

## PUBLIC CONFIDENCE IN FORMAL MEDICINE: CURRENT CONTEXT

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### ABSTRACT

**The aim:** To explore the current context and the main factors of public confidence in formal medicine.

**Materials and methods:** The article is based on the outcomes of a cross-sectional survey designed to reflect varied dimensions of individual/population' perception of healthcare services, namely: socio-demographic information, reflection on individuals' own health, confidence in healthcare services. A total of 2478 self-referred respondents took part in the survey.

**Results:** The study outcomes evidenced that the vast majority of respondents trusted in formal medicine. High level of public confidence in formal medicine is correlated with the lack of confidence in alternative methods. Amongst the factors influencing formation of public confidence in formal medicine are "satisfaction of basic needs and physical condition of the body", as well as "healthy behavior". It was identified that the most significant influence on the level of public confidence in medicine is made by the individual's satisfaction with the level and quality of physical exertions, satisfaction with the individual's physical condition, and satisfaction with the quality of food.

**Conclusions:** The survey outcomes provide the background for outlining specific ways to enhance public confidence in formal medicine, contribute to optimization of funding provided to public health care projects and programs.

**KEY WORDS:** healthcare systems, public policies, public confidence, community health, healthy behavior

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### INTRODUCTION

Quality of medical care is turning into one of the most urgent amongst the global problems facing humanity in the twenty-first century. From the world perspective its relevance is resulted from the need to enhance the potential of medical systems across the world in order to improve the population health, to guarantee for citizens their safety and life quality as core values. Moreover, such a need is resulted from COVID-19 impact at all the levels.

#### QUALITY OF MEDICAL CARE

The modern concept of medical care quality is oriented at exploring the patient's own opinion as a consumer [1]. Trust is formed as the basic human attitude [2]. Trust in formal medicine arises from the experience of obtaining medical services (within the context of the treatment effectiveness measurement) based on a clear knowledge of the subject (disease, its consequences, the process of treatment, prevention of disease) and warning of their irrelevance [3]. The basis of a patient's attitude is experience of vulnerability which ensures the base for trust (to a doctor, to the whole system of health care) or leads to mistrust

arisen [4]. People who do not trust formal medicine tend to deny scientific findings, ignore doctors' prescriptions, and make it impossible to achieve therapeutic cooperation (compliance). This complicates the process of health care provision, often results into cases when population loses its working capacity, as well as it creates a significant financial burden on the budgets of communities and countries.

#### PUBLIC CONFIDENCE IN FORMAL MEDICINE AND POPULATION QUALITY OF LIFE

Public mistrust in formal medicine is resulted from a range of factors, namely: a significant number of medical errors due to the lack of modern medical equipment or its inaccessibility to patients, especially in transition countries [5], differences in education and experience of service providers, changing composition of patients, and an outdated strategy of focusing only on pathological symptomatic dynamics as the core criteria of health care quality [6, 7]. The low level of public confidence in formal medicine leads to deterioration in general population wellbeing, reducing personal responsibility of all the stakeholders – both the health service provider and the user [8].

Trust is a sign that an individual or a collective subject (group, ethnic group) is confident of the security of environment surrounding world and social environment [2, 9, 10, 11]. Individual health is based on a trustful communication with others. Cooperation relationships are formed as a result of trusting attitude, which is the key to success of all the actors engaged into interaction [12]. Trust is occurring resulted from self-disclosure – communicating an intimate information about oneself [10].

The willingness to receive health care belongs to a safety human need [13]. Satisfaction of both physiological and safety needs is of paramount importance for the development and vital functions of the individual [14]. Physiological needs which directly affect human health include the need for food and drink, physical activity; safety includes the need to maintain physical health which is manifested by healthy lifestyle of an individual, a certain system of nutrition, satisfaction with one's own physical condition. Actualization of these needs forms the basis for requests which determine expectations for medical care provision. If interaction with the medical system resulted into meeting these needs, and the patients' expectations were met – an individual has developed trust in formal medicine. If the terms of interaction were directly opposite, the service recipient will be seeking alternative ways of obtaining assistance (meeting safety need).

## THE AIM

The aim of the article is to examine contemporary public attitudes towards health care; to explore the relationship between satisfaction of patient/population's basic needs and healthy behavior as key factors for building confidence in formal medicine

## MATERIALS AND METHODS

### DESIGN

The study was designed as a cross-sectional survey. The questionnaire contains a set of questions asking respondents to choose one or several options from the presented list, open-ended questions (options "other" in the questions), rating questions (on a Likert scale of 1-10).

