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ORIGINAL RESEARCH

Motivation and Participation in Training Among Healthcare Workers in Makkah, Saudi Arabia: A Cross-Sectional Study

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Purpose: This study aimed to assess the motivation and participation of healthcare workers (HCWs) in training at Primary Healthcare Centers (PHCs) in Makkah, Saudi Arabia.

Methods: We conducted a cross-sectional study of HCWs working in public PHCs in Makkah, Saudi Arabia. Data were collected using a structured, validated, and modified instrument, The Academic Motivation Scale (AMS) in Arabic, focused on motivation and participation in training. Cronbach's alpha for this tool ranged from 0.7 to 0.9. The participants were selected using a proportional stratified sampling technique. Descriptive and bivariate analyses were performed to assess the scores and to compare the levels of motivation with respect to socio-demographic and professional profile.

Results: We enrolled 291 participants. Approximately 44% of the participants had diplomas, while 19% had masters or higher qualifications. The majority of the participants were nurses (38%). The mean scores on a scale of 0–4 in the various domains of intrinsic motivation were as follows: know (3.2), towards accomplish (3.1), and experience stimulation (3.1). Similar scores were found in the extrinsic motivation domains of identified (3.0), introjected (3.0), and external regulation (2.8). The mean amotivation domain was 1.25. There were no differences in the level of motivation or reasons for attending such programs with respect to sociodemographic characteristics. There were significant differences between diploma holders and those with master's or higher degrees with respect to motivation in the domain of "Identified" ($p = 0.037$). Motivation scores were significantly higher in the middle-income group (1.2) than in the low-income group (0.9) ($p = 0.031$).

Conclusion: Healthcare workers were highly motivated to attend training programs in Makkah, Saudi Arabia. There were no differences in the levels of motivation among participants with respect to their sociodemographic and professional profiles. This indicates a homogenous and strong organizational culture of participation in continuous training programs.

Keywords: motivation, participation, training, primary health care, healthcare workers, Saudi Arabia

Introduction

Motivation is one of the factors that determines human behavior, including education and learning, within different aspects of life. According to Eccles and Wigfield,[1] motivation is a unitary construct, meaning that a high motivational level is sufficient to determine desirable behavioral adoption. On the other hand, the theory of self-determination (STD)[2] suggests multidimensional aspects of motivation, meaning that high motivation cannot ensure the development of adaptive behaviors. SDT assumes a person can be motivated in three different ways (extrinsically motivated, intrinsically motivated or a-motivated).[3]

The definition of Intrinsic Motivation is the performance of an activity for the satisfaction inherited in this activity and not for some other consequence.[4] A clear example of intrinsic motivation is infants exploring objects through biting,

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grasping, or shouting. Adults also exhibit intrinsic motivation when painting, reading novels, or watching movies. Extrinsic motivation, in contrast, involves performing tasks to gain external rewards such as money, certificates, or recognition, with instrumentalization distinguishing the two.[5]

When a child completes his homework to avoid parental punishment, the reason here is clearly external. Conversely, if the child can do his/her homework to have fun, as a result seek enjoyment by discovering information and knowledge, the behavior is intrinsically motivated.[5] Amotivation, however, arises when individuals perceive no value or competence in a task, leading to disengagement. A student who neglects homework entirely due to apathy or a belief that effort will not improve outcomes exemplifies amotivation.

The motivational dynamic model emphasizes that learners who value an educational activity engage with it more deeply. Self-efficacy also plays a critical role; learners with high self-efficacy select challenging tasks, persist through difficulties, manage anxiety, and perform better. In addition, learners who have the chance to say something or be involved in the design of the educational activity are more committed to longer periods of such activities.[6]

Healthcare workers (HCWs) form the backbone of healthcare system. The intention to improve skills and performance is often overlooked in favor of fulfilling full-time duties. If this overlooking or negligence is continued without proper interventions, it will result in HCWs being unable to deliver an acceptable quality of health services.[7]

