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State of health and health service of the population in Békés county

PhD-dissertation theses

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Introduction

In the industrial societies cardiovascular and malignant pathographies and multicausal, degenerative diseases cause the most serious problems of public health. Nowadays it is beyond doubt that the control and prevention of the diseases mentioned above can be successful if we stress to a greater extent the features of the given area from the point of view of social, economical, enviromental and infrastuctural facts. The risk factors of the most widespread public health diseases (lifestyle, enviromental exposition, standard of the local health service) show significant regional differences (SÁNDOR J., KISS I., BÉNYI M., BRÁZAY L.,EMBER I. 1999).

In the leading priority of death causes are diseases in which we have been the first for years. These diseases are malignant tumours considering either male or female patients but it is the same in connection with the death rate of heart and circulatory disorders although significant regional differences can be experienced within our homeland.

I think the economical power of a given country can be increased not only by the capital investment arriving in the country but with the ability to preserve the health of the able to work age-group contributing to the national income. The healthy man is the basic condition of the efficient function of the economy. All these are difficult to imagine in such a way that the predicted lifetime at birth is worse only in the states of the former Sovetunion than in our country in Europe.

A widely known fact is that, too the Great Plain- within it Békés county- always belonged to the backward regions of Hungary either economically or infrastucturally. More sociological and social geographical studies discuss that one of the most significant problems of the Great Plain is lack of „social capital" so the increasing number of the grown old age group caused by migrating.

In addition to the permanent unemployment the lack of a regional union afflicts the region, the social activity is low, a considerable number of the inhabitants want the solution from the state or government.

Békés on the basis of its development is in the 3rd or 4th place from the end precedence between the counties. Its lag can be attributed to economical and social causes.
The most significant causes are:

- the disadvantageous geographical location, the considerable distance from the dinamically developing centres
- the deficiency of traffic infrastucture
- the stress of economical output
- the lack of trainings relevant to marketing claims hereby the insufficiency of human source.

At the census of 2001 there were altogether 125.000 employees, which was 31,5 per cent of the county population.

The problems mentioned above considerably influence the inhabitants' state of health, the general state of health gradually become worse and worse, due to the migration the population is grown old, which needs reaction from the social and economical sectors. An appropriate act plan is inconceivable without the exploration of connections between the facts and different participants. The health geography is the complex field of research of these problems which belongs to the young branches of science in Hungary.

The appearance of geographical studies in the scientific literature studying the spatial occurence of the populations'state of health started in 1960s.

The institutionalization of the combination of geography and medical science can be estimated at 1964. The Health Geographical Committee of the Hungarian Geographical

Society formed that year, which published its magazine–Geographia Medica Hungarica– with articles of Hungarian authors published in foreign languages. The magazine was published as the international scientific magazine of health geography between 1969-70 with the title of Geographia Medica. Because of financial problems its publication stopped rather it combined with the magazine of Journal of Health and Place (V. PÁL. 1998).

A younger tendency of health geography which deals with the inequality and problems of the public health system gained a larger ground in the 1970-80s. One of the significant representatives of this field of research is Éva Orosz, who examines the spatial differences of the public health system and the consequences of the problems derived from it in her several publications (É. OROSZ 1985, 1989, 1993, 2004).

In Hungary more and more complex analyses can be found which examine the state of health and health infrastructure both separatedly and together. The names of István Ember , Viktor Pál and Annamária Uzzoli can be stressed as the authors of these analyses.

Thanks to István Ember and Viktor Pál the health geography appeared in the faculty of medicine which can considerably contribute the elaboration of efficent health plans (A.UZZOLI 2001, 2004, V. PÁL 2006).

The researches involving in the health geographical areas in the Southern Great Plain started in the 1970s-80s. József Tóth whose scientific achievement is thightly connected with the Great Plain plays significant role in starting the researches. His work „Az urbanizáció népességföldrajzi vonatkozásai a Dél-Alföldön" (J. TÓTH 1977) was published in 1977, which shows the role of the centres played in the regional concentration and job restratification. At the same time as it gives a good base to the future researches with the analysis of hierarchy in the centres and the area.

Between 1978 and 1980 József Tóth was the leader of „Közép-Békési centrumok koordinált fejlesztését megalapozó kutatások" Centre of MTA, whose results were published in 1981.

I emphasize as an interesting fact that more than 20 years were needed for the signing of the Central Békés Cooperation Contract.

The complex research material in the view of all centres intended a separeted chapter for the public health care system.

The research work of the area was done by Bálint Csatári who stressed that the region had a worse health care than the country-wide average for a long time , but for the period of research the high percentage of vacant medical jobs was typical (B. CSATÁRI 1981).

The name of József Becsei should be stressed in the subject of population geography as a co-science who examined the populations' composition, the towns, the geography of settlements and the transfomation process in the Great Plain touching the public health care in his several work.

Studies were made in the medical science but these are generally descriptive, they want to show the situation of a disease in the county and settlement, but they do not show the cause and effect in all the cases. The exception is Márk László's county research work studying ischaemic heart diseases. In his research work not only did the author examine certain health risk factors but he showed the role of the social and economical conditions in the small settlements of the country (L. MÁRK 1996).

Éva Orosz was mentioned in connection with her country research results made in the 80s who in the scientific conference called Alföld Ankét examined the public health care infrastructure in the Southern Great Plain in a work cooperating with JUDIT TÍMÁR.

Now in the Doctor School of Geographical Science at the University of Pécs there are several health geographical researches in more fields. ERZSÉBET KAJTOR examines the state of health and public health care in Nógrád county, while GABRIELLA KALMÁR examines the situation of medical diagnostical laboratories. PÁL VIKTOR'S work had a great importance in

the previous researches who examined the place of health geography within the social geography both theoretically and practically, and GÉZA ANTAL who mapped the regional differences of the patients' rights in 2006.

Aims and applied methods

The aim of the dissertation is to analyse the spatial inequality appearing in public health care and the state of health by using an overall picture and by this means giving a detailed picture of the present situation of Békés county and Gyula region.

Nowadays a lot of facts can be accounted for the research of the regional questions of public health system and the population's state of health:

- on one hand within the country there are important spatial differences in connection with the population's state of health and the demographical changes because of the eastern and western affections which appear at the same time and due to which the high death rate is combined with low birth number (P: JÓZAN 2002)
- on the other hand in the past period several acts have come up, whose fundamental aim is to increase the efficiency of the present health care system and helping the adjustment to the changed demands.

These acts touched all the provision levels, but the most significant changes were at the institutes doing the medical attendance of in-patient institutes.