The survey design collected data on: demographic, social and work characteristics of respondents; the respondents' reflection on health.

### TOOL

The survey consists of 3 subsections reflecting varied dimensions of individual/population' perception of health care services

*The 1st part* collects socio-demographic information through five standard questions on age, gender, living situation (urban or rural area), employment/working status and level of education

*In the 2nd part* participants were asked about "how individual/population looks after own health" and this part

included a set of seven questions. The definition "Looking after own health" was conceptualized as a combination and interaction of a range of activities. The areas researched include physical activity, eating and drinking, individual physical health condition, healthy life style

*The 3rd part* is designed to explore individual/population confidence in health care services

## ANALYSIS

The data analysis was executed in SPSS. Due to the fact that the questionnaire data is a mixture of categorical and nominal data, in addition to the descriptive statistics, methods such as Pearson's Chi-Square analysis, factorial analyses, t-criteria were used.

## ETHICAL CONSIDERATIONS

This study was in accordance with the APA ethical principles regarding research with human participants. Participants were informed before participating that their responses will be treated confidentially and anonymously; all data will be analyzed in a generalized manner; they give their consent by proceeding past the welcome text of the online survey. Participation in this study was voluntary.

## RESULTS

Below the socio-demographic characteristics of the study sample are provided as well as the study outcomes on population confidence in formal medicine, the evolution of the above-mentioned variable over the last year, the comparison with the level of confidence in alternative treatments. An analysis of the population subjective perception of the level of satisfaction of basic needs (nutrition, physical condition) is made.

## SOCIO-DEMOGRAPHIC CHARACTERISTICS

The sample was formed from 2478 (15-90 years) respondents: 72% women, 28% men; 69% full-time, 3% students, 14% unemployed, 12% pensioners and 2% disabled.

## PUBLIC ATTITUDES TOWARDS MEDICAL CARE

As a result of analysis of the indicators obtained, there were three levels of trust in formal medicine identified amongst the survey respondents: high, medium and low. The vast majority of respondents have an average level of trust in formal medicine (46,9%,  $M = 5,9$ ,  $SD = 0,84$ ). However, most assessments of individual attitudes towards the respondent's health system at this level have low confidence values ( $M_0 = 5$ ). The quantitative indicator of high level was 28.7% ( $M = 8,67$ ,  $SD = 0,79$ ), and low – 24,4% ( $M = 2,9$ ,  $SD = 1,1$ ). Quantitative indicator of an individual level of trust might be considered as a tendency in population attitude to formal medicine (Table I).

**Table I.** Public attitudes towards health care

Attitude	Level	N	%	M <sub>o</sub>	M <sub>e</sub>	M	SD
Confidence in formal medicine	High	711	28,7	8	9	8,67	0,79
	Medium	1164	46,9	5	6	5,9	0,84
	Low	603	24,4	4	2,5	2,9	1,1
Confidence in alternative treatments	High	222	9	9	8,5	8,8	0,77
	Medium	726	29,3	5	5,5	5,5	0,73
	Low	1530	61,9	1	2	2,3	1,14

**Table II.** How people look after own health

Indication	Degree	N	%	M <sub>o</sub>	M <sub>e</sub>	M	SD
Satisfaction with individual physical health	High	861	34,7	8	9	8,7	0,81
	Medium	1092	44,1	5	6	5,9	0,85
	Low	525	21,2	3	3	3	0,75
Satisfaction with the level and quality of physical activity	High	888	35,8	8	9	8,7	0,8
	Medium	1086	43,8	5	6	5,9	0,83
	Low	504	20,3	3	3	2,9	1,03
Satisfaction with the quality of individual nutrition	High	972	39,2	8	9	8,8	0,86
	Medium	1047	42,3	7	6	6	0,89
	Low	459	18,5	3	3	3	1,1
Maintaining the system of healthy lifestyle	High	1062	42,9	9	9	8,9	0,84
	Medium	1002	40,4	7	6	6	0,84
	Low	414	16,7	3	3	2,9	1,2

## POPULATION CONCERN OF ITS OWN HEALTH

The population concern of its own health was identified by the following criteria: satisfaction with individual physical health, satisfaction with the level of physical activity, satisfaction with the quality of individual nutrition, compliance with the system of healthy lifestyle, compliance with the nutrition system.

Based on the results of factor analysis (Table II), there are two factors identified which determine the population's confidence in the formal medical system. These factors have been identified by applying the Kaiser criteria [14]. The factors we detected were:  $F_1 = 2.6$  (41.8% of the total sample);  $F_2 = 1.7$  (29,2%).

