

Thesis of Doctoral (PhD) Dissertation

Roma health mediators in primary care: evaluation of the workload and health status of health mediators in the Primary Care Development Model Programme of Hungary

by Cintia Katona MSc
public health specialist, health psychologist

Supervisor: Karolina Kósa MD PhD



Doctoral School of Health Sciences

UNIVERSITY OF DEBRECEN

Debrecen

2021

**Roma health mediators in primary care:
evaluation of the workload and health status
of health mediators in the Primary Care
Development Model Programme of Hungary**

by Cintia Katona MSc

Doctoral School of Health Sciences
University of Debrecen

Supervisor: Karolina Kósa MD PhD

Head of the Defense Committee: Margit Balázs, MD, PhD, DSc

Reviewers: Ildikó Horváth, MD, PhD, DSc
Imre Rurik, MD, PhD, DSc

Members of the Defense Committee:
Margit Balázs, MD, PhD, DSc
Ildikó Horváth, MD, PhD, DSc
Imre Rurik, MD, PhD, DSc
Ferenc Túry, MD, PhD
Katalin Barabás, MD, PhD

Date of the defense: 11th of June 2021. 11:00.

We provide the public online. If you wish to take part in the discussion, please send an e-mail to somogyi.gergo@med.unideb.hu by 12:00 on the day before the discussion (10 June 2021).

INTRODUCTION

The Primary Care Development Model Programme

In 2007 Switzerland concluded a bilateral framework agreement with the Government of Hungary which set out the aim and scope of the Swiss-Hungarian cooperation efforts to reduce economic and social disparities within the enlarged European Union (EU).

The agreement specified four priority areas for funding of which human resource and social development was one. One large-scale community-oriented Programme in primary health care (titled „Primary Care Development Model Programme”) had been implemented in this priority area between 2012 and 2017 in Hungary that gives the framework of the thesis.

The Model Programme was designed to introduce group practices (called GP clusters) in primary health care to create a new operational model in Hungary – where all general practices were single-handed until then – which would support general practitioners to involve nonmedical professionals in order to enlarge primary care services and improve access to and use of these services for all population groups, including disadvantaged, among them Roma, people. Four group practices or GP clusters, each formed by six general practitioners, were established in two economically disadvantaged regions of the country. The Programme funded

the employment of nonmedical health professionals such as public health specialists, dietitian, physiotherapist, health psychologist to offer new services in the GP clusters. These new services were 1) health status assessment (HSA) for which all patients of the GP clusters were invited; 2) medical risk assessment based on the HSA; 3) lifestyle counselling; 4) community health promotion programs.

As a novelty, each GP cluster also employed 12 non-professional workers called health mediators (*“segéd-egészségőr”* in Hungarian) specifically for the purpose of facilitating communication and access to primary services for the most disadvantaged population groups. They were recruited from the local communities with no requirement for professional or vocational training and were employed half-time in the GP clusters. Mediators were supervised by the so-called public health coordinator who also supervised all nonmedical workers of the cluster. One of the major tasks of the mediators was to personally recruit those patients who received an invitation to the HSA but did not go; another task was to contribute to the organization and implementation of community health promoting programmes, and they also carried out simple health education tasks. Those eligible mediators who had no training in health care entered on-the-job vocational training and received qualification in assistant nursing.

AIMS

The aim of the research was to summarize and evaluate the workload and work experiences of health mediators in the Primary Care Development Model Programme implemented within the framework of the Swiss-Hungarian Cooperation Programme in Hungary.

The main aims of the research were the following:

1. to evaluate the workload of health mediators
 - a. in the Program as a whole;
 - b. in comparison among GP clusters;
2. to uncover the work experiences and attitudes of health mediators in the Model Programme;
3. to investigate the health status of the mediators through the duration of the Model Programme between 2013-2017.

METHODS

1. Work of health mediators

Study design and participants

The analysis examined quantitative characteristics of the employment and workload of health mediators employed at any time in the Model Programme between 1 July 2013 to 31 May 2017. Results are presented for the whole Programme (Results 1.A) and by GP clusters (Results 1.B).

Data collection

Data on the employment and activities of health mediators were obtained from administrative reports (monthly work reports) submitted to the Management of the Model Programme, and from the records of the Workgroup responsible for special programs for Roma communities. Data on the duration of employment and weekly work hours were recorded in an Excel spreadsheet for each health mediator who worked in the Programme during the 47 months between 1 July 2013 and 31 May 2017. Descriptive statistical analysis and Pearson's correlation analysis were performed in MS Excel 2016.

