



Job satisfaction of primary healthcare professionals (public sector): A cross-sectional study in Morocco

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ABSTRACT

Healthcare professionals (HCPs) are indispensable for improving the availability and quality of healthcare services. Therefore, the present cross-sectional study aimed to measure the job satisfaction of HCPs working in primary care (PC) centers in Marrakech, according to the job satisfaction scale. Using census sampling, this study involved HCPs working in PC centers. Data were collected using an electronic questionnaire and analyzes were performed using Jamovi (version 1.6). The Warr-Cook-Wall scale was used to assess the satisfaction of these professionals. Student's t-test, Kruskal–Wallis test and Mann–Whitney non-parametric tests were used for group comparisons ($p < 0.05$). The lowest satisfaction scores were recorded for general practitioners (GPs) and nurses. These were work safety (1.54 ± 0.85 vs. 1.51 ± 0.82), salary (1.58 ± 0.79 vs. 1.72 ± 0.87), chance of promotion (1.68 ± 0.87 vs. 1.80 ± 0.93), possibility of using its capacities (1.90 ± 1.04 vs. 2.01 ± 1.08), and workload (1.88 ± 1.10 vs. 2.05 ± 1.06). A statistically significant difference was observed between different professional statuses regarding facility management ($p = 0.049$). The overall job satisfaction of HCPs was low, especially among GPs and nurses: the scores for intrinsic job satisfaction with respect to sociodemographic characteristics were low, whereas they were medium for extrinsic job satisfaction. Further research is warranted to clarify the intrinsic and extrinsic factors of job satisfaction in Morocco's healthcare sector.

1. Introduction

1.1. Theoretical background

Job satisfaction is a prominent subject of study within the field of organizational behavior. Undoubtedly, job satisfaction is directly associated with efficiency, reduced turnover intentions, higher commitment, desire to achieve goals, and teamwork within the workplace [1]. In his classic definition, Locke [2] emphasizes that job satisfaction represents a positive emotional response of the individual to the work he performs, as long as his professional values are respected. There are basically two classes of job satisfaction theories (a) Content theories, and (b) Process theories [3].

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1.1.1. Content theories

Content theories attempt to explain what needs, values, or expectations are important for determining the degree of satisfaction in the job. They suggest that job satisfaction involves fulfilling the individual's needs. Maslow's hierarchy of needs suggests that needs progress from basic to higher-order, yet there's little empirical support for this concept. Herzberg's theory, which separates causes of satisfaction and dissatisfaction, can be compared to Maslow's hierarchy, with lower-order needs causing dissatisfaction and higher-order needs leading to satisfaction. However, the evidence, apart from the critical incident technique, doesn't support Herzberg's theory. The critical incident technique is also questionable, as other studies indicate that motivators play a crucial role in both satisfaction and dissatisfaction, although the evidence for dissatisfaction is less clear [1,4].

1.1.2. Process theories

Process theories generally try to explain how individual needs, values, and expectations interact with the job to provide job satisfaction and dissatisfaction. Their theorists assert that job satisfaction is influenced not only by job characteristics and context but also by individual needs, values, and expectations. For example, individuals with a strong need for achievement may become more frustrated in jobs lacking opportunities for achievement. Process theories challenge the idea that increasing job satisfaction solely relies on providing more of typically satisfying factors, such as higher pay. While all process theorists agree that job satisfaction depends on the individual-work environment relationship, there are varying opinions on which processes influence it. These process theories encompass two models, subtractive and multiplicative, both of which have their limitations. The subtractive model overlooks the significance of different needs, while the multiplicative model fails to differentiate the intensity of needs and their desired fulfillment [1,4].

Despite approach differences and limitations, job satisfaction involves aligning individual needs, values, and expectations with the job. In complex work behavior, no single theory can consistently explain all aspects. Focus may shift between expectations and values or from individual personality to cultural context. Currently, it is difficult to prevail one theory over another [4].

