

No-shows among female patients aged 18-35

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Abstract

Introduction. Patients' failure to keep medical appointments or to cancel them is becoming an increasing problem for the health care system. The phenomenon of missing medical appointments refers to patients of both public and private healthcare facilities. It has a negative impact on the functioning of the health care system, by contributing to longer waiting times for health services and generating financial losses.

Aim. The aim of the study was to analyze no-shows in female patients aged 18-35.

Material and method. The research tool used in the study was a survey that was conducted among 705 women aged 18-35. The survey questionnaire had been developed by the authors of the study and consisted of particulars and five thematic areas. The first area concerned cancellation of medical appointments and the reasons behind it. In the second area, patients' punctuality was assessed. The third area focused on preferred methods of arranging and

cancelling medical appointments. In the fourth area, women's opinion on the idea of spreading lists of negligent patients among medical facilities was examined. The fifth area referred to patients' solutions to the problem of not keeping medical appointments. The obtained data was subjected to statistical analysis using the χ^2 test, where $p < 0.05$ was considered to be a statistically significant.

Results. The study shows that nearly 75% of women have canceled their medical appointment at least once. The phenomenon of not keeping appointments and not cancelling them concerned in particular women aged 29-35 (33%). In each of the three age groups, the most frequent reasons for not attending an appointment and not cancelling it were forgetfulness, recovery from a health condition, other more important errands and personal situation. Over a quarter of respondents declared having been late for an appointment at least once (28%). Nearly half of the respondents inform medical facilities about the fact of being late (46%).

Conclusions. It is necessary to monitor patients' failure to keep medical appointments, introduce a general system of reminding patients about medical appointments and educate patients about the obligation to inform medical facilities about cancelling appointments.

Key words: no-shows, female patients, medical appointments

Introduction

Women seem to be more concerned about their health, which is why they are more likely than men to use primary health care and specialist care [1]. Each patient who has made a medical appointment is obliged to attend it, or if it is not possible, to cancel it [2]. Patients who fail to keep appointments and to cancel them are colloquially referred to as negligent or unreliable.

It is a common occurrence that patients fail to keep appointments or cancel them. No-shows are an increasing problem for the health care system. This phenomenon refers to health services provided by both public and private healthcare facilities. One patient's failure to cancel an appointment results in the extension of another patient's waiting time for a health service [3]. Patients who neither keep nor cancel medical appointments take the place of patients who could receive a medical service faster. Furthermore, if an appointment is missed without being cancelled, medical equipment, which medical facilities are equipped with, are not fully used [4]. In addition, negligent patients generate financial losses for doctors and medical facilities.

Various activities are undertaken in order to reduce the problem of patient no-shows, such as development of a list of patients who have neither kept their medical appointment nor cancelled it, charging fees for a missed appointment and introducing a system of reminders about arranged appointments [5]. Another example of activities aimed at solving the problem of no-shows is educating patients with the use of materials made available in medical facilities.

In order to eliminate the problem of no-shows, it is necessary to gather information on the reasons behind this phenomenon. This knowledge might be of crucial importance when taking actions to solve the problem.

Aim of the study

The main goal of the study was to analyze no-shows among female patients aged 18-35 and to find out the reasons for not attending appointments and not cancelling them.

Material and method

The study group consisted of 705 women, the answers of two of whom were rejected in the study. Respondents were differentiated between in terms of age and assigned to three age groups. The first group included women aged 18-23 (N = 247). The second group consisted of women aged 24-28 (N = 286). The third group were women aged 29-35 (N = 172). Sample selection was random. The method of the study was a diagnostic survey conducted with the use of a research tool developed by the authors, which covered five areas and included 10 questions (nine multiple choice questions and one semi-open question) and particulars. The study was conducted using the CAWI (Computer Assisted Web Interviewing). Statistical analysis of results was made in Statistica. Statistically significant differences were found using the χ^2 test, where $p < 0.05$ values were considered statistically significant.

Results

The study shows that nearly 75% of women have canceled a medical appointment at least once. This answer was indicated most frequently by women aged 29-35. The results are presented in Table 1. The analysis showed statistically significant differences between age ($p = 0.03$) and cancelling medical appointments by patients.

Table 1. Cancellation of medical appointments.

	Age group 1 (18-23 YOA)	Age group 2 (24-28 YOA)	Age group 3 (29-35 YOA)
	%	%	%
Have you ever cancelled a medical appointment?			
Yes	64	77	83
No	32	18	15
Don't remember	4	5	2

The problem of not keeping medical appointments and not canceling them concerned 27% of women aged 18-23, 28% of those aged 24-28 and 33% of respondents aged 29-35 (Table 2). Age did not significantly affect the frequency of now-shows. ($P = 0.83$).