2. Work experiences of health mediators

Study design

A few months before the originally scheduled completion of the Programme (June 2016) we carried out a qualitative study conducting semi-structured interviews with health mediators to explore their work experiences and attitudes towards the Programme.

Structure of the interview

Interviews were conducted using 12 pre-defined questions arranged in four groups. The first group of questions asked about health mediators' reasons to join the Programme; potential changes their employment brought in their lives and

status in the family and community, as well as their ethnic origin and the role their ethnicity might have played in being employed in the Programme. The second group of questions related to their most important job responsibilities, work-related conflicts, and stress situations in relation to co-workers and clients, strategies to deal with such situations, as well as their own health behaviour and being a role model for others. The third group of questions asked their opinion about the model Programme, its strengths and weaknesses, cooperation with other employees in their GP cluster including their supervisor, the public health coordinator. The fourth group of questions concerned the interviewees' image of the future, and any other opinion or comment they thought important but was not addressed during previous questions.

Data collection and analysis

All forty health mediators employed at the time (February 2016) were invited and agreed to be interviewed. Interviews were conducted with everyone individually between February and May 2016 in the GP clusters after work hours. The interviews were conducted by myself and three other individuals who personally knew the health mediators but were not in a work relationship with them. All interviews, recorded with the agreement of the mediators, were literally transcribed into Word documents which were used for content analysis.

3. Assessment of the mental health status of health mediators

Study design and participants

The health status of mediators employed in the Model Programme from 1 July 2013 was monitored by a repeated cross-sectional questionnaire-based survey every odd year of the Programme. The first survey was conducted only among participants of the nursing assistant training that was ongoing at that time (2013). Each health mediator employed at the time was invited to the other two surveys in 2015 and 2017.

Data collection and analysis

Data collection took place three times (2013 2015, 2017). In order to maximize the willingness to participate, data collection took place during on-the-job trainings held at the University of Debrecen, geographically away from the workplace, co-workers and supervisors; participation did not require any sacrifice, financial or timewise. Participation in the surveys was voluntary and anonymous, and supervisors were not informed of the results. In addition to demographic data, subjective health, health awareness, sense of coherence, psychological distress, and dysfunctional attitudes were assessed by validated tools. Descriptive statistics was used for data analysis; correlation was tested by Pearson's test; analysis of variance was used to investigate change over the years. Categorical variables were analysed by cross-tabulation, and significance was

calculated by Fisher's exact test. Spearman's rank correlation test was used to examine the correlation between factor variables. Determinants of high psychological stress were examined by logistic regression for which stress was defined as a binary outcome variable.

RESULTS

1.A. Work of health mediators in the Model Programme

Health mediators spent most of their time recruiting for and helping with health status assessment. They had to visit those patients in person who did not show up for the HSA after written invitation was mailed, they had to convince these patients to accept the invitation and go for HSA. Another main task of the health mediators was to help organize community health events. Comparing the work hours of GPs, public health coordinators, and health mediators in relation to the number of patients belonging to GPs, health mediators had the most work hours per patient. Relating work hours to the number of patients who participated in the health status assessment, and in community health promoting events, health mediators were also found to have the most work hours per patient compared to the public health coordinators (GPs did not participate in these two tasks). However, health mediators had the shortest mean duration of employment and the highest proportion of those who left during the Programme. Bivariate correlation between mediator work

time and proportion of participants relative to all patients at the HSA and at health promoting programs, respectively, showed high positive correlations between these variables. These correlations, however, were not significant because of the low number of data points. Correlation between the work hours of health mediators and the number of participants at health status assessment, and health promoting community events can be assumed but not statistically proven.

1.B. Work of health mediators per GP clusters

The majority of the health mediators in the Model Programme were young to middle-age Roma women who raised an average of 2 children. The mean duration of their employment in the Programme was 33.5 months; nearly two-thirds (36 people, 62%) left before the end. Considering all available positions for health mediators, 45,120 total work hours could be clocked during the 47 months of the Programme in each GP cluster. The actual number of work hours differed from this except the Berettyóújfalu GP cluster. Total mediator work hours were 10% lower than possible in Heves and 3% higher in Borsodnádásd. Mediator work time per patient calculated as described in Methods was almost 2.5 times higher in the Borsodnádásd GP cluster compared to that of the Berettyóújfalu GP cluster, this being the largest difference among GP clusters. This indicator was 1.52 times higher in Jászapáti, and 1.32 times higher in

Heves compared to Berettyóújfalu. These indicators reflect the fact that health mediators had the least time for patients in the Berettyóújfalu, and the most time in the Borsodnádásd GP cluster.