The ability to provide high-quality health care is partially dependent on HCWs' motivation in their job as well as in their improvement.[8] Linked to strengthening health systems, the continuous education of HCWs means they will progress in terms of their knowledge and skills, which will result in cost-effective health service provision. Thus, there is no doubt regarding the importance of the participation in training courses involving updated evidence-based medicine, both theoretically and practically. The 2018 Global Conference on Primary Health Care affirmed that investing in motivation for HCWs was significant.[7]

The role of continuous professional development (CPD) for HCWs is pivotal for maintaining high-quality patient care, especially in primary healthcare. In Saudi Arabia, under Vision 2030, enhancing healthcare workers' skills and motivation is considered to be a national priority. However, research on their motivation and participation in CPD is limited.

Very few prior studies have assessed CPD's impact on healthcare workers' performance,[9,10] fewer have explored motivational factors for participation, particularly in the Middle East region. Research from Western settings links CPD motivation to personal and organizational influences.[11,12] Asian and African studies highlight financial incentives, career growth, and professional recognition as key drivers.[13,14]

In Saudi Arabia, motivation and participation patterns in CPD, particularly in Makkah's unique healthcare setting are not much studied. Some studies have addressed workforce development,[15–17] but specific motivational factors influencing CPD engagement in primary care remain unexplored. One study has been conducted among nurses focused on the motivation factors that influenced their career advancement.[18] This study bridges this gap by analyzing knowledge, attitudes, and motivation factors affecting CPD participation among healthcare workers in Makkah. Using validated psychometric measures, it offers new insights into intrinsic and extrinsic motivational drivers. Additionally, it examines variations in motivation based on education, income, and professional background—areas previously not studied much in Saudi Arabia.

Addressing this gap is vital for designing targeted CPD interventions, ensuring training aligns with healthcare workers' needs. Findings can guide policy decisions, optimize resource allocation, and contribute to a sustainable, motivated primary healthcare workforce in Saudi Arabia. Although the issue of exploring motivation has been studied elsewhere, few similar studies have been conducted on Primary Healthcare centers (PHCs) in Saudi Arabia. Moreover, we were also interested in determining the factors that would increase or decrease the motivation of HCWs to participate in training, and hence, enhance the quality of the courses they would carry out and ascertain them to be more motivating. This study aimed to explore HCWs' motivation and participation in training courses. Hence, the objective of our study was to determine the level of motivation to attend training courses among HCWs in a PHC setting and explore the factors associated with motivation to attend training courses among HCWs working in PHC settings in Makkah, Saudi Arabia. We also evaluated possible reasons for the increased attendance of HCWs in training courses in the Makkah PHC setting in Saudi Arabia.

Materials and Methods

Study Design and Setting

This analytical cross-sectional study was conducted in Makkah, Saudi Arabia from March 2022 to May 2022 Makkah Al-Mukarramah is a sacred city where Ka'aba is located. About 1.7 billion Muslims pray five times each day towards its direction. Moreover, more than 2 million Muslim pilgrimages each year come to Makkah Al-Mukarramah and the holy places around it to perform the 5th pillar of Islam (Hajj).[19] The target population for this research study were 1057 healthcare workers in 43 PHCs in Makkah. These included physicians, nurses, pharmacy staff, and other staff. A total of 43 PHC centers are in Makkah according to Makkah PHC administration.[20] There were 1057 healthcare workers in Makkah PHCs. The respective professions of the healthcare workers were divided into the following percentages according to their official profession; physicians n=201 (19%), nurses n=476 (45%), laboratory staff n=106 (10%), pharmacy staff n=106 (10%), radiology staff n=84 (8%), social workers n=53 (5%), health educators n=21 (2%), followed by nutritionists n=10 (1%), respectively.[21]

Sample Size

We calculated the sample size using the Raosoft statistical program. The response distribution was calculated as 50%, the target population was approximately 1,057 hCWs, and the confidence level was 95% with a margin of error of 5%. The initial sample size was 282 hCWs. To account for potential missing data or incomplete responses, it was increased by 10% to 312 hCWs. The total number of participant responses was 291.