1.2. Empirical background

Healthcare professionals (HCPs) are indispensable for improving the availability and quality of healthcare services. Concerns exist regarding the impact of their poor performance on the effectiveness of the strengthening efforts on the healthcare [5]. The satisfaction, motivation, and willingness of HCPs to fulfill their duties directly impact the quality and efficiency of the services they provide [6]. Although there is no significant relationship between job satisfaction and performance, satisfied HCPs perform approximately three times better [7].

Furthermore, practicing in a healthcare environment often generates stress and exhaustion, which can ultimately contribute to the turnover of HCPs. Therefore, they strive to achieve an optimal balance between their personal and professional lives [8,9]. This equilibrium is manifested in the workplace through job satisfaction. The latter indicates the degree to which a person is satisfied with the intrinsic aspects, such as responsibility and social service, and extrinsic aspects of his work, such as company policies, working conditions, and salary [10,11]. It is also defined as a favorable emotional state resulting from the evaluation of one's work, affective reactions, and attitude towards the job [12]. Job satisfaction is an attitude rather than a behavior. Consequently, individuals with high levels of job satisfaction exhibit positive attitudes towards their work [13]. Job satisfaction encompasses several dimensions in the public sector, such as compensation, promotion, supervision, fringe benefits, reward systems, working conditions, relationships with colleagues, nature of the work, and communication [14].

A considerable number of studies examined the employees' needs, motivations, and job satisfaction. However, these studies have used diverse measures and yielded mixed results. For instance, some studies have concluded that job satisfaction is primarily correlated with organizational factors, such as supervision, autonomy, relationships with colleagues and superiors, workload, and salary [15–20]. Moreover, other studies have focused on the sociodemographic characteristics, such as age, sex, marital status, educational level, and work environment [7,17–22].

For physicians, job satisfaction is a critical factor for healthcare systems, because primary care (PC) provides healthcare services to a larger proportion of the population than any other level of care [22]. Among the physicians, higher job satisfaction was associated with appropriate prescription practices, patient therapeutic adherence, and greater patient satisfaction [23,24]. However, they expressed dissatisfaction with three factors: salary and promotional opportunities, relationships with superiors, and equipment availability [25,26]. Dissatisfied physicians are two to three times more likely to leave their positions than their satisfied colleagues [27].

Nursing staff are the primary components of the healthcare system. They are front line workers who are in direct contact with patients. Conditioned by job satisfaction, nurses' work performance has a significant impact on their organizational commitment [28]. Job satisfaction is one of the strongest predictors of nurse retention [8,13]. Thus, three main determinants of job dissatisfaction exist among nurses: workload, limited resources, and lack of communication with the management [26,29].

In Morocco, as in all low- and middle-income countries, assessing the job satisfaction of HCPs is essential because their working conditions are sometimes challenging [30]. Job dissatisfaction can result not only in the intention to quit one's job but also in the aspiration to migrate to foreign countries, further contributing to the existing shortage of HCPs [31]. However, no studies have been conducted on the job satisfaction of HCPs in PC centers in Morocco. Conversely, studies conducted in hospitals indicated that HCPs were very dissatisfied with several aspects such as (a) the relationship with immediate superiors (62.8%), (b) level of technology and equipment (43.4%), (c) workload pace (43.2%), (d) degree of autonomy (42.4%), (e) level of responsibility (42.3%), (f) workload (39.8%), and (h) salary (39.4%) [32].

Morocco is currently implementing one of the most ambitious and comprehensive health system reforms in the world, demonstrating its commitment to human capital development. This reform seeks to improve health outcomes and the quality of health service delivery by enhancing responsiveness at all levels of the health system [33]. This means that the Ministry of Health should be aware of what motivates and affects the job satisfaction of HCPs. In fact, answers to these questions would be more helpful if such research is conducted in PC.

1.3. Aim and research questions

Using the Warr-Cook-Wall scale [10], our study aimed to measure job satisfaction among HCPs working in PC in Marrakech (Morocco). This was achieved by answering the following research questions:

1. What are the factors that determine job satisfaction among HCPs in PC in Marrakech?
2. What is the relationship between overall job satisfaction and different sociodemographic and professional characteristics?
3. What is the relationship between intrinsic job satisfaction and different sociodemographic and professional characteristics?
4. What is the relationship between extrinsic job satisfaction and different sociodemographic and professional characteristics?

