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<https://doi.org/10.55463/issn.1674-2974.50.9.28>

Physicians' Collaboration as Initial Emitters of Health Information with Traditional Media Journalists in Morocco

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Abstract

The media have always been invited to collaborate in health promotion programs. In Morocco, although the Higher Council for Audiovisual Communication has drawn up a recommendation defining the rules governing the treatment of health topics, conflicts between Physicians' and journalists have not ceased. The aim of our study was to describe and analyze the relationship between Physicians' as initial emitters of health information and traditional media journalists as relay transmitters, and their collaboration in the production of health topics in these traditional media (TM). Among 417 doctors participating in our survey, the majority 324 (77.7%) had no direct relations with TM journalists/institutions; 168 (40.3%) had received requests from journalists to collaborate on health topics; 333 (79.9%) had never written about health topics in TM; Physicians' who had been involved more than 10 times in the 12 months preceding the survey accounted for only 3 (0.7%) in both the written press and radio, and no involvement (0%) in TV; around 90% of respondents had never received training in techniques for communicating with the media to promote health. Our study shows that the physicians surveyed are a poor collaborator in the production of health topics in the TM. Our work takes on a particular interest considering that no similar study has been conducted in Morocco, and it will enrich the national and international scientific literature in the field of health communication. In practical terms, it could serve as a scientific basis for advocating improved basic and continuing training programs for doctors in communication and, in particular, in relations with the media, in order to establish a collaborative and effective approach to health promotion.

Key words: Traditional media, Physicians, Journalists, Health promotion, Morocco

摩洛哥医生与传统媒体记者合作发布健康信息

摘要: 媒体一直被邀请参与健康促进计划。在摩洛哥，尽管视听传播高级理事会已起草了一份建议书，对健康主题的处理规则进行了界定，但医生与记者之间的冲突并未停止。我们的研究旨在描述和分析作为健康信息初始发布者的医生和作为中继传播者的传统媒体记者之间的关系，以及他们在这些传统媒体 (TM) 中制作健康主题时的合作。在参与调查的 417 名医生中，大多数 324 人 (77.7%) 与传统媒体记者/机构没有直接关系；168 人 (40.3%) 收

到过记者关于合作制作健康专题的请求；333 人（79.9%）从未在传统媒体上撰写过关于健康专题的文章；在调查前的 12 个月内参与过 10 次以上的医生中，只有 3 人（0.7%）参与过报刊和广播的报道，没有人（0%）参与过电视报道；约 90% 的受访者从未接受过关于与媒体沟通以促进健康的技术培训。我们的研究表明，接受调查的医生在制作媒体健康专题方面合作不力。考虑到摩洛哥尚未开展过类似研究，我们的工作具有特殊意义，它将丰富国内和国际健康传播领域的科学文献。在实践中，这项研究可以作为科学依据，倡导改进医生在传播，特别是与媒体关系方面的基础培训和继续培训计划，以建立一种合作和有效的健康促进方法。还需要对记者进行类似的研究，以比较两个群体的看法和做法，从而提出真正的解决方案

关键词: 传统媒体、医生、记者、健康促进、摩洛哥

Introduction

According to the WHO Constitution (1946), informed public opinion and the active cooperation of the public are of paramount importance in improving the health of populations. The Ottawa Charter (1986) also clearly states that unrestricted and permanent access to information, in order to make healthy choices and to monitor health issues, is one of the prerequisites for promoting the health of populations. Consequently, the media, which are part of the social determinants of health, are always invited to collaborate in health promotion programs, and Physicians' and health professionals, too, should make better use of the media to promote people's health [1, 2]. Not only can the media play a role in shaping social norms and changing health behaviors, they can help to improve advocacy strategies for the implementation of evidence-based health policies [3].

In addition, the search for health information is common among patients. They want a wide range of information about their illnesses and treatment protocols [4]. Studies have shown that good quality information, particularly in the media, is beneficial for patients. It can improve the feeling of control, reduce anxiety and emotional distress, increase compliance with treatment, make expectations more realistic and generate feelings of security and reassurance. Therefore, strategic efforts to improve the quality of medical information disseminated by the media were always strongly recommended [5, 6].

