

ŁUKASZ WOLAŃSKI, KATARZYNA MUZYCZKA

Świadomość zdrowotna mieszkańców Lublina a celowość wezwań telefonicznych karetek pogotowia

Health awareness of inhabitants of Lublin versus justifiability of calling emergency ambulance services

Streszczenie

Wprowadzenie. W pracy przeprowadzono analizę wezwań karetek pogotowia w Lublinie w ciągu dwudziestu lat w związku z rozwojem miasta i skutkami tego rozwoju. Miało to umożliwić ocenę dokonujących się zmian świadomości mieszkańców, dotyczącą samooceny – na podstawie doświadczanych objawów – własnego stanu zdrowia i stanu organizmu w przypadku choroby, a także zgodności tych ocen z późniejszą diagnozą lekarską, opartą na wyniku badania lekarskiego.

Cel. Celem pracy było przeprowadzenie analizy wezwań karetek pogotowia w Lublinie w ciągu dwudziestu lat w związku z rozwojem miasta i skutkami tego rozwoju.

Materiał i metody. Materiał empiryczny zebrano poprzez analizę kart wyjazdowych karetek Wojewódzkiego Pogotowia Ratunkowego SPZOZ w Lublinie. Przeanalizowano 3885 wyjazdów karetek pogotowia. Do analizy statystycznej uzyskanych wyników użyto testu chi-kwadrat, który służy do oceny jednorodności i niezależności cech niemierzalnych.

Wyniki. Zaobserwowano wzrost częstości wezwań zespołów wyjazdowych do osób w wieku powyżej 70 lat, podczas gdy liczba wezwań w grupach wiekowych poniżej 50 lat maleje, a u osób pomiędzy 50 a 70 rokiem życia utrzymuje się na podobnym poziomie. Wśród wyników dotyczących celowości wzywania zespołów pogotowia ratunkowego można zauważyć, że maleje liczba wzywających pogotowie kobiet w wieku powyżej 70 lat, u których rozpoznanie jest rozbieżne ze zgłoszeniem. Odwrotną tendencję zauważono wśród mężczyzn w wieku poniżej 30 lat.

Wnioski. Wraz z rozwojem urbanizacji Lublina rośnie liczba wezwań karetek pogotowia, co jest spowodowane rozległością terytorialną tego miasta. Ze względu na wydłużenie średniej życia i wzrost świadomości społecznej wzrasta również liczba wezwań do najstarszej części populacji.

Słowa kluczowe: świadomość zdrowotna, zasadność wezwań karetek pogotowia.

Summary

Introduction. In the present study an analysis of cases of calling emergency ambulance services in the city of Lublin in the period of twenty years in relation to the city's development and its results was carried out. This was aimed at evaluating of changes occurring in the awareness of inhabitants with regard to self-assessment of one's general health condition and the state of their system in the case of a disease on the basis of the symptoms experienced, as well as the compatibility of these assessments with the subsequent medical diagnosis based on the result of the medical examination.

Objective. The objective of the study was to carry out an analysis of cases of calling emergency ambulance services in the city of Lublin in the period of twenty years in relation to the city's development and results of this development.

Material and method. The empirical material was collected by analysing ambulance departure cards of the Voivodeship Emergency Service of the Independent State Healthcare Centre in Lublin. There were analysed 3885 departures of emergency ambulance. For the statistical analysis of the obtained results the Chi-square test was applied, whose purpose is to assess the homogeneity and independence of non-measurable features.

Results. The increase of the frequency of cases of calling emergency teams for persons aged above 70 was observed, while the number of calls for persons in age groups below 50 decreased, and in the case of people aged from 50 to 70 this number remained at a similar level. Among the results relating to the justifiability of calling an emergency team it can be mentioned that the number of women aged above 70 for whom emergency ambulance services were called when the diagnosis differed from the patient's declaration, dropped. As far as men are concerned, a reverse tendency was noticed in the age group below 30.

Conclusions. Together with urban development of Lublin, the number of cases of calling emergency ambulance services increased, which was caused by the territorial extensiveness of the city. Due to the rise of an average lifespan and of social awareness, the number of calls for the oldest part of population grew as well.

Key words: health awareness, justifiability of calling emergency ambulance services.