1.4. Significance of the study

This study extends and enriches previous research on job satisfaction among primary HCPs, at least in low- and middle-income countries. To our knowledge, this is the first study to publish results on this topic in Morocco and North African countries.

First, this study will provide insight into the job satisfaction levels of HCPs in Morocco and may encourage other Moroccan researchers to conduct more in-depth studies. Of note is the importance of such studies in the national context, as PC represents the first level of access to the healthcare system.

Second, the results of this study can be used for comparison with future studies in the North African region or even in other African countries. In fact, there have been some studies that have looked at job satisfaction, but these studies were conducted in a hospital setting. Regardless, the comprehensive research on job satisfaction is sure to play a significant role in improving the working conditions of primary HCPs, thereby enhancing the quality of care, whether in Morocco, the North African region, or across Africa as a whole.

2. Methods

2.1. Study design and participants

This cross-sectional descriptive study involved HCPs working in PC centers in the Marrakech prefecture (N = 416). This study aimed to include all professionals based on the specified inclusion and exclusion criteria using census sampling. The inclusion criteria were (a) full-time HCP at a PC center, (b) at least one year of experience in this capacity, and (c) consent to participate in the study. Furthermore, HCPs who were absent at the time of data collection were automatically excluded from the study.

2.2. Instrument

The respondents completed a biographical questionnaire to obtain information on their location of practice, age, sex, professional status, educational level, global duration of work, and duration of work in PC. In addition, respondents completed the Warr-Cook-Wall job satisfaction scale [10]. This scale includes 15 quantitative items indicating the underlying intrinsic and extrinsic factors related to job satisfaction. The 16th item evaluates the participant's overall job satisfaction [34]. The scale items were subdivided into two subscales (A and B). Subscale A, called "Intrinsic job satisfaction", includes seven items (numbers 2, 4, 6, 8, 10, 12, 14). Subscale B, called "Extrinsic job satisfaction", includes the eight remaining items [10].

Although the original scale measures satisfaction on a 7-point Likert scale, the items were rated on a 5-point scale from "Very unsatisfied" (score 1) to "Very satisfied" (score 5) to reduce misinterpretation [35–37]. A higher overall mean score indicates greater job satisfaction [10]. The Cronbach's alpha score for the scale was 0.920, indicating that it was reliable and valid.

2.3. Data collection

The study was conducted in the public sector health centers in Marrakech from January 18, 2021 to March 31, 2021. Owing to the Coronavirus Disease 2019 (COVID-19) pandemic, data were collected using an electronic questionnaire.

2.4. Data analysis

The analyses were performed using Jamovi (version 1.6). The mean scores and standard deviations of the job satisfaction scale items, overall job satisfaction, and intrinsic and extrinsic job satisfaction among the study population were calculated. Student's *t*-test, and Kruskal–Wallis and Mann–Whitney non-parametric tests were used. The mean scores were interpreted as follows: <1.5, very low satisfaction, between 1.5 and 2.49 low satisfaction, between 2.5 and 3.49 medium satisfaction; 3.5–4.49, strong satisfaction; and

>4.49, a very strong satisfaction. *P*-value <0.05 was considered statistically significant.

3. Results

3.1. Description of the study population

Of the 416 questionnaires distributed to HCPs, 346 were returned (response rate: 83.1%). The study population comprised 34.1% (*n* = 118) men and 65.9% (*n* = 228) women. The professional profiles of the HCPs included nurses (54%), GPs (39.9%), and specialists (6.1%). The greatest proportion of GPs (62.3%) was >44 years old, while the greatest proportions of nurses (59.9%) and specialists (61.9%) were ≤44 years old. Among the nurses, 85.6% were graduates. Among GPs and specialists, 53.6% and 57.1% respectively, practiced in rural settings, whereas 50.3% of nurses practiced in urban settings. Apart from GPs, 54.3% of whom had a global length of service of >18 years, the greatest proportions of the HCPs with other professional profiles had a global length of service of ≤18 years. Similarly, for the length of service in PC, unlike other professional profiles, the greatest proportion of GPs (52.9%) had a length of service in PC of >14 years (Table 1).