According to the basically disadvantageous situation of the county and the problems mentioned above I examined the questions below in he thesis.

- How can public health service be defined as the service of a welfare state?
- What does state of health mean and how can it be measured by statistical and epidemilogical means?
- What facts influence the state of health?
- What role does the quality of health care in the state of health of the society have?
- What does the equality of chances of availablity for the public health care cover?

In the detailed part of the thesis I am looking for the answers for the following questions:

- What is the state of health of the county like comparing with the other counties?
- Why did significant differences form in the state of health especially regarding the Southern Great Plain?
- What is the health infrastructure of the country like?
- Did the possibility of free choice for doctors influence the number of the patients arriving from the provision areas after the change of regime?
- Which are those unexploited areas, with the development of which the health and social infrastructure would be developed, too?

The starting hipotheses of the thesis are the following in accordance with the questions above.

- The social and economical structure of the county defines the areas with good and bad state of health.

- The inhabitants living on farms and in settlements with low inhabitant number are in the worst situation in accordance with the health indexes and access of the health care.
- In spite of the unfavourable indexes of the Great Plain the inhabitants' state of health lags behind the country-wide average only in some fields in Békés county.
- Entirely the public health care of the county is not worse than the country's but due to the settlement structure the access is harder.

The final aim of the thesis with the study of the questions above to be the part of an interdisciplinar long term health plan with the help of a detailed, authentic picture which touches the further developing conception of the settlements.

In accordance with it I endeavour the realization of the next aims in my dissertation:

- Forming an overall picture of the present public health system and the changes happened in it in the country, and giving a detailed presentation of the present situation in the county.
- A survey of population's demographical indexes which partly focuses on the whole population of Hungary, partly it shows a picture of the situation in Békés county.
- With the help of a regional case study the health behaviour of the inhabitants and the use of public health system will be shown on the basis of which a professional health plan could be made.

The complexity of the research aims and theme means the approaching and working the problems out from many sides.

In the general part of the thesis first of all the working up of scientific literature happened with a descriptive method and the detailed part of it is founded on morbidity and mortality data of KSH, the number of patients reported by hospitals and the basic public health care and on the results of the questionnaire survey made by EgészségPorta Egyesület Heath Society and Gyula region. The research methodical background of the study was ensured by National Methodological Professional Centre.

The questioning people were the students of the Health Faculty of Tessedik Sámuel College after a previous training.

The results of the study for Gyula region is representative that I used in forming the health picture.

Results

Results of the complex health geography study in Békés county

The population of Békés county has decreased for the last 25 years similary to the other counties in the country, comparing 1980 January with 2007 January fewer people lived in the county with 15 per cent, and this tendency has continued since then. The situation is harder here because regionally the highest decrease is in Békés county, annually on average with 2100 people live fewer in the county. In 1996 there were 410.000 inhabitants , in 2007 this number hardly was higher than 382.000.

The territory of the county is 5631 square kilometres, the population was 382.190 on 1st 2007 which means that on the 6,1 per cent of the territory of the country 3,79 per cent of the population live there. Due to the, huge settlement' settlement structure the county belongs to the counties with a low density of population, there are 68 inhabitants for one square kilometre, this is fewer with 40 people than the country-wide average, (the country average is

108 people per one square kilometre) but it lags behind the regional 73 per square kilometre, too.

69,9 per cent of the population lives in 19 towns of he country, and the remaining 30,1 per cent in the 56 villages (A. DÉNES MAJLÁTHNÉ, A. MAYER, M. PALYUSIK, A. SZŰCS, M. TÖLCSÉR, 2004).

On the basis of morbidity and demographic data the population's state of health can be described with the following features:

- The live birth rate of 1000 inhabitants lagged behind in the 1960s the country-wide average, by present days this divergence has increased.
- The number of abortions has been quite high, 50 abortions of 100 births.
- The whole fertility rate is 1,22 which leads to a further significant decrease of the population on the long term.
- Regarding the death rate we are in the last place in the country, it reached 15,2 of 1000 inhabitants in 2007.
- The predicted lifetime at birth for men is 68,49 years, it lags behind the country-wide average with half a year.
- Comparing the country, the regional and county death rate, it can be stated, that if the country feature is 100 per cent then the feature of the Southern Great Plain is higher than that with 6, 06 per cent and that of Békés county is with 15,15 per cent.
- Regarding standard death quotients the women's indexes are worse than the men's and within the region Békés county has the worst indexes.
- Circulatory disorders as the causes of death in the county, and within them the ischaemic heart disease and cerebrovascular disorders are the most common.
- The death data caused by ischaemic heart disease is higher with 2 per cent, the cerebrovascular disorders with 3 per cent than the country-wide indexes.
- Significant regional differences can be experienced in the case of live birth and death, and since 1960 those areas have been seen as areas losing population in the county. The settlements of the county can be counted among these groups on the basis of it.

Birth / Death	Under average	Average	Over average
Under average	Orosháza, Szabadkígyós, Kardoskút, Kondoros, Körösladány, Köröstarcsa, Lökösháza, Okány, Pusztaottlaka, Tarhos, Újlígyos, Mezőgyán	Csárdaszállás	Kertészsziget, Szeghalom, Füzesgyarmat, Gyomaendrőd, Mezőberény, Elek, Bucsa, Csorvás,Doboz, Sarkad, Kardos, Kétegyháza, Körösújfalu,
Average	Magyarbánhegyes,		
Over average	Kevermes, Kétsoprony, Mezőkovácsháza, Mezőhegyes, Biharugra, Ecsegfalva, Tótkomlós, Hunya, Dombiratos, Szarvas, Békéssámson, Kötegyán, Bélmegyer, Békésszentandrás, Gádoros, Csanádapáca, Gerendás, Kaszaper, Méhkerék, Murony, Nagybánhegyes, Nagykamarás,	Békéscsaba, Dévaványa, Kamut, Medgyesegyháza,	Vésztő, Csabaszabadi, Kisdombegyház, Geszt, Gyula, Battonya, Békés, Magyardombegyház, Dombegyház, Almáskamarás, Csabacsüd, Kunágota, Körösnagyharsány, Medgyesbodzás, Örménykút, Pusztaföldvár, Újszalonta, Végegyháza,

Chart 1: Classification of the settlements in Békés county on the basis of live birth and death data, 2006
Source: Statistical Annals of Békés County, 2006 on the basis of CD-ROM data, chart constructed by the author

- The only fact is that in the case of the born babies, the infant mortality is under the country-wide average which mainly can be thanked to the development of public health care and Perinatalis Intensive Centre (PIC) in the children's department of Pándy Kálmán Hospital.
- Due to all these the county made a negative record in the field of losing weight naturally with -7,2 index in 2007 (www.ksh.hu)..

