

Research Journal of Pharmaceutical, Biological and Chemical Sciences

Social Composition and Motivation of Patients in Applying For Implant Dental Service.

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ABSTRACT

This paper deals with the provision of dental services in the field of dental implantology. The authors of this paper conducted a sociological study at two types of dental institutions: the municipal (state) and commercial (private) institution. For this purpose, two special sociological questionnaires have been developed. Total 432 patients were interviewed in both institutions. The results showed that the age and sex structure of the population applying for implant dental service to public and private institutions has both similarities and important differences, mainly related to the heterogeneous social composition of the applicants and their income levels. The leading factor, regardless of the type of institution, is the quality of dental care provided therein

Keywords: motivation, implantology, care, population

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INTRODUCTION

The demand for dental services has significantly increased in our country in recent years [1-4]. According to some epidemiological studies, the actual need of the population in the orthopedic implant and dental care have further increased. Up to 40% of the population older than 40 years, according to the literature, required such medical care in the 90s, and this figure has risen up to 90% in nowadays [1]. Since dental implantology is the most rapidly developing branch of dentistry, it has always referred to the paid health care services, however, meeting of the demand for this type of care is within the real financial possibilities of the population [5, 7, 8]. This is particularly relevant in low- and middle-income countries, which Stavropol region refers to [4, 6]. Today, dental implantology is widely represented in both the private services market sector, and the government dental clinics, including municipal ones. Quality of care is different and affected by the high financial market capacity and willingness of a dentist to maximize the range of use of dental implants.

In order to improve the modern dental implant care to the population it is important to study the social aspects of this problem such as a financially reliable demand of the population for implant services, and their preference of private or public dental clinics.

Objective of the research. To study the social structure and to evaluate the peculiarities of patients' appealability for implant dental care in accordance with their age-sex composition, social status and income level.

Technique

In accordance with the purpose of this research, a special methodological approach has been developed for its implementation. This approach involved carrying out a planned sociological research in two types of dental institutions, namely questioning of patients applying for implant dental care to the Municipal dental clinic No. 1 in Stavropol (MDC-1), as well as patients applying for such dental care to a commercial institution. For this purpose, two special sociological questionnaires have been developed.

The first sociological questionnaire included the following topics: gender, age of the patient, his/her education, and profession. It also reflected the level of income of the respondents, their previous application for implant care, time of application and a name of institution. Scope of implant care provided was also noted. It has been found out how the respondents evaluated the efficacy of prior implant treatment provided in this particular type of dental institutions.

The most important section of the questionnaire was intended for the establishment of the motivational prerequisites for the respondents' appealability for implant care to a state institution. Several variants of answers have been given, namely: "a high quality of treatment and prosthetics, a prestigious institution, qualified personnel, modern equipment, facilities," etc. The concluding sections of the questionnaire dealt with the respondents' assessment of prices for implant dental services, as well as they were given the opportunity to make suggestions about improving the organization of implant dental care.

Total 232 patients aged 20 to 60 and older were interviewed through this questionnaire during 2011-2013.

The second questionnaire involved studying the population’s appealability for implant dental care to a commercial institution. As well as the first questionnaire, it contained personal data of each individual respondent, reflected his/her social status and the level of income. Respondents were also asked to assess the level of prices in a given institution, and their reasonableness. Furthermore, it became known, where the patient had previously received implant dental care (municipal clinic or commercial institution). The respondents at the same time were asked to answer the question of how they assess the quality of implant services provided to them.

Total 200 respondents aged 20 to 60 and older, who had applied for implant dental care to Stavropol commercial clinic LLC NPO “Apolonia”, were interviewed through this questionnaire in 2011-2013.

Total 432 patients were interviewed in both institutions in equal proportions. The actual experimental data obtained were processed by methods of variation statistics which gave average values and errors to them ($M \pm m$) using a Microsoft Excel suite of programs for Health Statistics. Comparison of statistical indicators and detection of reliability of the differences or their irrelevance was carried out by goodness-of-fit test (t). Differences were considered significant at a value $t > 2.0$.