Table 2. Failure to keep medical appointments and to cancel them

	Age group 1 (18-23 YOA)	Age group 2 (24-28 YOA)	Age group 3 (29-35 YOA)
	%	%	%
Have you ever failed to keep a medical appointment and to cancel it?			
Yes	27	28	33
No	68	66	64
Don't remember	5	6	3

In each of the three age groups of respondents, the most frequently indicated reason for not keeping an appointment and not canceling it was forgetfulness. This cause was reported by 31% of women. Other reasons why the respondents did not keep the appointments and did not cancel them differed depending on the age group. The youngest respondents indicated the fact that they had recovered from a medical condition as the cause of no-shows (20%). Women aged 24-28 reported that the reason for not keeping an appointment and not canceling it was a personal situation (24%). Respondents from the third age group (29-35 years), similarly to

those from the second age group (24-28 years), indicated their personal situation to be the main reason of no-shows (21%). Other reasons behind are presented in Table 3.

Table 3. Reasons behind no-shows

	Age group 1 (18-23 YOA) %	Age group 2 (24-28 YOA) %	Age group 3 (29-35 YOA) %
What are the reasons for not keeping medical appointments and not cancelling them?			
No transport	3 4	1 6	3 1
Fear of the doctor	9 12	8 5	9 10
Appointment in another facility where the waiting time was shorter	20 17	12 14	5 12
Other	8 27	24 29	21 37
Recovery from a health condition			
More important affairs			
Personal situation			
Forgetfulness			

In the study, patients' punctuality for medical appointments was also examined. Patients who had ever been late for an appointment were asked, whether they had informed a medical facility about this fact and how long their longest delay was. Over a quarter of respondents declared having ever been late for an appointment (28%). Although nearly half of the respondents informed the medical facility about the fact of being late (46%), every fourth patient did not inform about a possible delay. Women participating in the study were usually late for a medical appointment up to 15 minutes (Table 4).

Table 4. Punctuality in turning up for an appointment

Have you ever been late for a medical appointment? (N=705)	%
Yes	28
No	67
Don't remember	3
Do you inform medical facilities about being late for an appointment? (N=204)	
Always or almost always	46
Often	15
Sometimes	14
Never or almost never	25
Average delay (N=204)	
Up to 15 minutes	89
Up to 30 minutes	7
Up to one hour	2
Over one hour	2

When asked about their preferences in terms of arranging appointments and cancelling them, most women indicated phone calls as a preferred method of making (73%) and cancelling medical visits (67%). The second most common form of contact chosen by the patients was the Internet. 16% of patients made appointments and 24% cancelled appointments online (Table 5).

Table 5. Preferred method of arranging medical appointments and cancelling them

What method of arranging medical appointments do you prefer? (N=705)	%
Phone call	73
Online	16
Personal contact	9
Through someone else	1
Text message	1
What method of cancelling medical appointments do you prefer? (N=705)	

Phone call	67
Online	24
Personal contact	3
Through someone else	2
Text message	4

Participants to the study were asked about their opinions on the currently proposed ideas of developing lists of negligent patients, who have missed medical appointments and not cancelled them in advance, and sharing them across medical facilities. Almost half of the respondents (49%) believed that this was not a good solution. When informed about proposed solutions, aimed at solving the problem of patient no-shows, 41% of women indicated that this phenomenon cannot be eliminated. Financial penalties could reduce the problem in the opinion of 29% of patients. 16% of respondents indicated that the best solution would be non-financial penalties (for example, postponing the date of the next medical visit by the medical facility) (Table 6).

Table 6. Patients' opinion about developing lists of negligent patients and sharing them across medical facilities

Do you think it is reasonable to develop lists of negligent patients and share them across medical facilities? (N=705)	%
Yes	27
No	49
No opinion	24
What could solve the problem of no-shows? (N=705)	
Financial penalties	
Non-financial penalties	29
It cannot be solved	16
Don't know	41
	14

Discussion

The aim of the study was to analyze patient no-shows in women aged 18-35. The problem of patients' negligence in attending medical appointments is common. Patients' negligence is understood as failure to attend or to cancel a medical appointment and to report punctually for a medical visit.