According to the type of activity, mediator work hours relative to the number of patients who participated in health status assessment was the least in Berettyóújfalu, and the most, 1.8 times higher than that, in Heves. Mediator work hours relative to the number of participants at community health promotion events was also the least in Berettyóújfalu (38 minutes per participant) and the most in Heves (63 minutes per participant). Since it was not possible to calculate exactly how much time health mediators spent on a particular task, these ratios only reflect the relation of the four GP clusters in terms of the number and work hours of mediators relative to the number of participants in these two new services.

2. Work experiences of health mediators

All health mediators employed in early 2016 were invited and volunteered to be interviewed. 40 interviews were conducted with an average duration of 23 minutes. The shortest interview was 9, the longest 47 minutes. The audio transcripts totalled 104,977 words on 241 pages. After multiple reading and coding, three main topics were identified. The first topic included the personal attributes of the mediators, their motivation to join the

Programme, their daily activities, and the significance of their being Roma in relation to their work. The second topic captured their work experiences: relationship with cluster co-workers and patients, relationships established, and job responsibilities. The third theme was their vision for the future, including expectations for the future of the Programme, and their personal plans for their future.

3. Monitoring the mental health of health mediators

90% of those invited in the first survey (2013) completed the questionnaire. The response rate was 100% in 2015 (41 persons) and also in 2017 (32 persons). At least 73% of the mediators were at least in satisfactory health each year; the proportion of those who can do much or very much for their health was already high in 2013 (88%). Both of these indicators, as well as the mean score of sense of coherence and dysfunctional attitudes, and the proportion of people with high levels of psychological stress showed an improving, albeit not significant trend by 2017. Notable results emerged from the repeated surveys, namely, sense of coherence significantly increased from 2015 to 2017 among mediators who obtained vocational qualification in the Programme, and the proportion of those with high levels of stress did not change. However, among the rest of the mediators (who did not receive vocational training) the proportion of those with high stress significantly increased, and

sense of coherence did not change by the end. This result demonstrates that the vocational training during employment improves not only professional knowledge but also one's own mental health.

DISCUSSION

The presented research was carried out during the Primary Care Development Model Programme which was the first to introduce group practices (GP clusters) in the Hungarian primary health care system between 2013 and 2017. The Programme also aimed at the expansion of preventive services along with improving access especially for disadvantaged groups, including the Roma population. Our research evaluated the work contribution of health mediators as new members of the GP clusters by creating new indicators using administrative data of the Programme. To create these indicators, tasks performed relatively independently by the health mediators were taken into account. This included recruitment for health status assessment, and organization of community health promoting events. The new indicators accounted for all changes in the duration of employment and differences in work hours per week of the mediators allowing comparisons among GP clusters. The indicators neither reflect the actual time spent on different tasks nor the quality of work in relation to these tasks,

they are suitable only for making comparisons in terms of the utilization of health mediator work hours among GP clusters.

The contribution of health mediators to the new services is indirectly supported by the fact that 80% of the patients invited to the health status assessment as a new service did participate. This participation rate is outstanding, being 1.3-1.7 times higher than participation rates at previous national screening programs. The role of health mediators in this achievement was supported by indirect evidence in the form of narratives during their interview survey, and also in a separate patient satisfaction survey (not described here). The workload of health mediators differed among the GP clusters due to a number of factors, one of which being the varying professional experiences of the public health coordinators who directly supervised and managed health mediators. The workload of health mediators was highest in that GP cluster that employed the most experienced public health coordinator.

Regarding changes in the mental health of mediators, we proved that on-the-job vocational training improves the mental health of participants in the mid-term.

The Model Programme is significant at the international level in the sense that it was the first to employ Roma health mediators as equal members of primary health care teams. Employment of health mediators recruited from the local communities can increase the effectiveness of primary care especially in

geographical areas with high proportions of disadvantaged population groups.

MAIN RESULTS

1. Development of new indicators to assess the workload of nonprofessional health mediators in primary health care

The Primary Care Development Model Programme was globally the first in which health mediators were employed as equal members of the primary care team, funded from the same budget as other team members, and covered by the same obligations and rules as all other members of the GP cluster. Therefore, there was no precedent as to how their workload should be assessed, especially because their number and duration of employment varied during the Programme. We developed two groups of new indicators for evaluation. One group of indicators was calculated from the work hours of mediators and the number of patients in the GP clusters, and made comparison of the workload with other team members possible. The other group of indicators was calculated by considering the potentially maximum number of mediator work hours in a GP cluster in comparison to the actual number of total mediator work hours. Mediator work hours were also evaluated separately for health status assessment and community health promoting programmes, respectively. This latter group of

indicators made the comparison of mediator workload among GP clusters possible.