The features of inland and international wanderings can be summarized in the below:

- In the case of inland wanderings the number of migrants has been higher for years than the number of immigrants to the county.

- The direction of wanderings is typical within the county so from a village to a town or from a small town to a bigger one which makes the situation of the smaller settlements even harder.
- The migration first of all is typical for the young age (20-29). All these have further consequences because this age-group is single or before starting a family which will not happen in our county.
- The burden of the inhabitants staying here increases and in this way an older-age-population stays and their state of health moves towards unfavourable directions.
- Due to it beside the society the load of public health and the social spheres is big.
- Comparing our county with the Southern Great Plain the wandering difference is 3,0 so we are in the first place within the region.
- It is good in the field of international mobility that joining the European Union has not increased the number of emigrants.
- Much more people arrive in the county (and the country)than those who emigrate.
- Recently we should have faced the fact that fewer and fewer people choose Békés county as their final aim of settling.
- The migrants to our county first of all arrive from Romania, Germany, Serbia and Montenegro.
- Those who have a residence permit and a permission to reside mainly arrive with the aim of family union or employment.

In this present summary in connection with morbidity data we should stress that the reliability of those differ in significant degree from the mortality data. The hidden morbidity indexes can differ significantly in different diseases (I. DÉSI 2005).

- Among the lung and respiratory disorders regarding TBC the county comparing with the region and the country, has a favourable situation (Chart 2).

Regional unit	Registered TBC patients' rate of 100.000 Inhabitants	New TBC patients' rate of 100.000 inhabitants	The rate certified bacteriologically
Central Hungary	23	24,8	12,8
Central Transdanubia	10,4	12,1	5
West Transdanubia	10,8	12,7	5,3
South Transdanubia	11,3	13,3	6,3
North Hungary	15,7	18,4	10,5
North Plain	23,8	25,5	10,7
Bács-Kiskun county	*12,1*	*17,9*	*4,3*
Békés county	***6,3***	***9,4***	***6***
Csongrád county	*8,5*	*9,9*	*4,7*
South Plain	**9,3**	**12,9**	**4,9**
Country-wide	**16,6**	**18,3**	**8,9**
Békés county in South Plain percentage	**67,7**	**76,74**	**122**
Békés county in country-wide percentage	**37,9**	**51,3**	**67,4**

Chart 2: Regional and country-wide comparison of TBC diseases on the basis of data of health centres , 2006

Source: On the basis of Health Statistical Annals, chart constructed by the author

- Considering asthmatic diseases and hay-fever the situation is not so favourable but the number of the ill patients having treatment is not over the country-wide average.
- In the view of mental diseases the morbidity data in Csongrád county is the highest, the data is quite favourable in Békés county the rate of the ill people of 10.000 inhabitants is the half of the country-wide average. But this is significantly influenced by the patients from the capital city who were placed to countryside homes so their data appeared in those statistical indexes. Within the region there is an institute like that in Csongrád county, too.
- Among the mental diseases one of the biggest problems is the addiction especially alcoholism. Among the counties regarding either the registred patients or the new ones Békés county is the first, the difference from the data of other counties is not significant. Drug taking has been stressed more widely since the 90s among the addictive diseases.

  Similary to addictology the data of the registered patients given by the drug outpatient departments means only the tip of the iceberg because today more and more surveys show that a significant part of the teenagers has contact with different kinds of drugs.

The drug outpatient depatment has functioned since 2002 in Békés county as a form of care. They meet a narrow layer because those who apply to them have another health problems, too.

Unfortunately, the number of the treated patients has increased for years. Their rate of 10.000 inhabitants has tripled since 2000 both in Békés and Bács-Kiskun counties and some decrease is experienced only in Csongrád.

The rate of the daily consumers has increased half as much again and the rate of opportune drug users has become sixfold. In Gyula according to the survey made by Kábítószerügyi Egyeztető Fórum (Drug Conciliation Authority) the results are similar, emphasizing the fact that the most widespread is marihuana among the young and they consume some medicine and alcohol together, too (Gyula város kábítószerellenes stratégiája és cslekvési terve 2002-2012)

- The patients treatred in general practitioners' practices and paediatricians' practices can be said that in the region and the county the biggest problem is the high blood pressure and the risk factors connected with it. In Békés county 2180 men and 2881,3 women of 10.000 inhabitants struggle with this problem.

  Partly due to it in our county cerebrovascular death is exremely high in the case of women.

  In the case of children there are not certain regional data but in the 2005/2006 school year in the 5^{th} year 107,47 girls and 115, 99 boys of 1000 examined children belonged to the overweight category and at this same age 5,88 girls and 7,87 boys of 1000 children struggled with high blood pressure.

After this mortality and morbidity summary it is important to study what the population's access is to the health care like. I want to show the review of it by showing the provision levels.

In accordance with it I start with the basic care, whose organic parts are the following provision forms:

- General practitioner's, paediatrician's
- Central duty
- Nursing service
- Medicine supply

On the basis of the present administrative list the dentistry belongs to this group, but because of its significant changes and its direct care I discuss it in the satisfactory public health care.

It can be stated about the general practitioner's network in Békés county that there are 193 doctors for adult patients and 55 paediatricians. The number of inhabitants for one GP has decreased for years but at the same time the number of patients has grown.

At present the number of the adult patients for one GP is 1980, in the paediatrician practice this number is 1011, altogether within the county significant differences are experienced (Figure 1).