Physicians, like other communicators who try to influence health norms, appear in conceptual frameworks among the initial transmitters of health information. They transmit messages to the general population through the media, and can influence the complex process of shaping people's health standards. In this way, several actors and several agendas, with sometimes divergent ends, find themselves at a crossroads, where each seeks to influence health standards [7]. However, even if it is widely agreed that the mass media have an influence on health standards and behavior, it seems that interdisciplinary collaboration is not always easy to achieve. It has been described that the different paradigms, agendas and practical constraints of the two fields, medical and journalistic, could generate conflicts and widen the gap between these two essential players in the promotion of people's health [8].

In Morocco, following a number of complaints from Physicians' against broadcasts deemed to threaten the health of the population, the High Council for Audiovisual Communication (the regulatory body) organized a conference in 2017 to discuss the subject of 'audiovisual media and health'. It recognized that broadcasts not only present health information, but also go beyond it by making diagnoses, prescribing treatments, and above all encouraging listeners to abandon modern medicine by questioning its effectiveness. The same council defining the rules governing the qualities of the speakers, the content of the programs and advertising on this subject [9] has therefore published a recommendation. Despite this regulatory initiative, conflicts between physicians and the media have not ceased, and it would appear that the problem is more complex than can be resolved by a top-down procedural decision. Hence, the interest of a more careful scientific exploration of the determinants of this conflictual relationship, in search of interdisciplinary solutions adapted to the Moroccan context.

Following a study on the perception of physicians in Morocco, as consumers of the media, towards health topics published in the TM [10], which revealed that a significant proportion of Moroccan physicians had a negative perception of the quantity and quality of health topics covered by the traditional media, the aim of our present work is to describe and analyze the practices (collaborations) of physicians, as Initial Emitters of health information, with journalists and the traditional media (TM) who are Relay Transmitters of health information to the population.

1. Methodology and data collection

This was a descriptive and analytical cross-sectional study using a quantitative approach. Participants in the study were randomly recruited among practicing physicians in Morocco, all specialties combined. The questionnaire was distributed in Google Forms format from 20/10/2021 to 8/11/2021 in doctors' social networks and via email. Other healthcare professionals (nurses, administrators, etc.) and medical students (externs and interns) were not included. The final version of the questionnaire was adopted after a pre-test, which enabled us to change a few styles in order to reduce semantic ambiguities as much as possible.

In addition to the socio-demographic and professional data, 10 closed questions were asked, evaluating the physicians' collaboration with the traditional media journalists: Direct relations with journalists; Receiving requests from TM journalists to collaborate on health topics; Informing the general public by writing health topics for TM; Frequency of participation by physicians in TV, RADIO and the written press; Receiving training in communication techniques and ethics in relations with the media; Are physicians in Morocco qualified to deal with health topics in TM.

These quantitative data were compiled in Excel and analyzed using SPSS13.0 software. The Chi-2 test was used for comparisons of proportions, with a significance level of 0.05.

NB: the term "Traditional Media" (TM) here refers specifically to the professional news press (print, radio and television) to distinguish them from other communication activities and social networks; and the masculine gender is used without any discriminatory intention.

The data were collected in strict compliance with ethical considerations, i.e. the free participation and anonymity of respondents. "Agreeing to respond" is announced in the introduction to the questionnaire as consent to participation.

2.Results

2.1: Socio-demographic and professional characteristics of respondents to the quantitative questionnaire [Table 1].

We have 417 physicians practicing in Morocco responded to our questionnaire, of whom 213 (51.1%) were male, compared with 204 (48.9%) female. The average age of respondents was (44 years) with a majority 272 (65.2%) aged over 40 years. Bio-medical-surgical specialists (BMC) made up 118(28.3; general practitioners 116 (27.8%); resident Physicians' 64(15.3%), public health specialists 53(12.7%), dental surgeons 37(8.9%) and university professors of medicine 29(7%). The vast majority of participants worked in urban areas (city centers) 354(84.9%), and only 31(7.4%) in suburban areas and 31(7.4%) in rural areas. Two-thirds of the respondents to our questionnaire 278 (66.7%) had been practicing for more than 10 years. Physicians' in the public sector predominated 288 (69.1%), while 129 (30.9%) of respondents practiced in the private sector (profit and non-profit). The majority of respondents (300, 71.9%) were not managers of healthcare institutions, compared with 115 (27.6%) Physicians' who had a position of responsibility.