3.2. HCPs' job satisfaction

Overall, except for the relationship with immediate supervisors, relationship with colleagues, administrative support, degree of responsibility, and working hours, for which professionals had a moderate level of satisfaction, they had a low level of satisfaction for other aspects. Among these aspects, some had mean scores <2.00, which were recorded for GPs and nurses. These aspects were work safety (1.54 ± 0.85 vs. 1.51 ± 0.82), salary (1.58 ± 0.79 vs. 1.72 ± 0.87), chance of promotion (1.68 ± 0.87 vs. 1.80 ± 0.93), possibility of using their abilities (1.90 ± 1.04 vs. 2.01 ± 1.08), and workload (1.88 ± 1.10 vs. 2.05 ± 1.06). Specialists also had mean scores <2.00, which were work safety (1.76 ± 1.00), chances of promotion (1.86 ± 1.06), and salary (1.95 ± 1.07). A statistically significant difference was observed among the HCPs with different professional profiles regarding center management (*p* = 0.049) (Table 2).

Regarding overall job satisfaction (Item#16), HCPs were weakly satisfied (1.95 ± 1.15). In addition, male professionals (1.94 ± 1.09), those practicing in rural areas (1.88 ± 1.11), those belonging to the age category >44 years (1.86 ± 1.14), and "post-graduates" (1.90 ± 1.13) were the least satisfied. Regarding work experience, HCPs with length of global service of >18 years (1.89 ± 1.17) and those with length of service in PC of >14 years (1.93 ± 1.19) were the least satisfied. None of the aforementioned characteristics were statistically significant (Table 3).

Regarding the mean scores of subscales, intrinsic job satisfaction was low, with the lowest scores being recorded among males (15.25 ± 5.75), those practicing in rural centers (15.15 ± 6.12), and "post-graduates" (15.29 ± 5.89). Furthermore, extrinsic job satisfaction was at a medium level, with the highest scores being recorded among males (25.02 ± 6.85), those practicing in urban centers (25.48 ± 7.04), and "post-graduates" (24.98 ± 6.81). None of the previously mentioned characteristics were statistically significant (Table 4).

Table 5 highlights the subscales scores in relation to age, length of global service, and length of service in PC; the intrinsic job satisfaction was low for these parameters. The lowest scores were recorded among HCPs aged > 44 years (14.61 ± 6.05), those with length of global service of >18 years (14.82 ± 6.22), and length of service in PC of >14 years (14.95 ± 6.25). Moreover, extrinsic job satisfaction was at a medium level with higher scores recorded among HCPs aged ≤44 years (25.37 ± 6.82), those with length of global service of ≤18 years (25.29 ± 7.37), and length of service in PC of ≤14 years (25.35 ± 6.81). No scores were statistically significant, except for intrinsic job satisfaction with respect to age (*p* = 0.035).

Table 1
Sociodemographic and professional characteristics of HCPs (*n* = 346).

Characteristics	Categories	All <i>n</i> = 346 N(%)	GPs <i>n</i> = 138 N(%)	Specialists <i>n</i> = 21 N(%)	Nurses <i>n</i> = 187N(%)
Age	≤44 years	177(51.2)	52(37.7)	13(61.9)	112(59.9)
	>44 years	169(48.8)	86(62.3)	8(38.1)	75(40.1)
Sex	Male	118(34.1)	52(37.7)	11(52.4)	55(29.4)
	Female	228(65.9)	86(62.3)	10(47.6)	132(70.6)
Education level	Undergraduate	27(7.8)	0(0)	0(0)	27(14.4)
	Graduate	160(46.2)	0(0)	0(0)	160(85.6)
	Post-graduate	159(46.0)	138(100)	21(100)	0(0)
Work environment	Urban	167(48.3)	64(46.4)	9(42.9)	94(50.3)
	Rural	179(51.7)	74(53.6)	12(57.1)	93(49.7)
Length of global service	≤18 years	181(52.3)	63(45.7)	13(61.9)	105(56.1)
	>18 years	165(47.7)	75(54.3)	8(38.1)	82(43.9)
Length of service in PC	≤14 years	181(52.3)	65(47.1)	13(61.9)	103(55.1)
	>14 years	165(47.7)	73(52.9)	8(38.1)	84(44.9)