INTRODUCTION

In the period from 1985 to 2005, which is a twenty-year period, significant political and developmental changes occurred, both on the scale of the whole country and particular cities or towns. The phenomenon occurred in the case of Lublin as well. Both political changes, the consequence of which was a dynamic and multidimensional development of the city in the sense of urban and spatial development, as well as changes in the population structure within its area, influence the functioning of medical services, especially of emergency services and hospital emergency wards. It seemed interesting to focus on one selected indicator in this area, i.e. the correspondence between the number of calls of emergency ambulance services which were justified or unjustified, and the level of health awareness of inhabitants of the city. It should be emphasised that the analysis of medical documentation constituted the criterion of justifiability of calls.

OBJECTIVE

The objective of the present study was to carry out an analysis of cases of calling emergency ambulance services in the city of Lublin during the mentioned twenty years in relation to the development of the city and its results. This will make it possible to assess the change of awareness of Lublin inhabitants in terms of self-assessment of their condition on the basis of experienced symptoms, and consistencies between the self-assessment with the subsequent medical diagnosis.

MATERIAL AND METHODS

There were 3885 departures of emergency ambulance services (R – reanimation and W – accident ambulance services) in relation to all calls in the area of the city of Lublin in January 2005, and they were compared with similar analyses carried out in January as well, including the years 1985 and 1995 available in the literature on the subject [1-6]. The analysed departures were evaluated by a doctor, who divided them into justified, partially justified and unjustified. They were also divided according to age groups: 0-17, 18-30, 31-50, 51-70 and 71 or more. The division was applied due to the fact that in the compared studies from 10 and 20 years ago it was carried out in this way, thus a correspondence of these results can be achieved by comparing them.

RESULTS

A general increase of the frequency of calling departure teams was recorded: there were 3885 calls in 2005, while in 1995 their total number reached 3067, and in 1985 2853 calls were recorded. Emergency ambulance services calls for women in the years 1985 and 1995 were at a similar level (1751 and 1746), while in 2005 their number increased to 1911 and they were more numerous in comparison to these concerning men in all the analysed years (respectively 1102, 1321 and 1464 – Figure 1). In 2005 calls for persons below 18 (146 girls and 209 boys) and persons without established identity (43 women and 112 men) were analysed as well. The data were not included in the previous

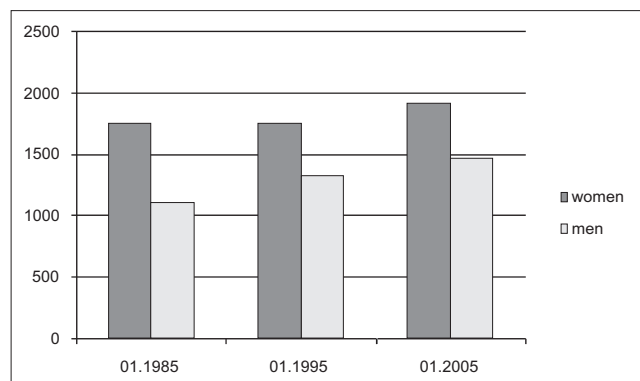


FIGURE 1. Frequency of calls for emergency services with relation to the patient's sex across years.

years, and in all the comparisons this group was not subtracted from the total number of calls so that the compared data could correspond to each other. During the analysis of the group in terms of age, a considerable growing tendency of calls for persons aged above 70 can be noticed (664, 808, 1149 calls respectively every ten years), while the number of calls in age groups below 50 dropped, and among persons aged from 50 to 70 it remained at a similar level (Figure 2). This tendency is more visible in the group of women, and in the group of patients whose diagnosis confirms the reason for calling.

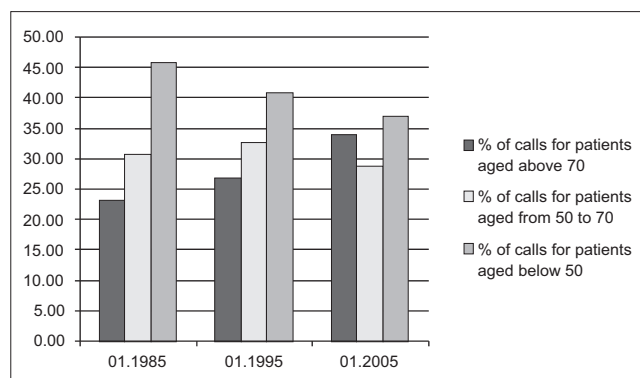


FIGURE 2. Analysis of the study group in terms of age with regard to emergency service calls.