Variables	n (%)
Age	
25 to 29 years old	50 (12)
30 to 39 years old	95 (22,8)
40 to 49 years old	134 (32,1)
50 to 59 years	105 (25,2)
60 and over	33 (7,9)
Gender	
Female	213 (51,1)
Male	204 (48,9)
Place of work	
Missing data	1 (0,2)
Rural	31 (7,4)
Suburban (city suburbs)	31 (7,4)
Urban(downtown)	354 (84,9)
Function	
Dental surgeon	37 (8,9)
General practitioner	116 (27,8)
Resident physician	64 (15,3)
Public health specialist	53 (12,7)
Medical specialist (biomedical-surgical)	118 (28,3)
Professor of Medicine	29 (7,0)
Years of experience	
1 to 5 years	85 (20,4)
6 to 10 years	54 (12,9)
11 to 20 years	131(31,4)
20 years and over	147 (35,3)
Sector	
Private for-profit	124 (29,7)
Private non-profit	5 (1,2)
Public	288 (69,1)
Position of responsibility/Manager	
Missing data	2 (0,5)
No	300 (71,9)

Yes	115 (27,6)
Table developed by the authors	

2.2. Physicians' Practices as Initial Emitters of Health Messages to the TM [Table2 and Table3]:

-Direct relations with journalists/health institutions: The vast majority of responding physicians to our questionnaire 324 (77.7%) had no direct relations with journalists/health institutions, compared with only 85 (20.4%) who claimed to have relations. Of the latter, two-thirds were male [N85; 56(65.9%) male, 24(34.1%) female, pvalue=0.009]. BMC specialists and GPs had significantly more direct relations with journalists [N85; 30(35.3%) BMC specialists, 23(27.1%) GPs, 15(17.6%) public health specialists, 7(8.2%) medical professors, 6(7.1%) dental surgeons, 4(4.7%) resident physicians; Pvalue0.037]. Physicians in the public sector had significantly more contact with journalists/media than those in the private sector [N85; 56(65.9%) public, 28(32.9%) private; pvalue=0.04].

Only 74 (17.7%) of the physicians surveyed discussed health issues with journalists, with a significant male predominance: [N74; 50(67.6%) male, 24(32.4%) female; pvalue=0.004].

- Receiving any requests from TM journalists to collaborate on health issues? The majority of respondents 242 (58%) stated that they did not receive any requests from TM journalists to collaborate on health issues, whereas 168 (40.3%) were approached by the media. Among the physicians who had been solicited, physicians over 40 years of age had received significantly more requests to participate than those under 40 years of age [N168; 129(76.8%) >40years, 39(23.2%)<4years; pvalue=0.001]; and physicians with more than 10 years' seniority had received more requests from journalists than those with less than 10 years [N168; 133(79.1%)>10years, 35(20.8%)<10years; pvalue=0.001]. Journalists also invited BMC specialists to participate more than other functions [N168; 66(39.3%) BMC doctors, 48(28.6%) general practitioners, 20(11.9%) professors of medicine, 18(10.7%) public health specialists, 10(6%) resident doctors, 6(3.6%) dental surgeons; pvalue=0.001]. Medical managers received significantly fewer requests than non-managers [N168; 61(36.3%) managers, 107(63.7%) non-managers; pvalue 0.017].

-Informing the general public by writing health topics for TM: A large majority 333 (79.9%) had not written health topics in TM to inform the general public, compared with only 76 (18.2%) who had done so. Among the latter, physicians over 40 years of age wrote significantly more health articles than those under 40 [N76; 65 (85.5%) >40 years and 11 (14.4%) <4 years; pvalue=0.003]. Physicians with more than 10 years' seniority wrote more articles than those with less than 10 years' seniority [N76; 65(85.6%)>10years, 11(14.5%) <10years; pvalue=0.002]. Men also wrote more reports for TM than women: [N76; 48(63.2%) men and 28(36.8%) women; pvalue=0.048].

-Physicians' frequency of participation in the written press: The vast majority of 363 physicians (87.1%) had not participated in any way in the written press during the 12 months preceding the survey, while only 38 (9.1%) had participated 1 to 5 times a year and 3 (0.7%) had participated more than 10 times a year. Concerning Radio, 354 (84.9%) physicians had not participated at all in the last 12 months, 47 (11.3%) had participated 1 to 5 times, 2 (0.5%) had participated 5 to 10 times and 3 (0.7%) had participated more than 10 times. The frequency of participation in TV during the last 12 months was 1 to 5 times for 31 (7.4%) doctors, 5 to 10 times for 3 (0.7%) doctors, while the vast majority of physicians 369 (88.5%) had no participation in TV.