GPs: General practitioners; PC: Primary care; SD: Standard deviation.

Table 2
Comparison of job satisfaction items according to professional status (n = 346).

Items	All Mean (SD)	GPs Mean (SD)	Specialists Mean (SD)	Nurses Mean (SD)	p-value**
1. Physical working conditions	2.06 (1.09)	2.00 (1.07)	2.00 (1.05)	2.11 (1.10)	0.664
2. Freedom to choose one's work method	2.27 (1.21)	2.14 (1.14)	2.38 (1.12)	2.35 (1.26)	0.315
3. Relationship with colleagues	3.33 (1.01)	3.33 (1.01)	3.48 (0.68)	3.32 (1.05)	0.975
4. Recognition and appreciation of work	2.29 (1.13)	2.35 (1.14)	2.43 (1.08)	2.24 (1.12)	0.541
5. Relationship with the immediate supervisor	3.34 (0.97)	3.41 (0.96)	3.48 (0.60)	3.28 (1.00)	0.579
6. Level of responsibility	2.62 (1.20)	2.70 (1.20)	2.90 (1.22)	2.52 (1.18)	0.223
7. Salary	1.68 (0.86)	1.58 (0.79)	1.95 (1.07)	1.72 (0.87)	0.163
8. Possibility of using capabilities	1.98 (1.06)	1.90 (1.04)	2.24 (1.04)	2.01 (1.08)	0.271
9. Administrative support	2.66 (1.17)	2.75 (1.15)	2.76 (1.04)	2.59 (1.20)	0.460
10. Promotion opportunities	1.76 (0.92)	1.68 (0.87)	1.86 (1.06)	1.80 (0.93)	0.494
11. Management of the center	2.49 (1.15)	2.46 (1.16)	3.10 (0.94)	2.45 (1.15)	0.049
12. Consideration of one's suggestions	2.41 (1.18)	2.49 (1.16)	2.62 (1.16)	2.34 (1.20)	0.359
13. Working hours	2.61 (1.15)	2.54 (1.17)	2.76 (0.89)	2.64 (1.17)	0.573
14. Workload	1.99 (1.08)	1.88 (1.10)	2.10 (1.04)	2.05 (1.06)	0.144
15. Work safety	1.54 (0.84)	1.54 (0.85)	1.76 (0.99)	1.51 (0.82)	0.458

GPs: General practitioners; **One-way ANOVA (Non-parametric), $P < 0.05$.

Table 3
Overall job satisfaction mean score (Item#16) according to sociodemographic characteristics (n = 346).

Characteristics	Mean (SD)	p-value*
Age groups		0.091
≤44 years	2.04 (1.15)	
>44 years	1.86 (1.14)	
Sex		0.879
Male	1.94 (1.09)	
Female	1.96 (1.18)	
Education level		0.442
Graduated or under	2.01 (1.17)	
Post-graduate	1.90 (1.13)	
Work environment		0.260
Urban	2.04 (1.19)	
Rural	1.88 (1.11)	
Length of global service		0.167
≤18 years	2.01 (1.13)	
>18 years	1.89 (1.17)	
Length of service in PC		0.440
≤14 years	1.97 (1.11)	
>14 years	1.93 (1.19)	

*Independent Samples T-test, $P < 0.05$.

Table 4
Mean Scores of the subscales by Gender, Work Environment, and Educational Level.