Sampling Technique

After calculating the sample size, proportional stratified sampling was performed. Participants (HCWs) were divided into strata (categories) according to their official profession, as described in the study population section. They were divided into eight strata: physicians, nurses, laboratory staff, pharmacy staff, radiology staff, social workers, nutritionists, and health educators.

Afterwards, the sample size and participants were selected using a simple random sampling (SRS) technique from the eight professions according to the percentages mentioned above (Figure 1)

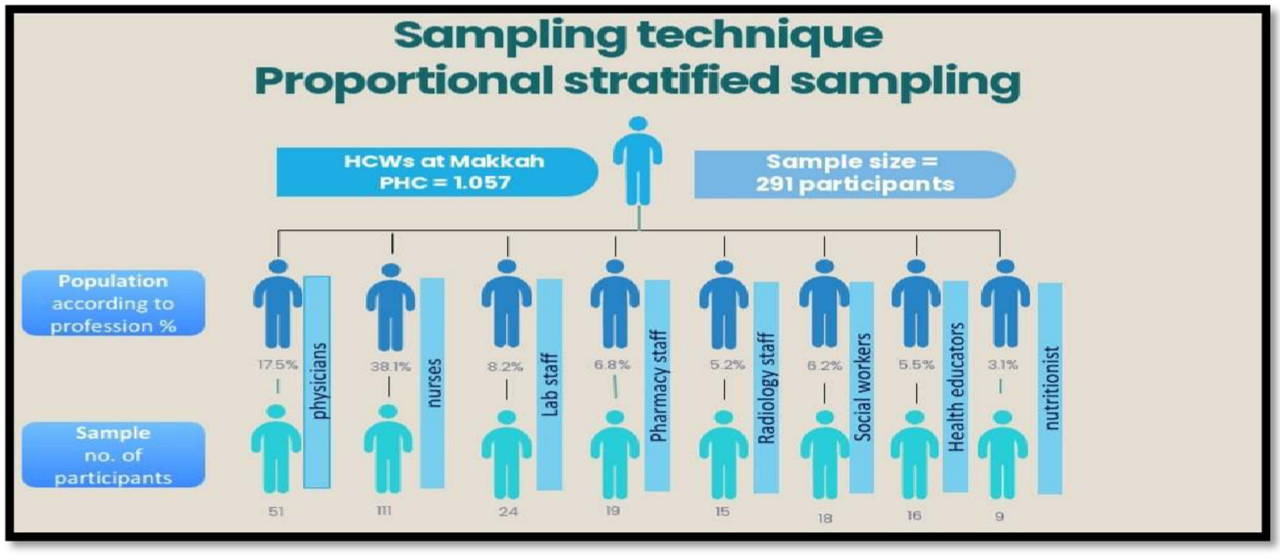

Figure 1 Sampling technique for enrolling Healthcare workers from Primary healthcare centers in Makkah (n=291).

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Study Tools

Data were collected using a structured and validated questionnaire in Arabic. The questionnaire consisted of two sections. The first section was concerned with socio-demographics, including age, nationality, type of healthcare worker, marital status, education status, years of work experience, and financial status. The second section comprised the Academic Motivation Scale (AMS), a validated 28-item tool developed by Vallerand et al (1992)[22,23] to assess motivation in educational settings. The AMS is grounded in Self-Determination Theory (SDT) and measures three types of motivation:

Intrinsic Motivation

To Know: Drive to learn for the satisfaction of gaining knowledge (eg, "I study because I enjoy discovering new things"); toward accomplishment: motivation to engage in tasks for the pleasure of mastering challenges (eg, "I study because I feel accomplished when I excel") and to experience stimulation: engagement for the excitement or enjoyment of the activity itself (eg, "I study because the coursework fascinates me").

Extrinsic Motivation

External Regulation: Behavior driven by external rewards or pressures (eg, "I study to avoid disappointing my parents"); introjected regulation: motivation fueled by internalized pressures (eg, "I study because I'd feel guilty if I didn't") and identified regulation: behavior aligned with personal goals (eg, "I study because it is important for my future career").