-Training in communication techniques and media ethics: The majority of the 366 interviewees (87.8%) had never received training in communication techniques with the media for the promotion of the health of the population, compared to only 42 (10.1%) who had received such training. Similarly, 340 (81.5%) of the physicians in our sample had not received any training in the ethics of physicians' relations with the media, while only 68 (16.3%) had.

-Are physicians in Morocco qualified to deal with health issues in the TM? Nearly three quarters of the 293 (70.3%) physicians surveyed felt qualified to cover health issues for the traditional media, compared with 111 (26.6%) who said they were not qualified to do so.

Table 2	
Physicians' collaboration with the traditional media journalists	
Variables	n (%)
Direct relations with MT journalists/institutions	
Missing data	8 (1,9)
No	324 (77,7)
Yes	85 (20,4)
If so, do you discuss health issues with them?	
No answer	249 (59,7)
No	94 (22,5)
Yes	74 (17,7)
Receive requests from TM journalists to collaborate on health topics	
Missing data	7 (1,7)
No	242 (58,0)
Yes	168(40,3)
Inform the general public by writing health topics for TM	
Missing data	8 (1,9)

No	333 (79,9)
Yes	76 (18,2)
Are Physicians' in Morocco qualified to deal with health issues in the Moroccan MT?	
Missing data	13 (3,1)
No	111 (26,6)
Yes	293 (70,3)
Receive training in media communication techniques to promote the health of the population.	
Missing data	9 (2,2)
No	366 (87,8)
Yes	42 (10,1)
Benefit from training in the deontology and ethics of doctors' relations with the media	
Missing data	9 (2,2)
No	340 (81,5)
Yes	68 (16,3)
Frequency of participation in print media over the last 12 months	
Missing data	13 (3,1)
No participation	363 (87,1)
1 to 5 times	38 (9,1)
6 to 10 times	0(0)
More than 10 times	3(0,7)
Frequency of participation in Radio in the last 12 months	
Missing data	11 (2,6)
No participation	354 (84,9)
1 to 5 times	47 (11,3)
6 to 10 times	2 (0,5)
More than 10 times	3 (0,7)
Frequency of TV appearances in the last 12 months	
Missing data	14 (3,4)
No participation	369 (88,5)
1 to 5 times	31 (7,4)
6 to 10 times	3 (0,7)
More than 10 times	0(0)
Table developed by the authors	

3. Discussion

Our results show that physicians' practices with the media are broadly homogeneous whatever their socio-demographic and professional characteristics, with a few rare exceptions that had a p value < 0.05 . Around 80% of respondents had no direct relations with TM journalists and had never written health articles for TM; and nearly 60% of them had never been asked by journalists to collaborate on health articles for TM. Between 7 and 10% of respondents had participated only 1 to 5 times in one of the TM in the 12 months preceding our survey, and only 0.7% had participated more than 10 times. In addition, almost 90% of respondents had never received training in media communication techniques and ethics. These figures indicate that physicians generally have little interaction with journalists and TM in Morocco. However, we find that among the 168 (40.3%) surveyed by journalists, there is a significant predominance of physicians aged over 40 and those with more than 10 years of practice (p value=0.001). Also among the 76 (18.2%) who had written about health issues, there was a significant predominance of those aged over 40 (p value=0.003) and those with more than 10 years of practice (p value=0.02). This suggests that young physicians, like young scientists, are less in demand by journalists than their older colleagues are. However, it is also possible that they are inexperienced in dealing with the media and do not know how to contact journalists even if they wanted to, or that

they lack the confidence to deal directly with the media like older scientists [11].

In another respect, BMC specialists and general practitioners were asked by journalists to take part in health topics in the TM more than the other functions [BMC specialists 66(39.3%), general practitioners 48(28.6%); p value=0.001], which is probably related to the media's tendency to invite specialists to talk about illnesses requiring more specialist detail. In addition, the use of general practitioners could be explained by their availability as front-line physicians (proximity) who have a primordial role in the management of public health issues in Morocco.

Among the 85(20.4) Physicians' who had a direct relationship with journalists/media, there was a significant male predominance [N=85; 56(65.9%) male, 24(34.1%) female; p value=0.009], and also among the 76(18.2%) who had written health articles for TM there was a significant male predominance compared with women [[N76; 48(63.2%) male, 28(36.8%) female; p value=0.048]. This suggests the uncertain situation faced by women in Morocco, and specifically in the media field. Indeed, women make up only 20% of the people who make the news in Morocco, and the media are more content to deal with men in all areas and very rarely call on female expertise [12, 13].