The first area covered by the survey examined whether women are affected by the no-show problem. Research by other authors confirms that women more often than men do not keep medical appointments and do not cancel them [6]. This study showed that more than a quarter of respondents failed to keep an appointment and to cancel it at least once. According to the study by M. Krufczyk, the no-show problem concerns 23% of patients [7]. The obtained results are similar to those conducted by other authors. A certain limitation of this study is no possibility to refer to the results obtained by other authors from Poland, since no studies into the subject had been found, other than the study conducted by M. Krufczyk.

The results obtained by foreign authors mentioned above are similar to the results of this study: negligent patients account for 19-23% of all patients [6,8,9]. Patient no-shows generate big financial losses. According to a study by Saif Ullah, Sangeeth Rajan, Todd Liu, Ellen Demagistris, Regina Jahrstorfer, Swapna Anandan, Christina Gentile, and Angadilla, the cost of not performed medical visits in the United States is estimated at 150 billion dollars a year [10]. In Poland, there are currently no statistical data available on the number of not performed medical visits.

Understanding the reasons behind no-shows could enable implementation of appropriate solutions triggering changes and reducing the number of patient no-shows. There are many reasons why female patients do not keep their medical appointments, the most frequent being failure to remember about the appointment. Women in each of the three age groups involved in the study indicated forgetfulness as the reason of no-shows. This result is similar to the findings obtained by Saif Ullah, Sangeetha Rajan, Todd Liu, Ellen Demagistris, Regina Jahrstorfer, Swapna Anandan, Christina Gentile, Angad Gill, who examined a study group consisting of 675 patients [10]. The second reason that was most frequently indicated in the study mentioned above was personal situation and work. These results are similar to the results obtained by the authors of this study, who showed that personal situation was the second most common reason behind no-shows in women aged 24-28 and 29-35. An analysis of the responses of the youngest participants to the study aged 18-23 showed that no-shows

resulted from the fact that they had recovered from a medical condition. The results obtained in this study, concerning the reasons behind no-shows, provide information that can be used to introduce actions to eliminate the patient no-show problem.

One example of activities mentioned above is developing a "black list" of patients who do not keep their medical appointments and do not cancel them. A list of negligent patients can be used for internal purposes of a particular medical facility or as a general source of information for other facilities. If a patient registered on this list has made an appointment, a medical facility should contact them in order to confirm the appointment. When asked about their opinion on creating a list of negligent patients and spreading it across medical facilities, the surveyed women indicated that creating such a list is not justified. It should also be noted that the legislator has not set out any regulations on developing lists of negligent patients.

Implementation of a general system of reminders of arranged appointments is another idea that could be a solution to the no-show problem. The reminders could take the form of a text message, an e-mail or a phone call, with the last one being the most expensive, but the most effective [11]. During a telephone conversation, a patient can change the date of an appointment if they cannot keep it. Reminding patients about their appointments in a text message reduces the number of patient no-shows by 10-20% [12]. Educational materials, such as posters and leaflets, could be used in medical facilities to teach patients about the necessity to cancel medical appointments in advance if they cannot be kept.

Another area of the study covered information on ideas proposed by the respondents to solve the problem of no-shows. While most of the respondents indicated that this problem cannot be eliminated, every fourth female patient was of the opinion that financial penalties could affect the number of no-shows. However, it is worth noticing that collecting fees for missed medical appointments that have been arranged at medical facilities which have an agreement with the National Health Fund is unlawful. Fees could be collected only in private healthcare institutions, and the rules of charging patients for missed appointments should be specified in each health center's regulations.

In the study, punctuality of patients in each of the three age groups was also examined. An analysis of the results showed that over a quarter of respondents had been late for a medical appointment at least once. Medical facilities were not informed about the patient being late by 25% of respondents. The longest delay reported by the respondents was fifteen minutes. The percentage of late patients was comparable to that obtained in the studies by other authors. In

a study by the Northwestern University Feinberg School of Medicine in Chicago, 63% of patients came for a medical appointment on time [13]. Maximum delay reported by 15% of the participants to that study was 15 minutes. A longer delay was reported by 7% of respondents, whereas patient no-show was at the level of 15%. A result of a patient being late can be a shorter time of the appointment. The study mentioned above, conducted by the University of Chicago, showed that medical appointments of late patients tend to be shorter than those of patients who are not late. This may result in poor communication with the doctor, low quality of the medical service, and a decrease in patient satisfaction, which in turn may lead to an increase in the no-show rate [14].