2. *Work hours of health mediators participating in the Model Programme can be evaluated among the GP cluster*

We used these new indicators to assess the efficiency of mediator work performance. Mediators spent the most time recruiting patients for health status assessment compared to other professional workers of the clusters which most likely contributed to the high participation rate at HSA. Notable differences were shown among the workload of mediators in the four GP clusters.

3. *Health mediator work contributed to the inclusion of disadvantaged population groups in primary health care services*

Content analysis of personal interviews carried out with the health mediators confirmed that they established a bridge between health professionals and their patients, especially the most vulnerable ones. They learned the operation of primary care, and using their insider knowledge of Roma communities, helped establish and increase trust in primary care services thereby increasing utilization of these services, including the new ones. They were overwhelmingly in support of keeping health mediator positions in primary health care. They became

members of the primary health care team; their self-esteem and respect in the community and in their families increased; and they became more health-conscious themselves. Altogether, health mediators had an overwhelmingly positive attitude towards their work, and they became convinced that the employment of health mediators would be very important in areas where the proportion of Roma and/or vulnerable population groups is high.

4. *Vocational training in health care improves the mental health of nonprofessional health mediators in the medium term*

The 5-year follow-up of the mental health status of mediators in the Primary Care Development Model Programme in Hungary revealed an improving trend in terms of all investigated indicators between 2013-2017. A notable result was the significant increase in sense of coherence – a measure of mental resilience – among those mediators who completed vocational training as opposed to those who did not. In terms of highly stressed mediators, the opposite was found. The proportion of highly stressed significantly increased among those mediators who did not complete vocational training as opposed to those who did.

ACKNOWLEDGMENT

I am most grateful to my supervisor, Professor Karolina Kósa for planning and coordinating our research from the very beginning, for her advice and constructive suggestions throughout, and for her sustained trust towards myself.

I would like to thank Professor Róza Ádány as Chief Scientific Advisor of the Primary Care Development Model Programme that she allowed me to join the Programme, and as Head of the Doctoral School of Health Sciences of the University of Debrecen supported me to carry out my doctoral studies.

I would like to thank Magor Papp MD, professional leader of the Model Programme for his support and help with my research.

I would like to thank Gergely Fürjes MD, professional deputy head of the Model Programme for his support and help with my research.

I would like to thank Éva Gutási, Zsuzsa Nagy-Belgyár, Anita Nagyné Farkas, Zsanett Kiss, and Amarilla Bálint as well as Júlia Chezan for their help in data collection.

I would like to thank the public health coordinators of the GP clusters: Éva Szabó Gombkötő, Edit Szabó, Ágnes Elek and Csilla Adrienn Tóth, supervisors of the health mediators for their indispensable help and support in providing data and information, and overall support to my research.

I am grateful to the Head GPs, directors of the four new GP clusters: János Cséki MD, Gábor Benkő MD, István Völgyi MD and János Szabó MD for accepting and supporting the health mediators and thereby supporting my research.

The pioneering work and support of the Head GPs and Public Health Coordinators of the GP clusters fundamentally contributed to the integration of health mediators into the primary health care teams for which they should be lauded.

FUNDING

The Model Programme had been implemented in the framework of the Swiss Contribution Programme SH/8/1. The project was supported by a grant from Switzerland through the Swiss Contribution. The preparation of the thesis was supported by the GINOP-2.3.2-15-2016-00005 project financed by the European Union under the European Social Fund and European Regional Development Fund.



Registry number: DEENK/100/2021.PL
Subject: PhD Publication List

Candidate: Cintia Katona
Doctoral School: Doctoral School of Health Sciences

List of publications related to the dissertation

1. **Katona, C.**, Gutási, É., Papp, M., Varga, O., Kósa, K.: Facilitating equal access to primary care for all: work experiences of health mediators in a primary health care model programme in Hungary.
BMC Fam. Pract. 21 (1), 1-12, 2020.
DOI: <http://dx.doi.org/10.1186/s12875-020-01281-z>
IF: 2.022 (2019)
2. Kósa, K., **Katona, C.**, Papp, M., Fűrjes, G., Sándor, J., Biró, K., Ádány, R.: Health mediators as members of multidisciplinary group practice: lessons learned from a primary health care model programme in Hungary.
BMC Fam. Pract. 21 (1), 1-9, 2020.
DOI: <http://dx.doi.org/10.1186/s12875-020-1092-7>
IF: 2.022 (2019)

Total IF of journals (all publications): 4,044

Total IF of journals (publications related to the dissertation): 4,044

The Candidate's publication data submitted to the IDEa Tudóstér have been validated by DEENK on the basis of the Journal Citation Report (Impact Factor) database.

16 March, 2021