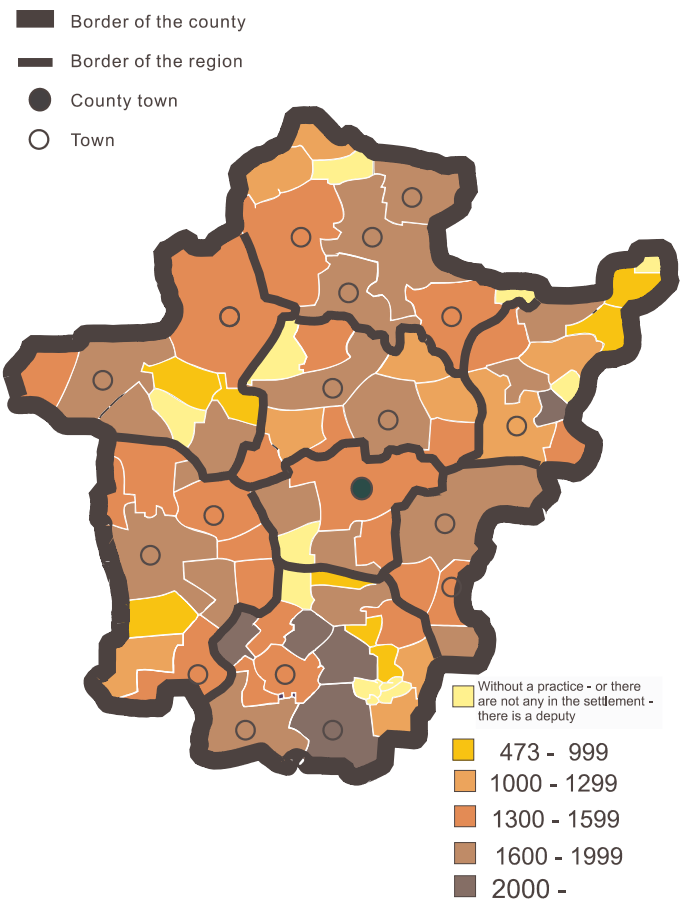

Figure 1: The number of patients for one GP, paediatrician in Békés county, 2006
Source: On the basis of Health Statistical Annals , 2006 a cartogram constructed by the author

It can be stated on the basis of the county data, that the number of patients appearing in the surgeries increased with 23 per cent between 2000 and 2006, at the same time the visiting times in flats decreased with 5 per cent. Appearing in the paediatrician surgery and visiting times happened in flats were similar. The number of families requiring increased treatment changed minimally but in the recent time there have been more mistreatment of children.

With the increasing number of appearings the number of referral written by specialists increased, too The increase is 48 per cent in the case of diagnostical referrals and 59 per cent is in the case of referrals to outpatient departments. Similary the increase was 48 per cent in the case of referrals to in-patient institutes. All these mean that although the number of patients needing treatment decreased but the burden of clinics and in-patient institutes increased. Békés county is in the first place with these indexes comparing with the other counties in the region. The health political endeavour, whose aim is the treatment of the patients should happen at the lowest level, is not effective at all.

In 2000 222, in 2006 only 214 people worked as a district nurse in the county. At the same time the number of visiting hours is over the regional and country-wide average with 20 per cent or 40 per cent every year.

The central duty care joins the GP care. In the last 25 years a significant development happened in this field. In 1980 only 5 duty services supplied 55 settlements, in 2005 the supply of all the 75 settlements was ensured with 14 duties. The personal conditions improved similarly: in 1980 6 doctors did this job,by 2005 this number increased 19 doctors a day,and in the county 177 doctors altogether take part in the duty. Similarly to the GP patients, the

patients appearing at the duty and the number of visiting times happening by calling increased comparing with the 1980s, the number of those who went to duty last year became stabil with 60.000 and visiting times by calling is about 25.000.

The next part of the basic care is the network of health visitors and the school doctors. Due to the decrease of the birth number the health visitors job decreased with 5 per cent between 2000 and 2006 which is above the regional and country-wide average. In 2006 among the 210 employments 11 vacant lists were registered. The degree of decrease which is the quadruple of the country-wide data is alarming then when in defence of the young more preventive jobs would be the health visitors' responsibility. It is a fact that the number of the visiting times of pregnant mothers shows 25 per cent decrease at the same time among the remaining visiting hours the number of families needing increased care decreased 10 per cent.This shows that among present pregnant mothers or those who care a new born baby the number struggling with social or health problems has increased.

It can be stated as a fact of the health visitors' network that 41 of 199 health visitors work as a school health officier and it means 300 per cent development comparing with the 2000 year.

The other measure of improvement is that in 2000 in some places the regional health officer worked as a school health officer in part-time, by 2006 the number mentioned above do this job full time. The school doctor care joining it is done by the paediatrician practices.

Medicine supply belongs to this provision level. In 2007 due to the reforms in the health care system the number of pharmacies increased rapidly, at the same time medicine without a prescription can be bought in department stores or at petrol stations. The pharmacies first of all settle down in the proximity of health care institutes, so the supply is excellent in settlements where a bigger health care institute(a clinic,.a hospital, a bigger policlinic)there is. In Békés county in 2006 86 civil pharmacies and 4 institutional pharmacies functioned but their regional division became extremely differentiated because of business political decisions. The 2006 –year– conditions show the situation mentioned above before the government decision but the regional differences which increase due to the race can be followed. This year 4220 inhabitants were for one pharmacy. There were not any civil pharmacies in 26 settlements in the county but the neighbouring bigger settlements or towns supplied these settlements. Despite of it the supply is not worse than in other parts of the country. Because of the regional differentiation, the settlement construction and traffic difficulties to reach these destinations is a significant problem for the inhabitants in many cases.

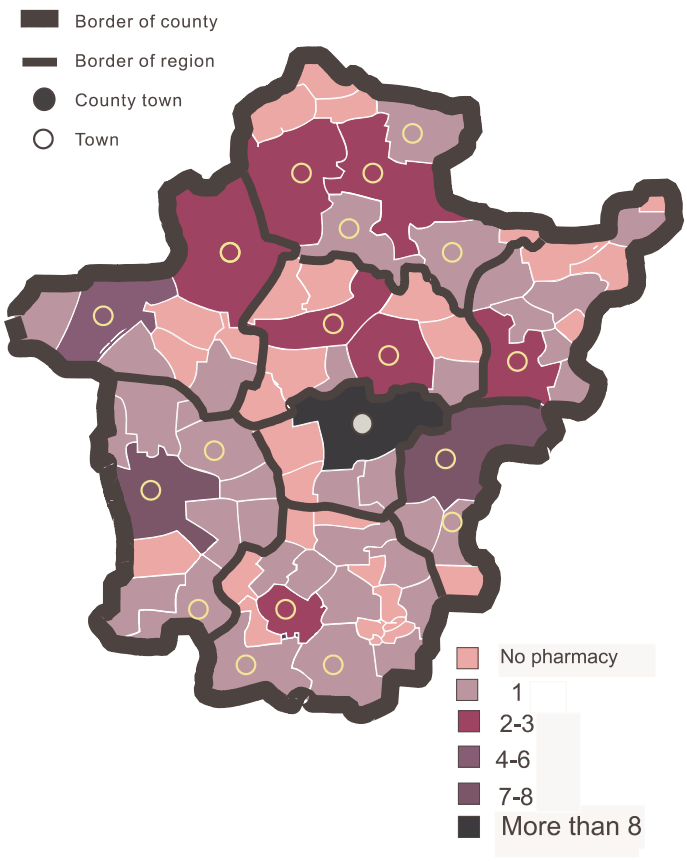

Figure 2.:Number of pharmacies in the settlements of Békés county, 2006
Source: Health Statistical Annals,2006