Subscale	Sex			Work environment			Education level		
	Male Mean (SD)	Female Mean (SD)	P- value*	Urban Mean (SD)	Rural Mean (SD)	P- value*	Graduate or under Mean (SD)	Post- graduate Mean (SD)	P- value*
Intrinsic job satisfaction (A)	15.25 (5.75)	15.35 (6.32)	0.895	15.49 (6.14)	15.15 (6.12)	0.655	15.34 (6.37)	15.29 (5.89)	0.987
Extrinsic job satisfaction (B)	25.02 (6.85)	24.89 (7.24)	0.871	25.48 (7.04)	24.42 (7.13)	0.159	24.88 (7.39)	24.98 (6.81)	0.810

*Independent Samples T-test, $P < 0.05$.

Table 5
Mean scores of the subscales according to Age, Length of global service and Length of service in PC.

Subscale	Age			Length of global service			Length of service in PC		
	≤44 years Mean (SD)	>44 years Mean (SD)	P- value*	≤18 years Mean (SD)	>18 years Mean (SD)	P- value*	≤14 years Mean (SD)	>14 years Mean (SD)	P- value*
Intrinsic job satisfaction (A)	15.99 (6.14)	14.61 (6.05)	0.035	15.77 (6.02)	14.82 (6.22)	0.116	15.65 (6.01)	14.95 (6.25)	0.266
Extrinsic job satisfaction (B)	25.37 (6.82)	24.47 (7.37)	0.379	25.29 (6.75)	24.53 (7.46)	0.517	25.35 (6.81)	24.47 (7.40)	0.373

*Independent Samples T-test, $P < 0.05$.

4. Discussion

This study was the first study to focus on the job satisfaction of HCPs working in PC in Morocco. Considering their vital role in the healthcare system, satisfaction has become even more significant. Their work enables equitable access to healthcare services, thereby contributing to a reduction in the mortality and morbidity rates [38,39].

Overall, with the exception of the following aspects: relationship with the immediate supervisor, relationship with colleagues, administrative support, level of responsibility, and working hours, HCPs demonstrated medium satisfaction, while other aspects had low satisfaction scores. These results are compatible with those of other studies on administrative support [37,40]. However, they were inconsistent with the results of other studies on certain aspects such as the relationship with colleagues [6,19,37,40–42], relationship with the immediate supervisor [37,40], level of responsibility [19,40,41], and working hours [37,40,41], which reported higher levels of satisfaction. A clear understanding of one's professional role, favorable relationship with colleagues, and administrative support can lead to a positive work environment, promoting the growth and development of HCPs in PC [8].

Conversely, the results demonstrated that HCPs had low satisfaction with other aspects, with some aspects scoring <2.00 , such as work safety, salary, promotion opportunities, possibility of using capabilities and workload. Although these aspects had relatively low scores in some studies [6,19,37,40,42,43], they were not as low as those in the present study. In this case, the nurses were least satisfied with their job safety. Working in a clean, organized, and safe environment is an essential source of job satisfaction among nurses [29,44].

Moreover, GPs were the least satisfied with other aspects. In fact, studies conducted solely among GPs, showed that they had average satisfaction with their salaries [19,41,43]. However, they were highly satisfied with the possibility of using capabilities [19,41]. Similarly, in studies that examined several occupational categories, the average score of GPs in terms of promotion opportunities was among the lowest [26,37]. Conversely, nurses had the lowest scores concerning workload [26].

With regard to overall job satisfaction, GPs and nurses were the least satisfied (1.84 ± 1.11 vs. 1.98 ± 1.15). Men reported low levels of satisfaction. This result was not in line with the results of some studies [41,42], but was in line with other studies [6,19,37]. Thus, sex remains a factor to be considered in the overall satisfaction of HCPs [19].