In the last area of the study, the authors asked the respondents about preferred ways of arranging and cancelling medical appointments. Development of m-health services and their accessibility may solve the patient no-show problem by offering the possibility of arranging medical appointments and canceling them online. A report prepared by ZnanyLekarz sp. z o.o., in which Patient 3.0 profile and behaviors were presented on the example of the services offered by the DocPlanner.com Group showed that patients in Poland who use mobile devices to take care of their own health are professionally active women aged 25-34 who arrange medical appointments 1 to 5 days before a planned appointment [15]. The results of the report are comparable with the results of the study presented in this paper, where each of the three age groups indicated phone calls and the Internet as preferred ways of arranging and cancelling medical appointments.

Summary

The study shows that the frequency of no-shows depends on the age of patients. Women in the third age group (29-35 years of age) more often declared having missed their medical appointments than women in the first age group (18-23 years) and the second age group (24-28 years). It was shown that the main reason for patients' failure to keep medical appointments in all age groups was forgetfulness. An analysis of the results of the study revealed other reasons behind no-shows, such as recovery from a medical condition and a personal situation. Patient no-shows affect the length of waiting time for a medical appointment and cause financial losses related to a visit not being kept and equipment not being used.

Conclusions

1. The most frequent reason behind no-shows among female patients is forgetfulness, which is why it is worth considering implementation of a general notification system for medical appointments and monitoring of missed medical appointments.
2. There is a need to educate patients about the obligation to inform medical facilities about the inability to attend a medical appointment or the fact of being late, as well as to teach patients about the consequences of their no-shows.

References

1. Główny Urząd Statystyczny. *Zdrowie i ochrona zdrowie w 2017 r.* Warszawa, Kraków, Zakład Wydawnictw Statystycznych 2018: 84.
2. Ustawa z dnia 27 sierpnia 2004 r. o świadczeniach opieki zdrowotnej finansowanych ze środków publicznych, Dz.U. 2004 nr 210 poz. 2135, art. 20.
3. Johnson B.J., Mold J.W., Pontius J.M. *Reduction and management of no-shows by family medicine residency practice exemplars.* Ann. Fam. Med 2007; 5:534–539.
4. Tabish, S., Nabil S. *Future of healthcare delivery: Strategies that will reshape the healthcare industry landscape.* Int J Sci Res 2015; 4: 727–758.
5. Matheus C., *Managerial Intervention Strategies to Reduce Patient No-Show Rate,* Walden University 2017; 38–45.
6. Kheirkhah P., Feng O., Travis L., Tavakoli-Tabasi S., Sharafkhaneh A. *Prevalence, predictors and economic consequences of no-shows.* BMC Health Serv Res 2016;16:13.
7. Krufczyk M., *Pacjenci – widma prześwietleni: wyniki ankiety o umawianiu wizyt,* pobrano z: <https://dentysta.eu/pacjenci-widma-przeswietleni-wyniki-ankiety-o-umawianiu-wizyt>
8. Caitlin E., Fiorillo M.D., Allyson L., Hughes BS., I-Chen C., Westgate P., Gal T., Bush M., Comer B. *Factors Associated with Patient No-Show Rates in an Academic Otolaryngology Practice.* Laryngoscope 2018; 128(3): 626–631.
9. Dantas L., Hamacher S., Cyrino Oliveira F., Barbosa S., Viegas F. *Predicting Patient No-show Behavior: a Study in a Bariatric Clinic.* Obes Surg 2019; 29(1): 40–47.
10. Ullah S., Rajan S., Liu T., Demagistris E., Jahrstorfer R., Anandan S., Gentile C., Gil A. *Why do Patients Miss their Appointments at Primary Care Clinics?.* J Fam Med Dis Pre 2018; 4: 09.
11. Finkelstein R., Liu, N., Jani B., Rosenthal D., Poghosyan L. *Appointment reminder systems and patient preferences: Patient technology usage and familiarity with other service providers as predictive variables.* Health Informatics J 2013; 19(2): 79–90.
12. Al-Aomar R., Awad M. *Dynamic process modeling of patients' no-show rates and overbooking strategies in healthcare clinics.* Int J Prod Econ 2012; 3(1-2): 3–21.
13. Okotie O., Patel N., Gonzalez C. *The Effect of Patient Arrival Time on Overall Wait Time and Utilization of Physician and Examination Room Resources in the Outpatient Urology Clinic.* Adv Urol 2008; (507436): 2.

14. Klassen, K., Yoogalingam, R. *Appointment system design with interruptions and physician lateness*. International Journal of Operations & Production Management 2013; 33: 394–41.
15. Raport *Profil i zachowania Pacjenta 3.0. na przykładzie serwisów Grupy DocPlanner*. Com. Pobrano z: <https://www.slideshare.net/Iwosia/raport-pacjent-30-znanylekarz>