\beta=0.19$, $p=0.027$) assessed their knowledge more accurately, while female gender ($\beta=-0.16$, $p=0.049$) resulted in negative association with knowledge about palliative care (Table 3). More frequent attendance at conferences about palliative care ($\beta=0.26$, $p=0.002$) and a higher respondents age ($\beta=0.30$, $p<0.001$) were positively associated with self-efficacy in palliative care (Table 4).

4. DISCUSSION

Main objective of this study was to examine associations between knowledge, self-efficacy and prior education in palliative medicine in tutors for family medicine resident and student education. After 2010, action was strengthen in providing palliative care in Slovenia with the adoption of National program of palliative care, aiming to provide systemic

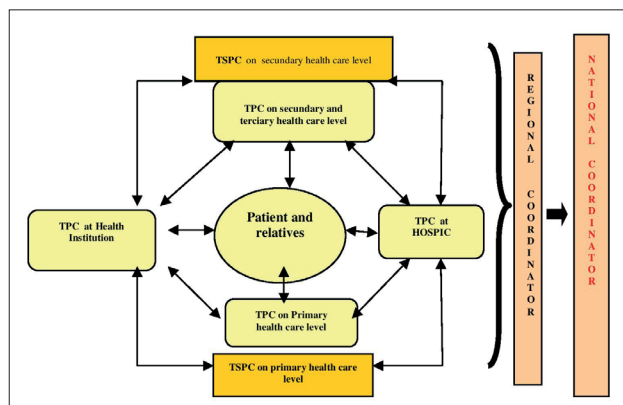


Figure 1. Organization model of palliative care in Slovenia

solution for this field of health care, the Action plan was its vital part (10). The National program also brought normative ground and during the years following the adoption of National plan for palliative care, results shown that proper palliative care provided by GPs had been associated with less hospitalisations in terminal patients, while satisfaction of patients and their caregivers grown (10)

Current Organizational model of palliative care in Slovenia is presented in Figure 1 (13).

In this scheme, the position of patients and their caregivers has been placed in the centre and has been considered as the most important, while other parties have been linked and complementing one another. The feasibility and efficiency of the concept has depended upon achieved knowledge and skills in all participants (13).

Based on this study results, it could be pointed out that an appropriate model of palliative care as seen in Figure 1, proper education and communication skills in palliative care providers, and also team approach, inter-sectorial cooperation in the field of health care and social services ought to be of the utmost importance for palliative care to be effective and satisfactory (10).

Our results are concordant with similar published findings (1, 14, 15, 18).

In multivariate modelling, associations between knowledge, male gender and attendance at "Step by step" educational course was shown to be statistically significant (Table 2). Several previous studies (15, 16) have shown that education sometimes has small or no effect at all; yet our results shown self- efficiency (Table 3) to be associated not only with attendance at the "Step by step" educational course, but also with attendance at professional meetings and conferences on palliative care, which we believe might have reflected not only the level of ready knowledge, but also empowerment for better handling of problematic and complex situations (19). In this study the type of education was shown to be important and also palliative care provider's age, the latest probably due to experience and past experience based self-efficacy (Table 4) in regards of better knowledge and higher self- efficiency. Kelly, Habjan and Aegard found that a good strategy for improving access to palliative care services in rural and remote communities is to educate community-based health professionals in the knowledge and skills required to provide end-of-life care (17). The study of Burt and co-authors show how high is the importance of attitudes, self-efficacy

and experiences of the general practitioners (GPs), for their involvement in the palliative care for their patients (7). A shortage of knowledge of (acute) palliative medicine may be underestimated. Participants in our study had problems with nine (out of 34) questions about knowledge, which less than half of participating tutors answered correctly. Sharing professional responsibilities with the specialist palliative home care teams would lighten a GP's burden considerably (21).

The strength of the study was that we did not tested only knowledge, but also the self-efficacy regarding to palliative care. Both are needed for appropriate care for patients on end of the life (1, 6-9, 23, 11, 15). The "Step by step" program have been shown as a very good possibility for increasing the knowledge and should be implemented more widely at the different educational levels in Slovenia. However, further studies should validate the scale used in this study also in a representative sample of practising GPs in Slovenia.

Similarly to results of Klemenc-Ketiš and co-workers (24), emphasizing that older GPs, those with longer working experiences, specialists of family medicine and those involved in education had assessed their level of competencies higher, this study results shown older age in participants to be associated with better self-efficiency (Table 4). The aforementioned study also found out that GPs who had not attended any Continued Medical Education activity assessed their level of competencies lower (24) and this study results shown poor attendance to conferences was associated with lower self efficiency (Table 4).

Due to changing epidemiological situation (24) we will be soon confronted with more chronically and terminally ill patients, which could mean a challenge for the care-givers and health care providers. Some of the studies already pointed that out (21, 25, 26). Further research of palliative care related competence building would be important for reforming the educational model regarding to the expected epidemiologically changes at the patient and doctors level.

5. LIMITATIONS TO THE STUDY

This study was the first in Slovenia dealing with self-assessed knowledge about palliative Medicine at primary health care level and had several limitations. Firstly, further research would be needed to verify and/or explain the impact of gender at achieved knowledge about palliative care. Secondly, the group of participated GPs was of convenience, i.e. these were GPs participating in education programs for students and residents in family medicine and therefore not representative for all GPs working at the primary health care level. Concerning gender structure of participating tutors, in this study 76.8% of participants were females (Table 1), while in Slovenia, 70% of GPs are women (22), and that could have mitigated the outcomes of this study. The main limitation of this study is the fact that the palliative care related knowledge and self-efficiency were explored exclusively in family medicine tutors and not in representative sample of practising GPs in Slovenia.

6. CONCLUSION

When taking into account self-assessed knowledge and efficacy in palliative care, it was shown the capacity-building program "Step by step" to be an effective model for GPs. How-

ever, self-perceived efficiency due to past experience was also shown to be associated with the efficiency score, therefore we should be restrained in favouring specific capacity building programme at this time. By this authors' opinion, the Palliative Competence Scale needs further validation in regards of knowledge and efficacy assessment.

• Author's contribution

- All authors in this paper have contributed in all phases in its preparing. First author made final proof reading.
- **Conflict of interest:** none declared.

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