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Periodic health examinations during a pandemic

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Original article

Abstract

Introduction: The coronavirus pandemic has changed daily lives. These changes affect many aspects of lives including periodic health examinations. Specialists warn that in the era of the pandemic people abandon examinations. This is a very dangerous phenomenon, which can negatively affect health and general well-being. The aim of this study was to determine the frequency of periodic health examinations during the pandemic period including the use of telephone advice services.

Material and methods: The study was carried out in March 2021 among 147 people (120 women and 27 men), in the age range of 18-76 years. The study was carried out by the method of diagnostic survey, with the use of questionnaire technique (authors' questionnaire). Questions included knowledge of prevention, frequency of periodic health examinations, and health services received by the respondents during the pandemic. Analysis of the survey results provided information on current health problems, time of diagnosis, and course of treatment to date.

Results: During the pandemic, the majority of respondents had the opportunity to use a telephone advice, with women more likely to use the telephone advice than men (64.2% vs. 37.0%; $p = 0.010$). 36.9% of the respondents were satisfied with the service. The main reasons for dissatisfaction with the telephone advice included: inability to examine (33.3%), short telephone advice time (24.2%), misdiagnosis or ineffective treatment (21.2%), long waiting time, difficult contact with the facility (15.2%). Among telephone advice users, 39.1% had chronic diseases; among non- telephone advice users, the percentage was lower at 18.3%. Telephone advice users were significantly less likely to say they did not have periodic health examinations or did not remember when they had them done compared to non- telephone advice users ($p = 0.019$).

Conclusions: During the pandemic, the majority of respondents had the opportunity to use telephone advice. Only 1/3 were satisfied with the telephone advice, and the main reasons for dissatisfaction were as follows: inability to examine, short telephone advice time, misdiagnosis or ineffective treatment. Telephone advice users were significantly less likely to say they did not have periodic examinations or could not remember when they had them done compared to non-telephone advice users.

Keywords

- periodic health examination
- COVID-19 pandemic
- telephone advice
- medical adivice

Contribution

A – the preparation of the research project
B – the assembly of data for the research undertaken
C – the conducting of statistical analysis
D – interpretation of results
E – manuscript preparation
F – literature review

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Introduction

Periodic health examinations involve quick and inexpensive laboratory tests, imaging tests, and physical examination that helps to easily identify people at increased risk of developing serious diseases before the first clinical symptoms appear. Currently in our country, based on the agreement concluded between the Ministry of Health and the National Health Fund (NFZ) on November 28, 2017, the NFZ is implementing a non-competitive project entitled: "Preparation, testing and implementation of coordinated care organization (CAB) in the health care system Stage II Pilot phase - POZ PLUS model". As part of the program, health balances are performed for adults aged 20-65 years and extensive educational activities in the field of health prevention are carried out [1].

Performing periodic health examinations and their regularity increases the chance of early detection of a disease, which is particularly important in the case of cancer. Prevention and the promotion of health-seeking attitudes that increase healthy life expectancy are goals of the National Health Program 2021-2025 [2] and the National Cancer Control Program [3]. An analysis published by Epic Health Research Network in May 2020 found that due to disruptions in access to periodic health examinations, the United States experienced a steep decline of 86 to 94% in the performance of breast, colon, and cervical cancer screenings, compared to 2017-2019 averages [4].

The coronavirus pandemic has changed daily lives. These changes affect many aspects of lives including periodic health examinations. Specialists warn that in the era of the pandemic people abandon examinations. This is a very dangerous phenomenon, which can negatively affect health and general well-being.

The aim of this study was to determine the frequency of periodic health examinations during the pandemic period including the use of telephone advice services.

Material and methods

The study was conducted in March 2021 among 147 people (81.6% women and 18.4% men), in the age range of 18-76 years (mean 27.5 ± 11.12 years). A sample size and unequal participation among men and women are the main limitations of this survey. The study was conducted using a diagnostic survey method and questionnaire technique, through the Google Forms platform; the questionnaire form was shared on social media. Inclusion criteria: age ≥ 18 years. Exclusion criteria: questionable validity of content (each participant was required to read the informed consent form that appeared on their computer screen prior to beginning the survey). The total number of respondents was 157 (10 of 156 questionnaires were rejected because they were incomplete). The questions focused on knowledge about prevention, frequency of periodic health examinations, and health services received by the respondents during the pandemic. Analysis of the survey results provided information on current health problems, time of diagnosis, and past treatment history of survey respondents.

The results of the study were compiled using SPSS 24. Summary counts and percentages were used to describe the qualitative data statistically. The significance of the relationship between two nominal variables was checked using the chi square independence test. The difference in means between two groups was checked using Student's t test for independent samples. A significance level of $p = 0.05$ was assumed.