The most (14) pharmacies are in Békéscsaba, Gyula is after it thanks to the county hospital. These data changes continuously because of the pharmaceutical liberalization. At present there are 9 civil and an institutional pharmacies in Gyula and in 2008 a new one was opened. The satisfactory health care is based on the basic care whose parts are:

- Outpatient clinic
- Ambulant treatment
- Health centres
- Home care service

Specialist outpatient clinics and ambulant treatment departments differ from each other, an outpatient clinic basically gives a consilium for basic care, an ambulant treatment department decides about the patients apply sent to hospital and caring of in-patients.
In the county the outpatient institutes have different provision facilities, the radius of the region of the clinic is on average 30 kilometres.
A clinic can be found in the following settlements at present:

- Békéscsaba
- Gyula
- Orosháza

} Integrated institute with a hospital

- Békés
- Gyomaendrőd
- Mezőberény, three outpatient clinics
- Mezőkovácsháza

- Szarvas
- Szeghalom

In those places where this distance is bigger than this the present government tries to decrease the inequality of care with estabilishment of new outpatient clinics.
Thanks to it in Békés county preparation of building a new clinic started in Sarkad region. The next settlements will belong to the district of the new clinic: Biharugra, Kötegyán, Körösnagyharsány, Méhkerék, Okány, Sarkad, Sarkadkeresztúr, Újszalonta, Zsadány so the north-east part of the county. According to the plans 17 outpatient clinics and a new ten bed „one-day hospital" will function in the centre of the region care.In 2005 638 full time doctors supplied the region in outpatients, the fewest full time doctors are in Békéscsaba.

One of the reasons for it that in the three towns with a hospital the doctors working in inpatients supply the clinics, too. It is impossible to get a specialist care in a significant part of smaller villages which is a great problem for the elder age-groups.

So the development described above and the mobile specialist care have great significance.
In 2006 in the county the appearing number of outpatient sick was above 2.300.000 (2.328.543) which shows the relatively big capacity of the outpatient clinics, this means 606,4 index for 100 inhabitants which is on average regarding the counties of the region and the country-wide data. On the contrast with it if we do a chronological analysis regarding the number of treatment in the clinics it has been growing from year to year. The most treatment was in Csongrád county but Békés county is continuously above the country-wide average.

Differing from the West-European practice in Hungary an other network formed to deal with people suffering from certain diseases like psychiatric, addiction, tumour, tuberculosis, dermatological and venereal diseases. In addition to the treatment the screening and prevention are the jobs of these networks.

	Bács-Kiskun county		**Békés county**		**Csongrád county**	
	number of institutes	number of patients	number of institutes	number of patients	number of institutes	number of patients
Pulmonology	8	104317	9	90722	6	76451
Psychiatry	7	53360	8	61953	6	109207
Addictology	5	5864	6	4080	6	4110
Dermatology and VD sufferer clinic	6	116222	6	78403	5	95787

Chart 3: Number of clinics and patients in the countries in the Southern Great Plain
Source: Southern Great Plain Statistical CD-ROM, 2006.

The number of the patients of the clinics except for the oncology and psychiatry gradually decreased in the region except for Békés county where this tendency was true until the end of the 90s but between 2000 and 2006 some increase can be seen.

The increase of patients in psychiatry is mark in the view of social problems and it shows the lack of that social net which would help the person's struggling in some situations. It shows that the financial situation of the families continuously decreases, the lack of employment creates a kind of difficult situation. The increase of asthmatic diseases is in the background of the increased traffic in pulmonology clinics. Fortunately, in the county the homelessness and physical negligence connected with that did not appear in such a measure which would have led to the increase of patients suffering from TBC.

The third organic components of satisfactory care is dentistry. This care changed in several ways in the last decades, the cardinal point of it that its significant part (dental

prosthesis) claim charge except for people under 18, pregnant women and those pensioners who get free medicine. Due to these facts the dental hygiene of the population continuously decreased. Due to the charge the free choice for doctors succeeded more powerfully than in the case of GPs. More dentists work in more settlements within the county. Regarding the provision the situation of the country meets the country-wide average.

The change did not spare the children's odontology, an organized school odontology has functioned in the country since 1986, whose main aim is the prevention. This form of treatment remained by today but the parents can decide not to use it with their children. There are some studies about its consequences, whose results can be summarized in the following:

- In the 90s the dental diseases appeared considerably in the country.
- 25-30 per cent of the 5-6-year-olds has good teeth.
- On average the 12-year-olds have 4 of their teeth ill, 75 per cent of them has gum inflammation.
- 66 per cent of the 18-year-olds has totally good teeth which gradually get worse later on.

Last but not least I would like to present the situation of home care services in the county. At present 19 services supply the inhabitants – some services supply more than one settlements – (figure 3) but the covering is not 100 per cent, in 14 places the are not accessable services.

More among these services supply not a continuous area which influences the efficiency and the quality of treatment in large measure. The forms of treatment can be grouped into fewer types:

- professional care
- remedial exercises
- physiotherapy
- speech therapy

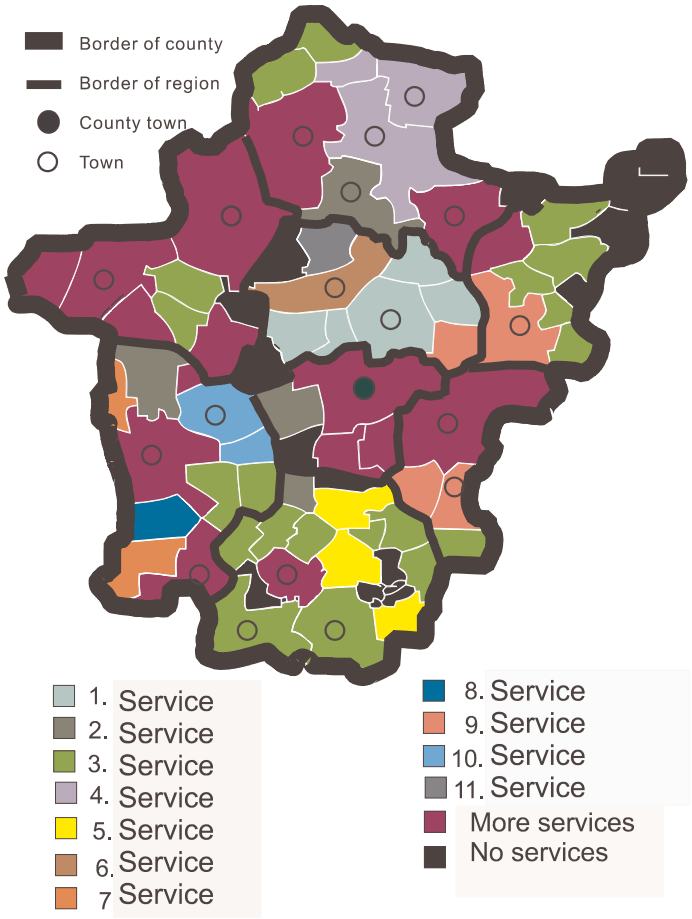

Figure 3: Home care services in Békés county, 2008
Source: www.oep.hu data, a map constructed by the author