Amotivation: Lack of motivation or sense of futility (eg, "I study, but I don't see the point").

Participants rate items on a 7-point Likert scale (eg, 1 = "Does not correspond at all" to 7 = "Corresponds exactly"), with scores for each subscale ranging from 4 to 28. The original AMS does not categorize items into "factors related to motivation" vs "participation"; instead, it assesses the continuum of self-determination proposed by Self-Determination Theory. This tool has been used in different student groups and has been validated.[24,25] The Arabic translation was performed using the standard method of translation by a bilingual expert. Next, back translation was performed in English by independent translators who were bilingual experts to assess the accuracy of the translation. The content validity was reviewed by subject experts and physicians. Reliability analysis of the questionnaire was conducted. The Cronbach's alpha values for the different domains of the Academic Motivation Scale were 0.82, 0.80, 0.79, 0.78, 0.73, and 0.32, respectively. The overall consistency was 0.92.

Data Collection Technique

After obtaining approval from the Institutional Review Board (IRB), we communicated with the PHC center administration to obtain lists of names of HCWs from various professions required in the research. Subsequently, using a simple random sampling method (computer generator number), the required number of participants from each profession was selected according to the sampling techniques mentioned previously. Online software for random number generator was used after getting the list of the HCWs from authority, then the selected number were contacted. The official emails of the participants were obtained, and a special invitation was sent to each of them, which included the questionnaire to participate in the research and to fill in the questionnaire if the participants agreed to participate.

Next, each participant was asked to send the questionnaire back to the principal investigator, and the questionnaires were kept in a secret electronic folder. In the event that the invitation Email was not answered, a reminder Email was sent within 3 days. Subsequently, if the Email was still not answered, whether with approval or not, by the participant within a week of sending, the non-responding participant was replaced with the participant next in the list of names until the random sample selected from all categories of workers was completed. In an email, the researcher explained the purpose of the study and added a contact number and communication methods to receive inquiries related to the research.

We conducted a pilot study at the Al-Ka'kia Primary Health Care Center in Makkah because of the similarity in the target population. Eight healthcare workers from different specialties participated in the study. Any deficits were identified and modified accordingly. Three items (one from the subdomain towards accomplishment and two from the identified subdomain) were modified. Participants in the pilot were excluded from the study.

Data Analysis

Data were statistically analyzed using SPSS software version 25. Descriptive analyses were performed by calculating the mean ± SD for quantitative data, such as age and mean scores of domains, and frequency and proportion for qualitative data, such as sex, nationality, marital status, number of children, education status, and job categories. In accordance with the initial recommendations, the items on the academic motivation scale were divided into subdomains. Items in each subdomain were added to determine the sum score for each subdomain. For bivariate comparisons, we used independent-sample t-tests and one-way ANOVA tests. For significant ANOVA tests, follow-up tests were done to identify which variables were statistically different from one another (Tukey's HSD test). A p-value of <0.05 was considered significant at a confidence interval of 95%.

Ethical Considerations

Ethical approval was obtained before the start of the study. Permission was obtained from the Executive Administration of Public Health in the Makkah Health Care Cluster. Permission from the primary healthcare center administration was also obtained. Our study complies with all the principles of Declaration of Helsinki. Informed consent was obtained from all participants, they gave us the consent on Email that they agreed to be the part of the study and confidentiality was ensured at all stages of the study.

Results

A total of 291 hCWs participated in this study. The mean age of the participants was 38.16 (8.07) years. The majority (98.6%) were Saudis and approximately 20% were never married. Nearly half (44%) had diplomas, whereas approximately 19% had masters of higher qualifications. The majority of the participants were nurses (38%). Other categories of HCW include pharmacies, laboratories, radiology, health inspectors, health education, nutrition, community services, and administration. More than half (54%) had experience to 10–20 years. Three-quarters (76%) reported their financial status as medium (Table 1).