What seems contradictory is that managers of health institutions were unable to distinguish themselves from the other specialties; they were significantly less in demand to

participate than the others [N168; 61(36.3%) managers, 107(63.7%) non-managers; pvalue 0.017], even though logically they are supposed to make more use of the media, given that they need the media as indispensable partners in any institutional communication. This discrepancy can be explained by the centralization of communication by the Ministry of Health and Social Protection, which practically imposes the duty to obtain information from hierarchical superiors in order to give an interview or to deliver data from within the health institutions under the authority of the Ministry of Health. This also suggests that the media are frowned upon by the Physicians' in charge of administrative management and regarded as tools to be used with caution. This mistrust is also described in a study, which found that, in addition to a lack of time to interact with the media, the majority of Physicians' mistrusted the media and journalists [14].

Given the changing context of the Moroccan population, which is also seeking a little autonomy and empowerment, physicians' mastery of communication tools and participatory community approaches is of paramount importance, whereas the majority of physicians in our sample of 366 (87.8%) had never received training in media communication techniques for health promotion, which makes them incapable of managing the health information needs of patients and populations for lack of time and appropriate communication training [5]. This raises questions about the effectiveness of basic communication training, which apparently does not meet the changing expectations of medical practice and the needs of the Moroccan population.

However, even though physicians claim a lack of training in communication, the majority declare themselves capable of communicating with the media 293 (70.3%). This discrepancy in perception may be explained by an overestimation of their communication skills, given that, analogously, studies have shown that many physicians consider their communication adequate or even excellent, whereas most complaints are related to communication problems and not to clinical skills [15].

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Although TM remain an important source of healthcare information [16], as they have the power to influence health behavior, physicians should commit to reducing this remarkable GAP with journalists by sharing responsibility for producing accurate information, in order to improve the quality of health articles in such a non-specialist press.[17].

It is therefore essential for physicians, as public health communicators, to benefit from communications training to understand how the mass media work, so as to better interact with them [18] in order to ensure successful multidisciplinary collaboration for health promotion, by adopting a systemic approach combining these two areas of expertise, to treat health issues in a complementary way where each partner could not achieve alone [19].

4.Limitations of the Study: The study's biases included poor representation of rural areas, the private sector and dental practitioners. However, we felt that these biases had no impact on our results, which could be used to draw up action plans for collaboration between physicians and the media in promoting health in Morocco.

5.Conclusion

Our results may help to explain the gap between the two players. They showed that around 80% of the physicians investigated had no relations with the media and rarely used them to convey health information to the general population; and that around 90% of the physicians in our sample had never received training in media communication techniques. In practical terms, our work could serve as a scientific basis for proposing improvements to basic and continuing training programs for doctors in communication and media relations. In order to establish a collaborative approach, and in the search for possible complementarity between the two actors, physicians and journalists, a similar study among journalists is needed to compare the perceptions and practices of the two groups, with a view to initiating real solutions.

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Table 3: Cross-tabulation of variables with socio-demographic and occupational data