Most of the respondents lived in the city (58.5%). Most of the respondents had secondary education (53.7%), the rest had university education (35.4%), primary education (8.2%) and vocational education (2.7%). More than half of the respondents were currently in education or studying (51.0%), 5.4% were unemployed, 3.4% were on pension (3%), 11.6% were manual workers, 27.9% were white collar workers, one farmer also completed the questionnaire.

Results

Telephone advice was used by 59.2% of respondents. Individuals over the age of 25 years were more likely to use the telephone advice, while those under the age of 25 years were less likely to use it (75.9% vs. 48.3%; $p = 0.001$). The greatest difference, in those who used telephone advice more often, can be observed between those living in the city and those living in the countryside (73.3% vs. 39.3%; $p < 0.001$) (Tab. 1).

As many as 36.9% of the respondents were satisfied with the service. The main reasons for dissatisfaction with the telephone advice included: inability to examine (33.3%), short telephone advice time (24.2%), incorrect diagnosis or ineffective treatment (21.2%), long waiting time, difficult contact with the facility (15.2%). Less frequently, respondents indicated such reasons as: too high price in relation to the quality of advice (3.0%), lack of individual approach to the patient (3.0%).

The respondents using the telephone advice assessed their health most often as good (58.6%), often

as moderate (27.6%), and rarely as very good (13.8%). Respondents who did not use the telephone advice assessed their health most often as good (56.7%), often very good (31.7%), and rarely moderate (11.7%). The differences are statistically significant ($p = 0.008$). Among telephone advice users, 39.1% had a chronic disease; among non- telephone advice users, the percentage was lower at 18.3%. The differences are statistically significant ($p = 0.007$) (Tab. 2).

Most of the people believed that as a result of the epidemiological situation, people are doing less examinations because they are worried about their health (65.3%). Few respondents believed that people do more examinations because they are more concerned about their health in the current situation (17.0%). The rest of the respondents thought that the current situation has no effect on increasing or decreasing the number of periodic health examinations (8.8%) or had no opinion about it (8.8%).

Before the pandemic, most of the respondents did not get examined regularly (35.4%), 4.1% of the respondents did not get examined at all. The others were examined every two years (12.2%), every year (25.2%), every 6 months (19.0%), every 3 months (4.1%). Only 3.4% had a diagnosed chronic disease at the time of the pandemic. Fear of COVID-19 infection was felt by 17.7% of respondents at the time of the periodic health examination.

Among all the respondents (both telephone advice users and non-users – n=147), about ¼, i.e., 25.2% of the respondents were tested a year ago, 17.7% of the respondents were tested 6 months ago, 10.9% were tested 3 months ago and 18.4% were tested a month ago. The remaining 27.9% could not remember when they were last examined (not examined regularly) or had not been examined at all since the pandemic. Respondents who were satisfied with telephone advice were most likely to have been examined 3 months (20.4%) or 6 months (22.2%) ago. Respondents who were dissatisfied with the telephone advice were most often examined 1 year ago (39.4%). The differences are statistically significant ($p = 0.024$) (Tab. 3). It should be noted that telephone advice users were significantly less likely to declare that they did not have periodic health examinations or did not remember when they had them done compared to those who did not use the telephone advice ($p = 0.019$).

Problems encountered during periodic health examinations were long queues on the day of examination (18.4%) and long waiting for the examination date (16.3%). The rest of the respondents did not encounter any problems during periodic health examinations or did not perform such examinations. Respondents most often waited up to a week (49.0%), less often the waiting time was about a month (26.2%), 3 months (11.6%), 6 months (2.7%), a year (6.1%). The remaining people were not affected by this problem (3.4%). The most common examinations included: dental (23.1%), gynecological (17.7%), vision (17.7%), cytology (16.3%), blood pressure measurement (16.3%), ultrasound (15.6%), X-ray (15.0%), ECG (14.3%), basic blood and urine biochemical tests (8.2%).

Discussion

In times of a pandemic, it is important to take special care of the health to minimize the risk of COVID-19 infection and development of other diseases. This can be done through periodic health examinations, which provide information about the general state of health. With the results of these examinations, medical personnel can make the most appropriate decisions for the health, related to possible treatment, further diagnostics, or other medical procedures. Periodic health examinations will allow early detection of changes caused by SARS CoV-2, which will prevent irreversible organ damage.

As shown by the survey conducted by the Millward Brown Institute, "Awareness of the health of Poles" of 2015, most Poles performed periodic health examinations in fear of disease (29%) or the reason was the disease or death of a friend or relative (10%). When asked why they do not get tested, respondents claimed that the reason was lack of time (33%) and lack of need (31%) [5]. Our study showed an additional factor why the respondents did not take part in periodic examinations - the fear of COVID-19 infection during the examination was felt by 17.7% of respondents.