According to the performed visiting times it can be said the biggest need is for special treatment and remedial exercises, and old patient going home from traumatology and other operative departments make the greatest part of the care. The division of the age is suitable for the country-wide average, two of them often occured problems are important to stress.

- The number of certain visitings is not enough for the patients appropriate care.
- Because of the lack of the social care the service is asked to do by basic care in many cases.

The consequences of these are the patients spend longer time in in-patient institutes. In Békés county at present there are three big institutes like this in Gyula, Békéscsaba and Orosháza. The county institutes are selfgovermental maintained, the number of hospital beds for 10.000 inhabitants is 73,3- better than the regional average (72,1) but lags behind the country-wide average (79,7). After the reforms the rate of chronic and active beds changed in a significant way, a further change was that the fourth special-pulmonology care institute-was integrated to Pándy Kálmán County Hospital with significant chronic capacity (50 active, 150 chronic beds). Apart from the increase of chronic capacity it is typical that the whole number of the beds of the institutes decreased with 14 per cent. The transformations were because of the changes of the population's demography indexes and the rationalization of care.

The area of the care changed continuously, the inpatient care is done by the stressed hospital in the most special areas. These are following:

- oncology
- radiotherapy and oncoradiology

- dermatology and venereal disease care
- reumatology
- infectology
- psychiatry
- children and youth psychiatry
- hematology
- angiology and clinic immunology
- vascular surgery
- neurosurgery
- children gastroenterology

Réthy Pál Regional Hospital in Békéscsaba-similary to the hospital in Gyula- has the responsibility of county-wide care in the field of orthopaedics. The care areas of the basic jobs are divided these care areas only mean the responsibility due to the free choice for doctors they form almost in every field in a significant way even in many cases, for example neurology and oncology, the real care area is over the borders of the county. The regional division of in-patient care -except for endocrinology and nephrology-basically changes between hospitals of Gyula and Békéscsaba. Sometimes the hospital of Békéscsaba treat more inhabitants whose reason is that in the special fields listed above the county hospital is responsible for the whole of the inhabitants in the county.

The pulmonology hospital has its special function after the integration the pulmonology treatment is between two counties. The patients belong to the areas of Gyula and Békéscsaba are treated in hospital of Békés county, the ones belonged to the area of Orosháza are treated in hospital os Deszk.

The human worksources of the institutes are suitable for the country-wide average the 96 per cent of the jobs as doctors and specialists are occupied. The professional indexes– due to the college in Gyula– the highest in the county hospital, 12 per cent of the nurses working besides beds has college or university qualifications and 44 per cent of them OKJ qualifications so the indexes are better than the country-wide average in Békéscsaba, too, and they are suitable for it in the hospital of Orosháza.

The summarizing results of the research connected with health picture of Gyula region

In the previous chapter I showed that there are very little information about the social and enviromental facts affecting the state of health and about the hidden morbidity. In connection with the case study stated detailed in the thesis not only was the importance of health picture known in the field of research but bigger and bigger demand arises from the profession and the self-government to supply the lack. So together with a lot of organizations (myself from the county hospital and private organizations) Gyula Region with Several Aims put in for the possibility offered by EgészségPorta Association in 2007, which gave a chance to form the health picture of the region using the method of questionnaire and screening risks.
In this case study first of all I am showing the results of the questionnaire based on selfappreciation, the questionnaire used for survey is the same with the used one at OLEF 2003, so the indexes can be used well for analysis of the problems with the same and the different ones of Gyula region. In the next I did not all the cases do country-wide comparision because I tried to show concentrated the local problems. I rose comparising data where those significantly differ from the country-wide or from the other regions.

In the country this survey was made in 8 regions, analysis and working up were done by local experts and on the basis of it they made the health map.

As it can be seen not in all the cases the regions defined administratively took part in the competition, in some cases (for example Szuhavölgye) self-governments make decisions, they try to find a solution to their problems entering into an alliance with each other. In the case of Gyula region compared with the formation in 2004 changes happened which I will detail in the introduction of the region. The winning regions are:

- Aszód region
- Csengőd micro-region
- Gyula region
- Palotás micro-region
- Pannonhalma region
- Szuhavölgye alliance
- Tamási region
- Tiszavasvári region

The aim was to fill in 1000 questionnaires according to the representative samples with the professional leading of National Professional Methodological Institute. The questioning was done by local college students who started their job after a training.

It is important to say that the present research is the part of a wider social union and local political decisions whose final aim is to work out a long term programme to develope the population's state of health in the region. A complex economical and social programme started, whose part is the healthy man, too.

Gyula region was formed on 14, June , 2004 with the union of Gyula, Elek, Kétegyháza, Lőkösháza, Szabadkígyós, Újkígyós. The latter two settlements went out from the union on 31, December, 2007. Among the settlements on the eastern border of Békés county two of them have a town rank both of them are bordered by Romania. In Gyula and Lőköháza there are a constant frontier, in Elek there is a temporary frontier crossing.

- Territory: 411,5 square kilometres
- Population: 44 094
- Density of population: 106,02 person/square kilometre

The density of population is much more above the index in Southern Great Plain which is 73,2 people per square kilometre almost reaches the country-wide average(108,2).

- On the basis of demographic data it can be said that in the last 5 years in all the 4 settlements, in different rate, but the number of population decreased, the biggest decrease of the density of population can be experienced in Kétegyháza where the decrease is 6,1 per cent comparing with the census in 2001.
- The social-economical status and the qualifications considerably determine the individual's state of health.
- 23 per cent of the repondents qualified their state of health bad or very bad, 40,2 per cent satisfactory.
- Three-quarters of the respondents think that- they have a significant role in the influence of their state of health and 5,2 per cent of them thinks that they can not do anything about it.
- The half of the respondents never, 28 per cent smokes regulary, 30 per cent of the men and 25 per cent of the women are a regular smoker.
- The women who smoke are middle-aged.