Variables Crossroads		Direct relations with MT journalists/institutions		If so, do you discuss health issues with them?		Receive requests from TM journalists to collaborate on health topics		Inform the general public by writing health topics for TM		Are Physicians' in Morocco qualified to deal with health issues in the Moroccan MT?		Receive training in media communication techniques to promote the health of the population.		Benefit from training in the deontology and ethics of doctors' relations with the media		Frequency of participation in print media over the last 12 months 5 (number of times)				Frequency of participation in Radio in the last 12 months (number of times)				Frequency of TV appearances in the last 12 months (number of times)				
		YES N=85	NO N=324	YES N=74	NO N=94	YES N=168	NO N=242	YES N=76	NO N=333	YES N=293	NO N=111	YES N=42	NO N=366	YES N= 68	NO N=340	0 N=363	1-5 N=38	5-10 N=0	>10 N=3	0 N=354	1-5 N=47	5-10 N=2	>10 N=3	0 N=369	1-5 N=31	5-10 N=3	>10 N=0	
AGE (YEARS): n(%)	25 à 29	5 (5,9%)	44(13,6%)	3(4,1%)	16(17%)	6(3,6%)	43(17,8%)	3(3,9%)	46(13,8%)	38(13%)	11(9,9%)	6(14,3%)	43(11,7%)	10(14,7%)	39(11,5%)	43(11,8%)	5(13,2%)	0	0	45(12,7%)	2(4,3%)	1(50%)	0	45(12,2%)	1(3,2%)	1(33,3%)	0	
	30 à 39	16(18,8%)	77(23,8%)	16(21,6%)	21(22,3%)	33(19,6%)	59(24,4%)	8(10,5%)	84(25,2%)	63(21,5%)	27(24,3%)	7(16,7%)	83(22,7%)	13(19,1%)	78(22,9%)	80(22%)	11(28,9%)	0	0	84(23,7%)	8(17%)	0	1(33,3%)	88(23,8%)	5(16,1%)	0	0	
	40 à 49	29(34,1%)	102(31,5%)	24(32,4%)	30(31,9%)	63(37,5%)	70(28,9%)	27(35,5%)	105(31,5%)	96(32,8%)	34(30,6%)	9(21,4)	124(33,9%)	26(38,2%)	106(31,2%)	119(32,8%)	10(26,3%)	0	2(66,7%)	113(31,9%)	17(36,2%)	0	0	120(32,5%)	9(29%)	1(33,3%)	0	0
	50 à 59	27(31,8%)	77(23,8%)	(23)31,1%	(20)21,3%	48(28,6%)	56(23,1%)	26(34,2)	78(23,4)	70(23,9%)	33(29,7%)	13(31%)	91(24,9%)	11(16,2%)	93(27,4%)	92(25,3%)	10(26,3%)	0	1(33,3%)	88(24,9%)	14(29,8%)	1(50%)	1(33,3%)	88(23,8%)	13(41,9%)	1(33,3%)	0	0
	> 60	8(9,4%)	24(7,4%)	8(10,8%)	7(7,4%)	18(10,7%)	14(5,8%)	12(15,8%)	20(6%)	26(8,9%)	6(5,4%)	7(16,7%)	25(6,8%)	8(11,8%)	24(7,1%)	29(8%)	2(5,3%)	0	0	24(6,8%)	6(12,8%)	0	1(33,3%)	28(7,6%)	3(9,7%)	0	0	0
KHI 2 test	P-value=0.528		P-value=0.381		P-value = 0.001		P-value = 0.003		P-value = 0.702		P-value = 0.076		P-value = 0.329		P-value = 0.901				P-value = 0.372				P-value = 0.507					
SEX	F	29(34,1%)	171(52,8%)	24(32,4%)	45(47,9%)	71(42,3%)	130(53,7%)	28(36,8%)	173(52%)	149(50,9%)	47(42,3%)	15(35,7%)	186(50,8%)	33(48,5%)	167(49,1%)	183(50,4%)	15(39,5%)	0	0	183(51,7%)	16(34%)	0	0	183(49,6%)	15(48,4%)	0	0	0
	M	56(65,9%)	153(47,2%)	50(67,6%)	49(53,1%)	97(57,7%)	112(46,3%)	48(63,2%)	160(48%)	144(49,1%)	64(57,7%)	27(63,3%)	180(49,2%)	35(51,5%)	173(50,9%)	180(49,6%)	23(60,5%)	0	3(100%)	171(48,3%)	31(66%)	2(100%)	3(100%)	186(50,4%)	16(51,6%)	3(100%)	0	0