Main Body

As a result of studies, it was established that persons aged 40-49 are the most frequent patients of MDC-1 (29.6%). Younger people make up a slightly lower value: in 20-29 years old - 22.2% in 30-39 years old - 23.6%, respectively. An age group older than 50 years old has the lowest proportion: 13.6% - in the age of 50-59 years old, and 11.4% - in the 60 years old and older, respectively. People aged 30-39 (24%) and 40-49 (35%) are also the most usual patients of private clinics. The most rare patients are people aged 60 and older (5%). A sex structure of the respondents applying for implant dental care to MDC has a great importance for their characteristics. As was established, women apply for implant care to MDC-1 twice more often than men: 66.1% and 33.9%, respectively.

Examination of the levels of education of respondents applying to MDC-1 for implant dental care was of great importance during the research. It was established (Table 1), that the overwhelming majority of patients (69.1%) are people with higher education.

Table 1: Distribution of respondents, who have applied to the MDC-1 for implant dental care, by level of education (% , $M \pm m$)

Education	Age, years					In average
	20-29	30-39	40-49	50-59	60 and older	
Secondary	20.7	-	15.4	5.6	-	8.34±2.40
Specialized secondary	24.1	9.7	20.5	5.6	13.3	14.64±3.07
Higher	31.0	77.4	61.5	88.9	86.7	69.1±4.02

The data obtained indicate that highly educated people, under otherwise equal conditions, tend to get into a more prestigious institution for being provided with implant dental care. However, the income level of the respondents and the opportunity to pay a quite expensive implant treatment is very important.

As was established, the majority of respondents (60.7%) has an average level of income. Only 1.7% of the patients applying to MDC-1 have a high-income level.

Most of patients positively assess the cosmetic effectiveness of implant dental care previously provided to them in the municipal clinics. On average, 61.3% of them gave positive assessment of this indicator. Meanwhile, a significant number of the respondents (24%) have negatively assessed the cosmetic effectiveness of implants installed there, and 14.7% of them found it difficult to answer.

Perhaps the worst indicators noted by respondents in this regard referred to municipal clinics. Positive assessment was made by nearly 21.1% of respondents, 24.3% of them gave a negative assessment of the cosmetic effectiveness of previous implant treatment. A significant number of respondents (54.6%) found it difficult to answer.

The reverse is the case for the cosmetic effectiveness of previous implant dental care provided to the respondents in commercial institutions. 45.2% of respondents made positive assessment, while 18.6% - negative. 36.2% of respondents found it difficult to answer.

Absolutely the best indicators of the cosmetic effectiveness of implant and orthopedic treatment previously provided were noted by the respondents treated in MDC-1. Thus, 92% of the respondents made positive assessment, while only 2% of them made negative assessment, and 6% found it difficult to answer.

A very negative assessment was made by patients considering the cosmetic effectiveness of dental prostheses previously made, installed on dental implants in commercial institutions. Only 19.5% of respondents made positive assessment, 38.1% made negative assessment, and 42.4% found it difficult to answer.

Answers of the respondents treated previously in MDC-1 differs favorably against this background. The vast majority of them (85.3%) gave positive assessment of functional efficiency of dental implants installed and dental prostheses on implants previously manufactured.

The most important objective of the research was to examine the motivational prerequisites for application of the for implant dental care right to MDC-1 (Table 2).

Table 2: Motivation of respondents to apply to the MDC-1 for implant dental care, (% , M ± m)

Income level	Age, years					In average
	20-29	30-39	40-49	50-59	60 and older	
High quality of medical care	13.8	19.4	10.3	5.6	13.3	12.48±2.87
Prestigious institution	10.3	9.7	5.1	27.8		10.58±2.67
Highly qualified personnel	10.3	19.4	20.5	22.2	20.0	18.48±3.37
Modern equipment	6.9	3.2	2.6			2.54±1.37
All items	44.8	35.5	41.0	16.7	66.7	40.94±4.28
Upon the recommendation	6.9	6.5	12.8	11.1	-	7.47±2.28
Location area		3.2				0.64±0.64
Fair prices	-	3.2	-	-	-	0.64±0.64
Trust	-	-	-	11.1	-	2.22±1.28
Did not respond	6.9	-	7.7	5.6	-0	4.04±1.71

As was established, the basic factors, according to respondents, are the high quality of the implant treatment in the clinic (12.5% response rate), the prestige of institutions - 10.6%, the availability of highly qualified personnel - 18.5%, modern facilities and equipment - 2.5%.