In the percentage distribution of the analysed data, in the results concerning the justifiability of calling emergency teams it can be noticed that the number of women below 70 calling emergency ambulance services in cases when the diagnosis is inconsistent with the reason for calling decreased respectively by 10.18%, 8.68% and 7.22%. An opposite tendency can be noticed among men aged below 30 – 4.41%, 6.6%, 8.87%. However, in the higher age group (50–70 years of age) a similar tendency to the one concerning women above 70 can be observed. The percentage of calls made for reasons inconsistent with subsequent diagnoses is respectively: 5.03%; 4.64% and 4.75%. The statistical significance of the above data is at the level of $p < 0.05$.

OVERVIEW

Data collected in 2005 were compared with the years 1995 and 1985. They were always collected in January and were published by other authors [1-6]. The growing tendency concerning calling emergency ambulance services in the period of 20 years can be conditioned by various factors. One of them is a significant increase in the population number of the city of Lublin during this period of time. Another relevant factor may also be the prolongation of the average lifespan of the population in this area, which is also visible in the percentage distribution of the age of people calling an ambulance. Yet another factor may be the increase of social awareness in terms of assessing symptoms of a disease and the general condition of one's system by the person calling emergency ambulance services. However, it seems that such factors as the availability of telephones and shortening of the time of arrival of emergency ambulance services, which is now similar to European standards [7], are more crucial.

The problem of help provided to people with sudden cardiac arrest by passers-by in the street or in a public utility facility was also taken into consideration. In 2000 in the centre of the city of Lublin, only 2.8% of witnesses undertook resuscitation in the case of cardiac arrest, which points to still low awareness or the lack of willingness to help people in need [1,6]. However, it can be observed that emergency ambulance services are very frequently called in cases objectively unjustified. This can possibly be motivated by an attempt to find an excuse for oneself and shift off the responsibility to help a person in need to qualified personnel. Inconsistencies of medical diagnoses with reasons for calling constitute a partial confirmation of the lack of justifiability of calling emergency ambulance services (yet, this does not necessarily mean that in each case person making a call was lying). However, a slight drop was noticed in unjustified calls in the case of women aged above 50, which may indicate an increase of the level of awareness in terms of self-assessment of one's health. Nevertheless, a detailed analysis of cases of calling emergency ambulance services revealed a considerable percentage of calls not only for trivial reasons but also repeatedly for the same person, which could be caused by hypochondria.

A drastic increase of cases of calling emergency ambulance services in recent years and occupying hospital emergency wards with trivial cases is also possible to observe in western countries [8-10], which was demonstrated by the results of the present study. It was found that in the group of young men, where a growing tendency of calls was observed, the reasons for calling were inconsistent with subsequent diagnoses based on medical examination results. In the US and other developed countries this situation caused significant overburdening of medical services, resulting in the lack of profitability as well as insufficient number of people willing to work in this profession and, consequently, in a partial reduction of medical personnel. This caused the phenomenon of a viscous circle as it delayed or sometimes even made providing help to people who really needed it impossible [8-11]. In Poland problems of this kind are just beginning to be raised. In the US one of solutions applied in this case was organising special training sessions for dispatchers, who were supposed to control calls and, when

necessary, give instructions to the people calling about what they should do before the emergency team arrives [12]. However, the literature on the subject indicates that this method is more satisfying for departure teams than the people calling an ambulance, despite the fact that it raises the effectiveness of help provided [12]. Another solution is providing first aid training for the so-called non-medical staff working in hospitals (e.g. security guards) so that they could also participate in providing help and know procedures applicable in emergency situations (this has already been discussed in the literature on the subject from Western Europe) [11].