According to the results, practicing in a rural centers and being a “post-graduate” could contribute to the dissatisfaction of HCPs. Professional practices in rural environments are one of the reasons for the reduced overall job satisfaction [43]. Regarding the educational level, the obtained result is supported by the findings of a study of Kumar et al. [37], wherein the “graduates” category was the least satisfied. Regarding age, global length of service, and length of service in PC, age >44 years, the length of global service of >18 years, and the length of service in PC of >14 years had the lowest scores, respectively. These results are inconsistent with those of other studies. Age >44 years had the highest score and length of global service of <5 years had the lowest score [37]. However, professionals with 1–6 years of length of service in PC were the most dissatisfied, especially nurses [8].

In fact, no significant difference exists between the satisfaction scores of HCPs according to the age, work environment (rural or urban), length of global service, and length of service in PC. This result was confirmed in previous studies [37,40]. However, this result was not compatible with the results of other studies, as the difference between the satisfaction scores of HCPs in terms of sex was significant [37].

Intrinsic job satisfaction was also low. This refers to factors related to the work itself [45]. The lowest scores were recorded among men, those belonging to the age >44 years category, practicing in a rural environment, holding a post-graduate degree, having a global length of service >18 years, and a length of service in PC of >14 years. Dissatisfaction among men in terms of factors related to the nature of their work was found to be significant [46]. However, practice environment was not significantly associated with job satisfaction [17].

Extrinsic job satisfaction refers to the factors related to external working conditions [45], which was moderate. Thus, it could be assumed that sufficient professional fulfillment was provided to the HCPs to be willing to overlook their dissatisfaction with some extrinsic factors [17]. The highest scores were recorded among men, those aged ≤ 44 years, those practicing in rural environment, those who were postgraduate degree holders, and those with a global length of service of ≤ 18 years and a length of service in PC of ≤ 14 years. Indeed, age could explain the importance of the physical working conditions [19]. Moreover, other extrinsic factors may also have been involved. For example, a higher monthly salary is significantly associated with greater job satisfaction. However, longer working hours are inversely associated with job satisfaction, as is often the case for HCPs practicing in rural settings [17].

Intrinsic or extrinsic job satisfaction, age, work environment, hours worked per week, and length of professional service are predictive factors for job satisfaction [19]. However, in most cases, no clear trend exists regarding the reported satisfaction with intrinsic factors compared to extrinsic factors [17].

This study had certain limitations that should be taken into consideration. First, the cross-sectional design prevented the definitive establishment of causal associations. Second, owing to the COVID-19 pandemic, an electronic questionnaire was used, possibly influencing the respondents' answers. Additionally, unfamiliarity with the electronic format may have hindered some participants from participating in the study. Nevertheless, the response rate was 83.1%. Caution is required when interpreting these findings and further research is warranted.

5. Conclusion

The study findings highlight the presence of dissatisfaction among HCPs regarding various aspects of their jobs. Although extrinsic factors indicated a moderate level of satisfaction, intrinsic factors were lacking. GPs and nurses, particularly the male participants, were the least satisfied. The findings also suggest that specific work environments, such as practicing in rural centers, and being “post-

graduates,” may contribute to greater dissatisfaction. Improving job satisfaction among HCPs should be prioritized for enhancing overall job satisfaction and quality of care. Further research and targeted interventions are warranted to address the identified areas of dissatisfaction and improve the overall job satisfaction of HCPs.

Operationally, it is recommended to better clarify the tasks of all professional categories, grant them more autonomy, promote an appropriate distribution of workload, establish career paths for the promotion and professional development, improve working conditions, and promote incentives and compensation.

Author contribution statement

Hicham EL MOUADDIB, Majda Sebbani, Adil Mansouri, Latifa Adarmouch & Mohamed Amine: Conceived and designed the experiments; Hicham EL MOUADDIB: Performed the experiments; Hicham EL MOUADDIB, Adil Mansouri & Majda Sebbani: Analyzed and interpreted the data; Hicham EL MOUADDIB, Majda Sebbani, Adil Mansouri, Latifa Adarmouch & Mohamed Amine: Contributed reagents, materials, analysis tools or data; Wrote the paper.

Data availability statement

Data will be made available on request.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.heliyon.2023.e20357>.

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