It should be noted that the majority of respondents (40.9%) believe all of these indicators to be important for them simultaneously. As a result, over 85% of respondents believe that the main factor motivating to apply to MDC-1 is primarily a high quality of implant dental care provided.

In addition to the estimation of the level of motivation, the study of the population’s opinion of the existing prices for implant dental services is very important to characterize a certain level of application of the population for implant dental care to MDC-1. Most of the respondents (36.9%) considers prices for implant services provided in MDC-1 to be high. 29.7% of the respondents consider prices to be average, and nearly the same number of the respondents (32.2%) found it difficult to answer. The data obtained almost entirely correspond with the income level of the respondents applying to MDC-1.

The comparison of indicators identified in MDC-1 with the data obtained in the private institutions rapidly developing in recent years is of high importance. For this purpose, the opinions of respondents who applied for implant treatment to Stavropol commercial clinic NPO “Apolonia”, were studied on a similar program.

It was established that females apply twice more often for implant treatment than males. As can be clearly seen, despite general similarity to data previously obtained on MDC-1, there are some differences and connected with various social composition of those having applied to commercial clinic.

The greatest share of the respondents having applied to commercial institution is represented by civil servants (44.9%). Entrepreneurs are the second (21.3%). Their greatest

proportion is in the age groups of 30-39 (41.7%) and 40-49 (37.1%) years old. Share of entrepreneurs aged 50-59 is also represented quite significantly - 14.3%.

Quite insignificant proportion is represented by the population categories such as workers (4.1%) and students (6.7%). This is undoubtedly due to their low level of income, precluding them from applying for expensive implant dental care to commercial institutions. High level of income has been identified in almost 18% of the respondents, which is more than 10 times higher than incomes of those who applied to the MDC-1. The proportion of patients, who have middle-income level, is lower (43.6%).

A significant number of respondents (28.2%) decided to come to this clinic on their own initiative, and only 8.3% of them found out about it from advertising.

An advertising itself, as it turned out, gives no more than 8-10% of the respondents applying for implant dental care.

Clarification of the respondents' opinions about the quality of implant dental care previously provided to them in local clinics and private institutions was of great importance for the characteristics of appealability right to this clinic. Its low quality was noted primarily in local clinics. The majority of respondents (36.8%) gave it poor assessment. Satisfactory assessments were given by 31.1% of respondents, good - by 17.2%, excellent - only by 4% of the respondents, and 10.9% found it difficult to answer.

The reverse is the case for the respondents' assessments given to the quality of implant dental care previously provided to them in commercial institutions. Thus, poor assessments were given by 12.4% of respondents, satisfactory - by 26.6%, good - by 34.6%, and excellent - by 17.1%. As it turned out, some of them previously received implant assistance in this clinic. Its quality assessment compares favorably with the above. The absolute majority of the respondents (84.1%) gave excellent assessments to quality of implant care provided in this clinic. Moreover, all respondents in some age groups, namely 20-29, 50-59 and 60 years old and older, gave an excellent assessment.

Share of good assessments was 7.3%, satisfactory assessments - 1.8%, and 6.8% of the respondents found it difficult to answer.

CONCLUSION

The age and sex structure of the population applying for implant dental service to public and private institutions has both similarities (the most frequent applicants are persons aged 30-39 and 40-49, as well as females twice more often than males) and important differences, mainly related to the heterogeneous social composition of the applicants and their income levels. The social composition of the population applying to these institutions varies considerably too: the usual patients of MDC-1 are civil servants and pensioners. Entrepreneurs usually apply to commercial institutions, as well as civil servants with a higher level of income.



SUMMARY

The leading factor, regardless of the type of institution, is the quality of dental care provided therein.

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