In another study analysing cases of calling emergency ambulance services it was found that the calls were mainly unjustified, and in a large number of more serious cases requiring ambulance transport the patient was taken to the hospital by a private means of transport [9,10]. This fact should serve as a signal for decision makers responsible for this issue to search for solutions preventing negative phenomena of this kind by e.g. raising the level of knowledge and social awareness in this field. In the Polish literature on the subject there are no studies concerning the subject of justifiability of calling emergency ambulance services, which may be the reason for the unnecessary increase of maintenance costs, not accompanied by a rise in effectiveness of the functioning of medical rescue services but on the contrary, to a decline of the quality of services in this branch of healthcare.

CONCLUSIONS

1. Together with urban development of Lublin, the number of cases of calling emergency ambulance services rose, which is caused by the territorial extensiveness of the city.
2. Due to the rise of an average lifespan and of social awareness, the number of calls for the oldest part of population grew as well.
3. The number of cases of calling emergency ambulance services for women aged above 50 when the subsequent medical diagnosis differed from the reasons for calling dropped.
4. However, an increase in cases of calling emergency ambulance services where the reasons for calling were inconsistent with subsequent medical diagnoses among young men was observed.

REFERENCES

1. Czabak-Garbacz R, Koziejowski J, Hupert Z. Zgodność między poziomem wezwania pogotowia ratunkowego a rozpoznaniem lekarza (badani po 10 latach). *Med Ogól.* 1996;2(31):4:305-14.
2. Czabak-Garbacz R, Wysokińska-Miszcuk J, Koziejowski J, Hupert Z. Celowość wykorzystania zespołów ogólnolekarskich pogotowia ratunkowego w przypadkach pacjentów w wieku podeszłym. *Prob Med Społ.* 1997;31:394-8.
3. Czabak-Garbacz R, Koziejowski J, Hupert Z, Wójcicka G. Stopień zgodności rozpoznania lekarskiego z przyczyną wezwania pogotowia ratunkowego. *Prob Med Społ.* 1997;3:404-9.
4. Czabak-Garbacz R, Anasiewicz A, Koziejowski J, Hupert Z. Relacje pomiędzy rozpoznaniem lekarskim a przyczyną wezwania pogotowia ratunkowego do pacjentów w wieku podeszłym. *Prob Med Społ.* 1997;31:399-403.
5. Czabak-Garbacz R, Koziejowski J, Hupert Z. Ocena celowości wykorzystania zespołów ogólnolekarskich pogotowia ratunkowego. *Prob Med Społ.* 1997;30:170-5.

6. Hupert Z, Czabak-Garbacz R. Zgodność między powodem wezwania pogotowia ratunkowego a rozpoznaniem lekarza. *Med Wiej.* 1991;25(1):10-5.
7. Chemperek E, Mikuła A, Goniewicz M, Krawczyk W. The analysis of the cases of circulatory and respiratory arrest in the work of the Regional Unit of Ambulance Service – Śródmieście Station. *Ann UMCS Sectio D Medicina.* 2004;59(1):48-53.
8. Simonet D. Cost reduction strategies for emergency services: insurance role, practice changes and patients accountability. *Health Care Anal.* 2009;17(1):1-19.
9. Chen JC, Bullard MJ, Liaw SJ. Ambulance use, misuse, and unmet needs in a developing emergency medical services system. *Eur J Emerg Med.* 1996;3(2):73-8.
10. Gardner GJ. The use and abuse of the emergency ambulance service: some of the factors affecting the decision whether to call an emergency ambulance. *Arch Emerg Med.* 1990;7(2):81-9.
11. When patient can't get to ER: what role should security officers play? *Hosp Secur Saf Manage.* 2001;22(3):1-3.
12. O'Cathain A, Turner J, Nicholl JP. The acceptability of an emergency medical dispatch system to people who call 999 to request an ambulance. *Emerg Med J.* 2002;19(2):160-3.

Informacje o Autorach

Lek. med. ŁUKASZ WOLAŃSKI – doktorant, Katedra Środowiskowej Opieki Zdrowotnej, Zakład Zintegrowanej Opieki Medycznej; mgr KATARZYNA MUZYCZKA – doktorant, Katedra Środowiskowej Opieki Zdrowotnej, Zakład Zintegrowanej Opieki Medycznej, Uniwersytet Medyczny w Lublinie.

Adres do korespondencji

Katedra Środowiskowej Opieki Zdrowotnej
Uniwersytet Medyczny w Lublinie
20-091 Lublin, ul. Chodźki 6, tel. 81 718 75 14