Table 1 Socio-Demographic and Professional Characteristics of Healthcare Workers Working in Primary Healthcare Centers in Makkah (n = 291)

Characteristics	**n = 291**	**%**
Age (years), Mean (SD)	38.2 ± 8.1	
Nationality		
Saudi	287	98.6
Non-Saudi	4	1.4
Marital status		
Never married	58	19.9
Ever married	233	80.1
Healthcare workers		
Physician	51	17.5
Dentist	11	3.8
Nurse	111	38.1
Pharmacist	20	6.8
Laboratorist	24	8.2

(*Continued*)

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Table 1 (Continued).

Characteristics	n = 291	%
Radiologist	15	5.2
Health inspector	6	2.1
Health educationist	16	5.5
Nutritionist	9	3.1
Community Services	18	6.2
Administration	14	3.4
Professional Qualification		
Diploma	128	44
Bachelors	107	36.8
Master's or (any degree higher)	56	19.2
Years of experience		
< 5 years	44	15.1
5–10 years	55	18.9
10–15 years	84	28.9
15–20 years	74	25.4
> 20 years	34	11.7
Financial status		
Low	19	6.5
Medium	221	75.9
High	51	17.5
Number of children (n=233)		
0	22	9.4
1	40	17.2
2	63	27
3	65	27.9
4 or more	43	18.5

Table 2 presents mean scores on scale of 0–4 in various domains of intrinsic motivation. The mean scores of different domain were; to know (3.2), towards accomplishment (3.1) and to experience stimulation (3.1). Similar were mean scores in extrinsic motivation domains; identified (3.0), introjected (3.0), an external regulation (2.8). The mean score of amotivation domain was 1.25.

The reasons for participating in CPD activities are summarized in Table 3. The most common reasons were financial incentives (88.7%), moral incentives (76.3%), and use of distinguished speakers (75.3%). Other commonly reported reasons were the low price for paid premium courses (64%), good scientific material presented (62%), good presentation and use of technology (62%), course subject in line with Vision 2030 of the country or local health cluster (59%), and interesting new topics (58%).

Table 2 Scores in Different Sub-Domains of Intrinsic Motivation, Extrinsic Motivation and Amotivation of Healthcare Workers Working in Primary Healthcare Centers in Makkah, Saudi Arabia (n = 291)

Domain	Mean (SD)
Intrinsic Motivation	
To know	3.2 (0.63)
Towards accomplishment	3.1 (0.61)
To experience stimulation	3.1 (0.62)
Extrinsic Motivation	
Identified	3.0 (0.66)
Introjected	3.0 (0.65)
External regulation	2.8 (0.68)
Amotivation	
Amotivation	1.25 (0.59)

Table 3 Reasons Stated by Healthcare Workers for Attending Training Program Working in Primary Healthcare Centers in Makkah, Saudi Arabia (n = 291)

Reason	% (n)
Giving a financial incentive (example: a certificate of thanks for distinction allowance - priority in job positions or promotions)	88.7 (258)
Giving a moral incentive (for example: a distinguished health practitioner at the sector level - a certificate of appreciation)	76.3 (222)
Distinguished lecturers/trainers	75.3 (219)
Reducing the prices of paid premium courses	63.9 (186)
Distinguished scientific material or process presented	62.2 (181)
The distinguished method of presentation and the use of technology	61.9 (180)
That the subject of the course and training program be compatible with the vision of the Ministry of Health 2030 or the directives of the health cluster in Makkah Al-Mukarramah	58.8 (171)
Interesting new topics	57.7 (168)
Ease of obtaining free days to attend courses and training programs	43.0 (125)
Good reception and a sense of comfort at the training site	39.9 (116)
Attractive and elegant environment at the training site	34.4 (100)
Encouraging chiefs and managers to attend	30.6 (89)
Ease of transportation	24.1 (70)
Ease of getting a good car parking at the training site	23.4 (68)

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Table 4 shows association of different domains of motivation to attend training activities with socio-demographic and professional characteristics of HCWs in Makkah, Saudi Arabia. There was a significant but weak negative correlation between age and domain of "To know" using correlation coefficient. None of the other domains showed any significant correlation with age. There were no significant differences in motivation with respect to nationality and marital status, and number of children. There were significant differences between diploma holders and those having masters or higher degree with respect to motivation in the domain of "Identified" (P-value 0.037). Job title and work experience were also found to have no association with motivation to attend training activities. Amotivation score was significantly higher among middle-income group (1.2) as compared to low income (0.9) (p-value 0.031).