The highest load in the first factor has a variable «satisfaction with the level and quality of physical activity» ( $r = 0,900$ ). The variable «satisfaction with individual physical condition» ( $r = 0.857$ ) is close to it in terms of the factor load. The variables «satisfaction with the quality of individual nutrition» ( $r = 0.829$ ) and «adherence to the system in a healthy style» ( $r = 0.520$ ) also had a significant load. The highest load in the second factor had the variables «compliance with the nutrition system» ( $r = 0.867$ ) and «maintaining the system during physical activity» ( $r = 0.845$ ).

The correlation between the studied variables has been identified. Based on our study purpose, an interesting finding is the identified relationship between the variable that has the largest factor load for  $F_1$ , – «satisfaction with the level and quality of physical activity» with indicators

of «satisfaction with individual physical health» ( $r = 0.785$ ) and «satisfaction with the quality of individual nutrition» ( $r = 0.661$ ) at  $p \leq 0.01$ . A correlation of average empirical significance has also been found between the indicators «system storage in physical load» and «nutrition system compliance» ( $r = 0.512$ ,  $p 0.01$ ).

## DISCUSSION

### CONFIDENCE IN FORMAL MEDICINE AND MEETING PHYSICAL NEEDS

The vast majority of respondents have confidence in formal medicine. This is evidenced by the quantitative indicators of high and average levels of confidence in the formal health care system, totaling 75.6 per cent of the sample. The level of confidence in alternative treatments is low: 61.9 %. Only 9 % of respondents showed a high level of trust for alternative treatment. The t-criterion (Student's t-distribution) applied to compare the size, provided the base to conclude that the difference between the indicators is empirically significant ( $t = 5.65848$ ,  $p = 0.01$ ). Consequently, the high level of public confidence in formal medicine has traditionally been accompanied by lack of confidence in alternative methods, which improves the overall picture of relationships formed between health care providers and consumers. The above findings support the outcomes of the studies by the other scientists [15]. High level of confidence in formal medicine

is the evidence that while addressing their health problems Ukrainians rely on the outcomes of health care studies.

While considering the determinants which result into the citizens' trust in medicine, in this study there was the impact of demographic factors tested on this phenomenon. However, there was not found any significance of the impact of age, status factors on confidence in formal medicine.

At the same time, there were factors identified in the study which make impact on formation of citizens confidence in formal medicine, i.e. two factors which can be conditionally designated as «satisfaction of basic needs and physical condition of an organism» (F1), as well as «healthy behavior» (F2)). The most significant impact on the level of public confidence in medicine is the individual's satisfaction with the level and quality of physical activities, satisfaction with the individual physical condition, and satisfaction with the quality of individual nutrition. Such results enable explaining conditionality of the population's confidence in formal medicine, as well as confirm the conclusions by A. Maslow on hierarchy and interrelationship of human needs [16]. It was identified that over the past year 39% of those surveyed had changed their level of confidence (1% had it improved and 38% had it deteriorated). A significant percentage of deterioration, we believe, is due to the adaptive quarantine conditions imposed by the COVID-19 pandemic. Such a situation often led to restrictions on people's physical activity, changes in their traditional eating and drinking patterns, and, therefore, was turned into the stress factor. In addition, the level of confidence might be affected by the general tendency to burnout of medical staff in the situation of overload, as well as slowing down of health care system reforms, low level of its management.

A detailed analysis of the sample group which showed a high level of confidence in formal medicine, leads to conclusion that participants are satisfied with the level and quality of individual physical activities. Less than 1% of respondents (0.51 %) expressed dissatisfaction with this indicator. The dissatisfaction with this indicator in the group of average confidence in formal medicine was even smaller, amounting to only 0.11 %. This is an indication that they make reasonable use of their life potential, are aware of the importance of the physical component of health, care for their life quality, are guided by the scientists' recommendations, and have positive experience in implementing these prescriptions. Such results confirm high level of trust in health care system as a public institution [17]. The relatively high level of satisfaction with this variable was demonstrated also by persons who expressed an average level of confidence in formal medicine; the combined indicator of high and average rates was 83%, while 17% reported a low level. In contrast to the above results, the participants of the group with a low level of confidence in medical system, showed a high level of dissatisfaction with individual physical activities (46 %). While the average level of satisfaction with this variable was 39 %, a significant number of self-assessments is approaching a low level of satisfaction. Factor weight of

the variable «satisfaction level and quality of individual physical exertions» is 0,900, which is proof that it has a significant influence on formation of trust of the population in formal medicine.