- The men are predominated among the alcohol consumers, 29,5 per cent of the men consume alcohol daily or wekly comparing with 4,8 per cent of women, and this difference is significant.
- Everbody has some basic information about the healthy diet but the qualification is a considerable fact using healthy meals consciously.
- Among the respondents 60 per cent is overweight or fat, this problem is more typical for men than women.
- 95 per cent of the respondents does some exercises daily or at least once a week, equally men and women, typically the middle-aged men.
- Doing exercises decreases considerably at an elder age, half of the women over 65 does not do exercises at all in their free time.
- 36,8 per cent of the respondents has an illness or injury which hamper in their usual activity in some measure.
- Life prevalency of high blood pressure among the inhabitants living in the area is 30 per cent which is equal with the country-wide indexes of OLEF study and typically afflicts the old.
- 15,9 per cent of the respondents 11,4 per cent of the men, 19,9 per cent of the women suffer from diagnosed depression especially the elder women (35, 2 per cent). With this index we got the first place among the regions taken part in the examination.
- 11,1 per cent of the respondents had diagnosed diabetes, especially the old are touched (29 per cent).
- 8,6 per cent of the respondents suffers from osteoporosis. Typically this disease afflicts the old women (26 per cent), the pensioners, the people living in bad financial situation.
- 25,3 per cent of the men, 26,9 per cent of the women suffer from diagnosed arthritis.
- Growing old the probability of the disorders significantly increases, 44,1 per cent of the old men and 51,2 per cent of the old women are affected considerably.
- 24,4 per cent of the respondents living in the region did not go to their GPs in the last 12 months. In the case of going to screening tests to keep their health in good condition and in the case of health consiousness the women's participation is higher than men's at all ages.
- A significant part of the respondents appeared at the organized gynaecological screening tests (cancer of cervix, cancer of breast) but significant percentage indicates as a reason of absence that it is not an important category.
- 18,5 of the respondents is afraid of losing their job especially the middle-aged which influences them going to see their doctors on time.

The results give chance for the settlements to work out the health plan regarding the facts mentioned above either of the region or their own settlement, and it is available with a wide social participation to moderate the present inequality.

The possibility of realization of the results and further possible ways of research

The most important result of the research that it gives a complex analysis about the present health geographical situation of Békés county. These results – according to the author– are appropriate in more fields for creating a starting base in the case of further researches or making self-government conceptions. For the latter it is an example that the region case study is the base for the town sportconception of Gyula government.

The author wanted the thesis to give a complex picture in all fields, there were facts, which were not analysed because of the number of pages and data servicing difficulties. So in this way the prevention and facilities of non profit sphere within chronic treatment were left out and the country –wide availability of home care services was not analysed detailed and the qualified question of that which in this present situation gives chance to interesting questioning.

It would be worth examining how it was possible to form organizations in the two areas mentioned above which would be built in the supplying hierarchy comprehensivly but according to the need of the settlement. Similarly interesting questions can be formulated in connection with the future role of health touristical enterprises and marketing.

But the thesis can be appropriate for using it in the questions of social and cultural spheres touching their own sectors, for example the sport mentioned above or creative social conceptions.

They give possible directions of using the thesis which are those areas in connection with the improvement of the supplying areas where basic lack is shown and what transformation is good for the racionalization of the branch (I mean not only the withdrawal).

This thesis can be a sample for the other regions of the county in connection with the successful regional improvement and health plan, which on the long term leads to the increase of population's state of health and the availability of the supplying system.

It can not be neglected that it can be used in a training course because this knowledge is indispensable for the experts, who work with health improvement for the jobs affecting the system within public health care.

The final and most important result would be if creating different improvement and regional supplying structures the regional differences of inhabitants' care and state of health would decrease.

Beke Szilvia's scientific publications

1. Publicity connected with theme

1. **BEKE SZ.** 2000. Békés Megyei Képviselőtestület Pándy Kálmán Kórházának környezetvédelmi és egészségvédelmi tevékenysége. In: SZABÓ T. – BÁRTFAI I. – SOMLAI J. (szerk.): Környezeti ártalmak és a légzőrendszer. X. kötet, Levegőszennyezés Által Veszélyeztetettekért Alapítvány, Hévíz, F&G Press, Zalaegerszeg pp. 16-32.

2. **BEKE SZ.** 2001. Békés megye lakosságának egészségi állapot jellemzői a tüdő- hörgő daganatok tekintetében. In: SZABÓ T. – BÁRTFAI I. – SOMLAI J. (szerk.): Környezeti ártalmak és a légzőrendszer. XI. kötet, Levegőszennyezés Által Veszélyeztetettekért Alapítvány, Hévíz, F&G Press, Zalaegerszeg pp. 35-47.

3. **BEKE SZ.** 2002. Békés megye lakosságának egészségi állapotában bekövetkezett változások az elmúlt 10 év alatt. In: SZABÓ T. – BÁRTFAI I. – SOMLAI J. (szerk.): Környezeti ártalmak és a légzőrendszer. XII. kötet, Levegőszennyezés Által Veszélyeztetettekért Alapítvány, Hévíz, F&G Press, Zalaegerszeg pp. 37-46.

4. **BEKE SZ.** 2003. The steps of the health supply of Békés county towards the EU konform. In: KIS M. – GULYÁS L. – ERDÉLYI E. (szerk.): Európai kihívások 2. Szeged, Szegedi Tudományegyetem- SZÉF pp. 194-200.

5. **BEKE SZ.** 2003. Az Európai Uniós követelmények közvetett hatása a lakosság egészségi állapotára. In: SZABÓ T. – BÁRTFAI I. – SOMLAI J. (szerk.): Környezeti ártalmak és a légzőrendszer. XIII. kötet, Hévíz, F&G Press, Zalaegerszeg pp. 31-47.

6. **BEKE SZ.** 2005. Nonprofit szervezetek változó szerepe az egészségügyi ellátáson belül Békés megyében. In: PIRISI G. – TRÓCSÁNYI A. (szerk.): Tanulmányok Tóth Józsefnek a PTE Földtudományok Doktori Iskola hallgatóitól. PTE Földrajzi Intézet, Pécs, pp. 189-199.

7. **BEKE SZ.** 2006. A civil szféra jelentősége Csongrád megye életében. In: BARANYAI G. – TÓTH J. (szerk.): Földrajzi tanulmányok a pécsi doktoriskolából V. PTE Földrajzi Intézet, Pécs, pp. 183-192.