Table 4 Bivariate Association of Level of Motivation of Primary Healthcare Workers With Respect to Their Socio-Demographic and Professional Characteristics in Makkah, Saudi Arabia (n = 291)

Variable	To Know	Towards Accomplishment	To Experience Stimulation	Identified	Introjected	External Regulation	Amotivation
Age (years) Correlation coefficient	−0.119*	−0.085	−0.050	−0.073	−0.072	−0.045	−0.013
Nationality							
Saudi	3.2 (0.63)	3.1 (0.61)	3.1 (0.61)	3.1 (0.66)	3.1 (0.66)	2.8 (0.68)	1.3 (0.59)
Non-Saudi	3.0 (0.89)	2.9 (0.95)	2.9 (1.13)	2.8 (0.91)	3.1 (0.59)	2.8 (1.24)	0.9 (0.24)
P-value	0.737	0.781	0.868	0.470	0.981	0.971	0.241
Marital status							
Never married	3.3 (0.62)	3.2 (0.56)	3.2 (0.59)	3.1 (0.66)	3.1 (0.65)	2.8 (0.70)	1.2 (0.58)
Ever married	3.2 (0.63)	3.1 (0.63)	3.1 (0.62)	3.0 (0.67)	3.0 (0.66)	2.8 (0.68)	1.3 (0.59)
P-value	0.128	0.470	0.303	0.682	0.363	0.840	0.638
No. of Child (n = 233)							
0	3.2 (0.67)	3.1 (0.67)	3.1 (0.71)	3.0 (0.73)	3.1 (0.61)	2.9 (0.58)	1.3 (0.49)
1	3.1 (0.68)	3.1 (0.61)	3.1 (0.63)	3.0 (0.63)	2.9 (0.63)	2.8 (0.72)	1.3 (0.68)
2	3.2 (0.52)	3.2 (0.50)	3.1 (0.56)	3.1 (0.62)	3.1 (0.58)	2.8 (0.62)	1.2 (0.57)
3	3.2 (0.65)	3.1 (0.67)	3.2 (0.62)	3.1 (0.69)	3.0 (0.68)	2.8 (0.71)	1.2 (0.56)
4 or more	3.1 (0.69)	3.1 (0.73)	3.1 (0.68)	3.0 (0.71)	3.0 (0.78)	2.7 (0.75)	1.3 (0.66)
P-value	0.821	0.208	0.918	0.868	0.585	0.917	0.910
Education							
Diploma	3.1 (0.65)	3.0 (0.65)	3.1 (0.66)	3.0 (0.7)*	3.0 (0.68)	2.8 (0.67)	1.2 (0.58)
Bachelors	3.2 (0.61)	3.2 (0.56)	3.2 (0.54)	3.1 (0.63)	3.1 (0.66)	2.8 (0.69)	1.3 (0.61)
Master's or higher	3.3 (0.61)	3.2 (0.63)	3.2 (0.65)	3.2 (0.61)*	3.1 (0.59)	2.9 (0.69)	1.3 (0.58)
P-value	0.053	0.127	0.112	0.037	0.699	0.487	0.352
Job							
Physician and dentists	3.3 (0.56)	3.2 (0.54)	3.2 (0.54)	3.2 (0.58)	3.1 (0.64)	2.8 (0.68)	1.3 (0.59)
Nurse	3.1 (0.64)	3.1 (0.66)	3.1 (0.64)	3.0 (0.70)	3.0 (0.67)	2.8 (0.70)	1.3 (0.63)
Others	3.2 (0.66)	3.1 (0.60)	3.1 (0.62)	3.1 (0.67)	3.1 (0.65)	2.8 (0.68)	1.2 (0.55)
P-value	0.419	0.188	0.336	0.279	0.755	0.946	0.203

(*Continued*)

Table 4 (Continued).