	KHI 2 test	P-value = 0.009		P-value = 0.004		P-value = 0.07		P-value = 0.048		P-value = 0.203		P-value = 0.114		P-value = 0.960		P-value = 0.204				P-value = 0.039				P-value = 0.369				
Place of	Rural	6(7,1%)	25(7,7)	6(8,1%)	4(4,3%)	9(5,4%)	22(9,1%)	3(3,9%)	28(8,4%)	21(7,2%)	10(9%)	3(7,2%)	28(7,7%)	7(10,3%)	24(7,1%)	27(7,4%)	4(10,5%)	0	0	28(7,9%)	2(4,3%)	0	0	27(7,3%)	2(6,5%)	0	0	0
	Suburban	7(8,2%)	23(7,1%)	4(5,4%)	7(7,4%)	8(4,8%)	22(9,1%)	3(3,9%)	27(8,1%)	17(5,8%)	12(10,8%)	5(11,9%)	24(6,6%)	4(5,6%)	25(7,4%)	28(7,7%)	1(2,6%)	0	0	26(7,3%)	3(6,4%)	0	0	27(7,3%)	2(6,5%)	0	0	0
	Urban	72(84,7%)	275(84,9%)	64(86,5%)	83(88,3%)	151(89,9%)	197(81,4%)	70(92,1%)	277(83,2%)	254(86,7%)	89(80,2%)	34(81%)	313(85,5%)	57(83,8%)	290(85,3%)	307(84,6%)	33(86,8%)	0	3(100%)	299(84,5%)	42(89,4%)	2(100%)	3(100%)	314(85,1%)	27(87,1%)	3(100%)	0	0
	KHI 2 test	P-value = 0.970		P-value = 0.715		P-value = 0.339		P-value = 0.567		P-value = 0.418		P-value = 0.526		P-value = 0.590		P-value = 0.877				P-value = 0.985				P-value = 0.970				
Function	Dental surgeon	6(7,1%)	29(9%)	6(8,1%)	5(5,3%)	6(3,6%)	29(12%)	4(5,3%)	31(9,3%)	24(8,2%)	8(7,2%)	6(14,3%)	29(7,9%)	4(5,9%)	31(9,1%)	33(9,1%)	1(2,6%)	0	0	32(9%)	3(6,4%)	0	0	35(9,5%)	0	0	0	0
	General practitioner	23(27,1%)	92(28,4%)	21(28,4%)	27(28,7%)	48(28,6%)	68(28,1%)	22(28,9%)	92(27,6%)	85(29%)	30(27%)	7(16,7%)	108(29,5%)	15(22,1%)	99(29,1%)	104(28,7%)	8(21,1%)	0	0	98(27,7%)	13(27,7%)	0	1(33,3%)	97(26,3%)	13(41,9%)	0	0	0
	Resident physician	4(4,7%)	58(17,9%)	4(5,4%)	18(19,1%)	10(6%)	52(21,5%)	4(5,3%)	57(17,1%)	49(16,7%)	12(10,8%)	7(16,7%)	55(15%)	13(19,9%)	49(14,4%)	53(14,6%)	7(18,4%)	0	0	58(16,4%)	2(4,3%)	1(50%)	0	58(15,7%)	1(3,2%)	1(33,3%)	0	0
	Public health specialist	15(17,6%)	36(11,1%)	14(18,9%)	7(7,4%)	18(10,7%)	33(13,6%)	13(17,1%)	39(11,7%)	37(12,6%)	15(13,5%)	9(21,4%)	42(11,5%)	15(22,1%)	37(10,9%)	46(12,7%)	6(15,8%)	0	0	43(12,1%)	8(17%)	1(50%)	0	47(12,7%)	5(16,1%)	0	0	0
	Medical specialist (biomedical-surgical)	30(35,3%)	88(27,2%)	23(31,1%)	31(33%)	66(39,3%)	51(21,1%)	27(35,5%)	91(27,3%)	81(27,6%)	35(31,5%)	8(19%)	109(29,8%)	12(17,6%)	105(30,9%)	106(29,2%)	11(28,9%)	0	1(33,3%)	100(28,2%)	16(34%)	0	2(66,7%)	109(29,5%)	8(25,8%)	1(33,3%)	0	0
	Professor of Medicine	7(8,2%)	21(6,5%)	6(8,1%)	6(6,4%)	20(11,9%)	9(3,7%)	6(7,9%)	23(6,9%)	17(5,8%)	11(9,9%)	5(11,9%)	23(6,3%)	9(13,2%)	19(5,6%)	21(5,8%)	5(13,2%)	0	2(66,7%)	23(6,5%)	5(10%)	0	0	23(6,2%)	4(12,9%)	1(33,3%)	0	0
	KHI 2 test	P-value = 0.037		P-value = 0.165		P-value = 0.000		P-value = 0.06		P-value = 0.019		P-value = 0.129		P-value = 0.031		P-value = 0.006				P-value = 0.428				P-value = 0.074				