This feature is correlated with the other variables: for example, it is the most strongly tied with the indicator «satisfaction of individual physical health condition» ( $r = 0.785$  at  $p = 0.01$ ). This correlation reinforces the concept of human health integrity as a state of physical and psychological well-being. The level of satisfaction with the individual physical condition of the interviewees who were part of the high level of confidence in formal medicine, was quite high: 90.1 % (51.3 % – high, 38.8 % – average). Representatives of the average level of confidence also showed close results – 93.2 % (44.8 – high level, 48.4 – average level). The factor load of this component is also high – 0.857, which evidences the importance of this variable as a determinant of public confidence in formal medicine. British scientists have drawn similar conclusions [18].

Another variable which has a high factor load (0.829) also correlates with satisfaction with individual physical activities, – satisfaction with the quality of individual consumption of nutrition and drink. Traditionally, the highest level of satisfaction was shown by representatives of high level of confidence in formal medicine – 95.8 per cent. The group with the average level of confidence also evidenced high outcomes – 82.6 %. Such empirical data evidences that the respondents' expectations regarding the quality and the scope of nutrition and drink are met, they are not surviving basic needs frustrations, they are not depleted by hunger or excessive nutrition. The latter ensures opportunities for actualization of the need for confidence in formal medicine.

The component that formed the first factor of confidence in formal medicine was the variable «compliance of the system in a healthy style». Its factor load was lower (0.520), which, in our opinion, is due to the fact that it is based on a system of behavior, as well as human habits that are more difficult to correct. It is quite a common case when refusal from traditional food products or drinks used results into the lack of satisfaction which was usual for an individual.

Another explanation might be that the level of human competence in disease prevention and maintaining health has significantly increased in recent decades. And the latter is evidenced by the results of our study: 83.3% of participants from the full sample follow healthy lifestyle (42.9% – high level, 40.4% – average level). Such data evidences a high level of population self-care: citizens use health care services provide by the formal system, follow recommendations of treatment providers, avoid any behavior which might be harmful to health (observe the rules of balanced nutrition, are engaged in physical activities, maintain positive attitude to the world, have a good sleep and rest, prevent their emotional burnout). However, it's worth noting that the majority of sample was rural population, representing the cultural traditions of Ukrainian people, so, such results may differ from those representing the self-assessment of the city residents.

## CONFIDENCE IN FORMAL MEDICINE AND HEALTHY BEHAVIOR

A study of healthy behavior has evidenced contradictory outcomes: despite the identified fairly high level of satisfaction with quality and individual physical activities, as well as high level of compliance with the system in a healthy lifestyle, the participants noted the absence of nutrition system as well as maintaining the system in physical activity. Only 21.3 % of the total sample of respondents maintain the system as physically active. Although those respondents who were part of the group with the high level of trust in formal medicine, confirmed compliance with the system at the level of 43.9 %. In terms of nutrition system, 20.3 % of respondents adhere to it. The data obtained from the respondents of the group with high confidence in formal medicine was 42.6 %. We consider this situation to be caused by a superficial understanding of these questions as well as by the lack of certain competence of respondents. Perhaps that was the reason for the second factor being lower than the first one. Although the percentage data obtained was not high enough for the entire sample, they were relevantly significant for the high level. This was evidenced by the factor load of the above-mentioned components: 0.867 – «the system of maintaining nutrition and drinking», 0.845 – «storage of system in physical activity». This provides the background for the generalization that compliance with these systems is important for building public confidence in formal medicine.

## CONCLUSIONS

The study resulted into the following findings: there are two main factors which have significant impact on formation of confidence in citizens in formal health care system, namely: 'satisfied individual's basic needs and physical condition of organism', and 'healthy behavior of population'. The general level of Ukrainians' confidence in formal medical care system has proved to be quite high. This is an evidence of relevance of safety need – human willingness to obtain high-quality health care service. It was found within this study that public trust in formal medicine is dynamic. Its rapid deterioration is caused by frustration of the population's basic needs, as well as by the inability to quickly meet expectations on safety need implementation.

The most important factor in building confidence in formal medicine is human satisfaction with the level and quality of physical activity. The self-assessment of a given variable by sample members is quite high. Consequently, the promotion of the satisfaction of population with this need makes it possible to enhance people's interest in medical research, as well as implementation of recommendations of medical staff regarding the full utilization of health-care system and compliance with medical prescriptions. The components that build the confidence in formal medicine are also: satisfaction with individual physical condition, satisfaction with the quality of individual nutrition; compliance with the nutrition system; maintaining the system in physical activity. The above components are interlinked and interrelated.

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**Conflict of interest:**

*The Authors declare no conflict of interest*

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