Variable	To Know	Towards Accomplishment	To Experience Stimulation	Identified	Introjected	External Regulation	Amotivation
Work Experience							
Less than 5 years	3.4 (0.65)	3.2 (0.59)	3.3 (0.63)	3.2 (0.65)	3.1 (0.67)	2.9 (0.65)	1.3 (0.72)
5 – <10 years	3.3 (0.60)	3.3 (0.59)	3.2 (0.63)	3.1 (0.65)	3.1 (0.61)	2.8 (0.63)	1.2 (0.55)
10 - <15 years	3.1 (0.62)	3.1 (0.58)	3.1 (0.59)	3.0 (0.68)	3.0 (0.62)	2.7 (0.66)	1.3 (0.60)
15 - <20 years	3.1 (0.58)	3.0 (0.60)	3.1 (0.55)	3.0 (0.61)	3.0 (0.65)	2.8 (0.66)	1.2 (0.55)
20 or more	3.2 (0.72)	3.2 (0.74)	3.2 (0.75)	3.0 (0.79)	3.1 (0.78)	2.8 (0.88)	1.3 (0.53)
P-value	0.080	0.059	0.401	0.434	0.561	0.599	0.427
Financial status							
Low	3.3 (0.48)	3.0 (0.41)	3.2 (0.38)	3.1 (0.58)	3.1 (0.36)	2.9 (0.46)	0.9 (0.26)*
Medium	3.2 (0.63)	3.1 (0.61)	3.2 (0.62)	3.1 (0.66)	3.1 (0.68)	2.8 (0.68)	1.3 (0.62)*
High	3.1 (0.67)	3.0 (0.66)	3.1 (0.65)	3.0 (0.71)	3.0 (0.62)	2.7 (0.75)	1.2 (0.52)
P-value	0.287	0.276	0.612	0.811	0.519	0.578	0.031

Note: *P<0.05.

Discussion

This study is among the few in Saudi Arabia examining healthcare workers' motivation and participation in CPD at primary healthcare centers. Overall, participants demonstrated high motivation to attend training. On a scale of 0–4, intrinsic motivation scores were 3.2 ("to know"), 3.1 ("towards accomplishment"), and 3.1 ("to experience stimulation"), while extrinsic motivation scores were 3.0 (identified), 3.0 (introjected), and 2.8 (external regulation). The mean amotivation score was 1.25. Key reasons for attending training included financial and moral incentives, distinguished speakers, affordable fees, engaging content, alignment with Vision 2030, and innovative topics. Motivation significantly varied by education level (P = 0.037) and income, with middle-income participants scoring higher than low-income participants (P = 0.031).

We found that the intrinsic motivation scores were high. The highest score in the sub-domain "to know" (3.2/4) indicated that the study participants were eager to learn new things. This finding is in line with an ethnographic study conducted among emergency department workers in Saudi Arabia, where learning something new was one of the main factors behind attending professional development courses.[26] Other studies from Saudi Arabia and Iran among pharmacists and nurses, respectively, reported highest score among the facilitators of attending courses was to update the knowledge.[27] Similar findings were observed from Namibia where a study was conducted among nurses.[28]

A sense of accomplishment is another intrinsic motivator for participation in professional development activities.[7] The participants in the current study also had high scores in the sub-domain of accomplishment. Namibian nurses also reported increasing professional status and qualifications as motivators of their participation in the continuous training activities.[28] Attending a professional course gives a sense of accomplishment to the participants through providing latest knowledge or skills on the given topic.[29] It is imperative for the CPD planners to design such courses in a way that provide a sense of excellence in the field to the participants.