Years of experience	1 to 5 years	8(9,4%)	76(23,5%)	8(10,8%)	20(21,3%)	18(10,7%)	65(26,9%)	7(9,2%)	76(22,8%)	61(20,8%)	21(18,9%)	6(14,3%)	77(21%)	14(20,6%)	69(20,3%)	72(19,8%)	11(28,9%)	0	0	76(21,5%)	6(12,8%)	1(50%)	0	79(21,4%)	3(9,7%)	1(33,3%)	0	0
	6 to 10 years	9(10,6%)	44(13,6%)	7(9,5%)	17(18,1%)	17(10,1%)	36(14,9%)	4(5,3%)	49(14,7%)	35(11,9%)	16(14,4%)	5(11,9%)	48(13,1%)	8(11,8%)	45(13,2%)	48(13,2%)	4(10,5%)	0	0	48(13,6%)	4(8,5%)	0	1(33,3%)	49(13,3%)	3(9,7%)	0	0	0
	11 to 20 years	30(35,3%)	98(30,2%)	25(33,8%)	32(34%)	59(35,1%)	70(28,9%)	23(30,3%)	105(31,5%)	96(32,2%)	31(27,9%)	7(16,7%)	120(32,8%)	22(32,4%)	105(30,9%)	119(32,8%)	7(18,4%)	0	1(33,3%)	111(31,4%)	16(34%)	0	0	119(32,2%)	8(25,8%)	0	0	0
	20 years and over	38(44,7%)	106(32,7%)	34(45,9%)	25(26,6%)	74(44%)	71(29,3%)	42(55,3%)	103(30,9%)	101(34,5%)	43(38,7%)	24(57,1%)	121(33,1%)	24(35,3%)	121(35,6%)	124(34,2%)	16(42,1%)	0	2(66,7%)	119(33,6%)	21(44,7%)	1(50%)	2(66,7%)	122(33,1%)	17(54,8%)	2(66,7%)	0	0
	KHI 2 test	P-value = 0.1		P-value = 0.065		P-value = 0.001		P-value = 0.002		P-value = 0.782		P-value = 0.083		P-value = 0.981		P-value = 0.678				P-value = 0.670				P-value = 0.397				
Sector	Private	28(32,9%)	95(29,3%)	25(33,8%)	29(30,9%)	54(32,1%)	68(28,1%)	30(39,5%)	93(27,9%)	91(31,1%)	29(26,1%)	9(21,4%)	114(31,1%)	17(25%)	106(31,2%)	115(31,7%)	7(18,4%)	0	0	106(29,9%)	15(31,9%)	0	2(66,7%)	118(32%)	4(12,9%)	0	0	0
	Private non-profit	1(1,2%)	3(0,9%)	1(1,4%)	2(2,1%)	2(1,2%)	3(1,2%)	1(1,3%)	4(1,2%)	3(1%)	2(1,8%)	2(4,8%)	3(0,8%)	2(2,9%)	3(0,9%)	4(1,1%)	0	0	0	4(1,1%)	0	0	0	4(1,1%)	0	0	0	0
	Public	56(65,9%)	226(69,8%)	48(64,9%)	63(67%)	112(66,7%)	171(70,7%)	45(59,2%)	236(70,9%)	199(67,9%)	80(72,1%)	31(73,8%)	249(68%)	49(72,1%)	231(67,9%)	244(67,2%)	31(81,6%)	0	3(100%)	244(68,9%)	32(68,1%)	2(100%)	1(33,3%)	247(66,9%)	27(87,1%)	3(100%)	0	0
	KHI 2 test	P-value = 0.04		P-value = 0.722		P-value = 0.929		P-value = 0.257		P-value = 0.839		P-value = 0.093		P-value = 0.334		P-value = 0.103				P-value = 0.197				P-value = 0.052				
MANAGER	No	55(64,7%)	240(74,1%)	49(66,2%)	65(69,1%)	107(63,7%)	188(77,7%)	49(64,5%)	245(73,6%)	209(71,3%)	81(73%)	27(64,3%)	267(73%)	46(67,6%)	249(73,2%)	261(71,9%)	28(73,7%)	0	2(66,7%)	266(75,1%)	25(53,2%)	0	2(66,7%)	274(74,3%)	15(48,4%)	2(66,7%)	0	0
	YES	30(35,3%)	82(25,3%)	25(33,8%)	28(29,8%)	61(36,3%)	52(21,5%)	27(35,5%)	86(25,8%)	83(28,3%)	29(26,1%)	15(35,7%)	97(26,5%)	22(32,4%)	89(26,2%)	100(27,5%)	10(26,3%)	0	1(33,3%)	86(24,3%)	22(46,8%)	2(100%)	1(33,3%)	93(25,2%)	16(51,6%)	1(33,3%)	0	0
	KHI 2 test	P-value = 0.377		P-value = 0.462		P-value = 0.017		P-value = 0.5		P-value = 0.942		P-value = 0.740		P-value = 0.596		P-value = 0.998				P-value = 0.035				P-value = 0.099				

Table developed by the authors