According to the Central Statistical Office, 23.2% of respondents complain about long waiting times for appointments [6]. Telephone advice may be beneficial in this respect, although according to the patients these also have their disadvantages. Our study showed that telephone advice was used by 59.2% of respondents. A study on the risks and opportunities of telemedicine indicated that the most common objections of patients regarding e-consultation are: long waiting time, lack of access to medical records and inadequate communication with the patient [7]. Nevertheless, teleconsultation also has many advantages, which include the ability to

Table 1. Telephone advice use vs. sex, age, and place of residence

			Age		Place of residence	
			≤ 25 years	> 25 years	Rural	Urban
Telephone advice use	**yes**	number	43	44	24	63
		% of sex	48.3%	75.9%	39.3%	7.3%
	no	number	46	14	37	23
		% of sex	51.7%	24.1%	60.7%	26.7%
Chi square independence test			$\chi 2 = 11.03$; $p = 0.001$		$\chi 2 = 16.99$; $p < 0.001$	

Table 2. Telephone advice use vs. self-assessment of health status and presence of chronic diseases

			Telephone advice use	
			yes	no
Self-assessment of health status	**Moderate**	number	24	7
		% of telephone advice	27.6%	11.7%
	Good	number	51	34
		% of telephone advice	58.6%	56.7%
	Very good	number	12	19
		% of telephone advice	13.8%	31.7%
Chronic diseases	**Yes**	number	34	11
		% of telephone advice	39.1%	18.3%
	No	number	53	49
		% of telephone advice	60.9%	81.7%

Table 3. Time since last periodic health examination vs. satisfaction with telephone advice

			Satisfaction with telephone advice	
			Yes	No
When did the respondent last have a periodic health examination?	**I don't remember when, don't get tested regularly**	number	9	9
		% of satisfaction	16.7%	27.3%
	One year ago	number	9	13
		% of satisfaction	16.7%	39.4%
	6 months ago	number	12	3
		% of satisfaction	22.2%	9.1%
	3 months ago	number	11	1
		% of satisfaction	20.4%	3.0%
	One month ago	number	12	8
			22.2%	24.2%
Chi square independence test			$\chi 2 = 12.95$	$p = 0.024$

diagnose patients with COVID-19 symptoms early [8]. It is necessary to continuously improve this method of consultation in order to create new guidelines adapted to the epidemiological situation and, above all, to teach the principles of communication between medical personnel and patients [9].

Undoubtedly, the COVID-19 pandemic accelerated the development of telemedicine and e-health in Poland and the introduction of e-exemptions, e-prescriptions and e-referrals facilitated the cooperation between the medical personnel and patients during lockdown and limited access to facilities [10]. The benefits resulting from the current situation are also indicated by Teleon and Włoszczak-Szybzda, who claim that the pandemic forces the use of new media in medical practice and contributes to their more frequent use; thus, it is supposed to reduce technophobia in the medical community and increase patients' access to basic medical specialists [11]. It is worth noting that the study by Zawiślak et al. showed that the majority of respondents (73%) would like to be able to receive telephone advice also after the end of the pandemic [12].

A positive aspect of teleconsultation is that the surveyed patients who used this type of service were significantly more likely to perform periodic health examinations during the pandemic period. Unfortunately, the analysis showed that at the stage of performing periodic examinations, they encountered problems such as long queues on the day of the examination (18.4%) and long waits for the examination appointment (16.3%). According to the Ministry of Health, one in ten Poles has never had any of the following tests: chest X-ray, abdominal ultrasound, thyroid ultrasound, colonoscopy, blood tests for cancer markers. Motivations for getting periodic health examinations (beyond the mandatory ones from work) vary depending on attitudes toward health in general. Introverted people go for periodic examinations out of the need to control their own health, to reduce the risk of detecting serious diseases at a late stage. Some people perform such examinations out of a sense of threat, fear of disease caused by some disturbing symptoms: a lump in the breast, chronic malaise, pain complaints. Men do not feel targeted by prevention programs and at least some of them have a sense of lack in this regard [13]. However, our own analysis did not show a relationship between the frequency of periodic health examinations and the sex of the respondents, hence it is believed that preventive programs should be directed to both groups to the same extent.

Conclusions

During the pandemic, the majority of respondents had the opportunity to use telephone advice. Unfortunately, only 1/3 were satisfied with the telephone advice, and the main reasons for dissatisfaction were as follows: inability to examine, short telephone advice time, misdiagnosis or ineffective treatment.

People with chronic diseases were significantly more likely to use telephone advice than people without such conditions. Telephone advice users were significantly less likely to say they did not have periodic examinations or could not remember when they had them done compared to non-telephone advice users.

There is a growing drive to popularize a healthy lifestyle, especially in the mass media, attention is being paid to a healthy and hygienic lifestyle to take care of ourselves and others in the era of pandemics. However, a healthy lifestyle does not give us a guarantee that we will not get sick. It is also important to take care of early detection of malignant changes, and this is possible thanks to periodic health examinations, to which one can get a referral through the telephone advice. It should be remembered that periodic health examinations are cheaper than treatment.

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