8. **BEKE SZ. –**TÓTH J. 2007. Characteristic features of the inhabitants state of health in a frontier town In: Revista Medicala Oradeana 14th volume 1st 2007 pp. 5-13.

9. KALMÁR G.- **BEKE SZ.** 2008. Az orvosi diagnosztikai laboratóriumi ellátórendszer területi sajátosságainak vizsgálata. Földrajzi Közlemények 3-4. pp. 411-429

10. **BEKE SZ.**– KALMÁR G. (visszaigazoltan megjelenés alatt) Regional inequalities of source of power of the Hungarian health care are on the eve of the 21st century In: Revista Medicala Oradeana

11. **BEKE SZ**. (visszaigazoltan megjelenés alatt) Békés megye népességének egészségi állapota és egészségügyi ellátása. Területi Statisztika

2. Lectures connected with theme

1. **BEKE SZ.** 2001: Egészségfejlesztés helyzete a megyén belül, civil szervezetek és az egészségügy együttműködése. Békés Megyei Ápolók Egészségéért Alapítvány Konferencia, Szeghalom 2001. május 18-19.

2. **BEKE SZ.** 2002. A lakosság szociális és környezeti tényezőinek változása, mindennek betegségcsoportokkal való összefüggése Békés megyén belül. In: Geográfus doktoranduszok VII. országos konferenciája 2002. október 25-26. CD-ROM kiadvány 12. p.

3. **BEKE SZ.** 2003**:** Az egészségi állapotunk jellemzői, egészségfejlesztés egy más szemszögből - egészségföldrajz, mint tudományterület. Gyula Pándy Kálmán Kórház által szervezet tudományos ülés, Gyula 2003

4. **BEKE SZ.** 2003: Egészségföldrajz gyakorlati jelentősége mindennapjainkban Békés Megyei Ápolók Egészségéért Alapítvány IV. Kongresszusa, Orosháza, 2003. május 15.

5. **BEKE SZ.** 2004. Civil szervezetek helyzete Békés megyében. In: Táj, tér tervezés – Geográfus doktoranduszok VIII. országos konferenciája 2004. szeptember 4-5. CD-ROM kiadvány p. 9.

6. **BEKE SZ.** 2007. Az alföld peremén, avagy mi lesz veled Békés megye?! In: VII. Regionális Tanácsadási Konferencia 2007. szeptember 27. CD-ROM kiadvány p.7.

3. Other publications

1. **BEKE SZ**. 2001. Egészségfejlesztési problémák és szűrővizsgálatok a szív és érrendszeri betegségek kapcsán. Egészségnevelés, XLII. Évfolyam, 2001/6 szám, pp. 263-265.

2. **BEKE SZ**. 2004. Hamvadó cigarettavég… In: SZABÓ T. – BÁRTFAI I. – SOMLAI J. (szerk.): Környezeti ártalmak és a légzőrendszer. XIV. kötet, Levegőszennyezés Által Veszélyeztetettekért Alapítvány, Hévíz, F&G Press, Zalaegerszeg pp. 27-33.

3. **BEKE SZ. –** SZATMÁRI GY. 2005. E-gészségünk avagy E-számok a mindenapjainkban In: SZABÓ T. – BÁRTFAI I. – SOMLAI J. (szerk.): Környezeti ártalmak és a légzőrendszer konferencia. XV. kötet, Levegőszennyezés Által Veszélyeztetettekért Alapítvány, Hévíz, F&G Press, Zalaegerszeg, pp. 49-61.

4. **BEKE SZ.** 2005. Civil kurázsi Bács-Kiskun megyében.
   In: www.nonprofitkutatas.hu/letoltheto.htm 7. p.

5. **BEKE SZ.** 2005. Civil szervezetek jellemzői a Dél-Alföldön
   In: www.nonprofitkutatas.hu/letoltheto.htm 8. p.

4. Other lectures

BEKE SZ. 1998: Az egészségnevelés jelene. Egészségügyi Szakdolgozók VIII. Országos Konferenciája, Pécs, 1995. augusztus

BEKE SZ. 1998: A gyógyító team „új" tagja. Diplomás Ápolók I. Országos Találkozója, Debrecen, 1998.

BEKE SZ. 1998: Egészségnevelés? De tessék mondani hol itt az egészség? Gyulai Onkológiai Napok, Gyula 1998. október 9-10.

BEKE SZ. 1998: Egészségnevelő a kórházban. Életmód EXPO, Budapest, 1998

BEKE SZ. 1998: Partnerséghez példamutatást, 1998 év. Egészségügyi Szakdolgozók XI. Országos Konferenciája, Békéscsaba, 1998

BEKE SZ. 1999: Egészségpedagógiai oktatás hatása betegekre és az egyén környezetére gyakorolt hatása. Egészségügy Szakdolgozók XII. Országos Konferenciája, Budapest, 1999. szeptember 29.- október 2.

BEKE SZ. 2000: Az ápolók egészségi állapota megyei viszonylatban. Békés Megyei Ápolók Egészségéért Alapítvány I. Kongresszusa, Mezőhegyes, 2000. május 11.

BEKE SZ. 2000: Egészségmegőrzés- egészségmagatartás, azaz a tudományterületek integrálódása és a saját egészségvédelmünk közötti különbség. Egészségügyi Szakdolgozók XIII. Országos konferenciája, Debrecen, 2000. augusztus 27-29.

BEKE SZ. 2001: Egészségfejlesztés elmúlt három évének tapasztalatai a gyulai Pándy Kálmán Megyei Kórházban. Diplomás Ápolók III. Országos Találkozója, Nyíregyháza, 2001

BEKE SZ. – HERCZEGNÉ SZABÓ M. 2001: Daganatos betegek egészségnevelése szakápolói szemmel. Egészségügyi Szakdolgozók XXXII. Kongresszusa, Győr, 2001

BEKE SZ. 2002: Prevenciós program a szív és érrendszeri betegségek megelőzése érdekében. Diplomás Ápolók IV. Országos Találkozója, Gyula, 2002. április 26-27.

BEKE SZ. – HERCZEGNÉ SZABÓ M. 2004: Egy alapítvány, hogy az ápolóink is egészségesek maradjanak. Egészségügyi Szakdolgozók XXXV. Jubileumi Kongresszusa, Kecskemét, 2004. június 26.

BEKE SZ. 2007. Súlyponti kérdések, avagy egy kardiometabolikus centrum mindennapjai In: Környezeti ártalmak és a légzőrendszer XVII. Konferencia CD-ROM kiadvány p. 8.

Gyula, 2009. május 14.