The mean scores in the three subdomains of extrinsic motivation in our study ranged from 3.0 to 2.8 on a scale of 4. This indicates a strong influence of external factors on the motivation of participants to attend continuous training activities. Participation in continuous professional development activities is also affected by external factors, such as professional, organizational, and regulatory.[30,31] In competent environments, excelling knowledge and skills are required to enter, survive, and grow in the job market.[32,33] Similarly, the influence of other colleagues, peers, and professionals in the same field could also serve as motivators to participate in continuous training programs.[22,34] Regulatory requirements, such as the required number of accredited continuing medical education hours for practice licenses, are important external motivators. Several studies have reported that the requirement for CME hours is one of the major external influencers

among healthcare workers.[27,28,30,32] Therefore, organizations should aim to foster a supportive and encouraging environment that motivates healthcare workers to engage in continuous professional development programs. Another important consideration is the use of regulatory requirements; that is, the CME required for professional registration by the SCFHS must be used as a supplement to the motivation, rather than as a sole motivator for participation.

Healthcare workers may be motivated to participate in continuous training. Our study showed that the amotivation domain scored the lowest among all domains, at 1.24/4. This indicates that overall, there is a low level of amotivation among primary healthcare workers in Makkah, Saudi Arabia. Another important consideration pertaining to this finding is that the internal consistency, as measured by Cronbach's alpha for this domain, was low, which may have affected the validity of responses in this domain. Therefore, these findings should be cautiously interpreted.

Except for a few characteristics, this study did not find a significant association between the sociodemographic and professional characteristics of the participants and their motivation levels. This finding is similar to a study from Iran, where researchers did not find any differences in the motivating factors with respect to personal and professional characteristics of nurses.[35] This could be due to the fact that the participants were working in the same organizational and work environments, which might be a major influencer of motivation to participate in continuous training activities rather than personal characteristics.

The participants in our study reported several reasons for participating in the CPD activities. Financial incentives in the form of allowances or job promotions and moral incentives (in the form of appreciation) were the most common reasons, reported by 88.7% and 76.3% of the participants, respectively. Studies among nurses and other pharmacists in Saudi Arabia have shown financial and moral incentives as facilitators of participation in continuous training programs.[27,31] On the other hand, lack of any rewards for participation in such activities has been reported as a barrier.[36] Participation in continuous training activities should be linked with recognition systems to increase the motivation level of health care workers. The third most commonly reported reason for attending continuous training activities was presentations by distinguished speakers. This finding is similar to that of a study conducted among pharmacists in Saudi Arabia, where speaker value was the third most common reason for attendance.[27]

Cost of attending CPD activities is one of the most important barrier to attend CPD activities.[36] Similar is the situation in Saudi Arabia, where continuing medical education is facing financial issues.[30] In the current research, 64% of the participants indicated that reducing the cost of paid activities would encourage greater participation. A qualitative study among nurses in Saudi Arabia also reported that cost considerations are important factors in intentions to attend CPD program.[31] Similar findings were in another cross-sectional study among nurses in Saudi Arabia where lack of financial support to attend continuous training activities was the most commonly reported barrier.[37] This is an important finding, where the ability to pay affects participation in CPD training programs. Healthcare organizations should arrange continuous training programs for staff development and provide financial assistance to programs outside the organization.

The quality of scientific materials and presentations are also important reasons for attending training programs. Researchers from Bahrain reported that training content is strongly correlated with training effectiveness.[38] The findings of the current research corroborate the evidence from other studies where quality of content has been cited as an important factor influencing participation in continuous training activities.[27,35] Healthcare leaders must consider these factors while planning for primary healthcare staff development. Addressing the concerns of potential participants and proper planning will help to achieve the objectives of these training cost effectively.[30,35,39,40]

The strengths of the study included that this was one of the very few studies in Saudi Arabia that has assessed the level of motivation among PHC workers to attend training programs in Makkah. A validated tool with high overall internal consistency was used. Moreover, the inclusion of different specialties of healthcare workers in this study was also the strength.

There were certain limitations that needs consideration. This study is limited by its cross-sectional design, which restricts causal inferences. The study was conducted in a single region. With the implementation of healthcare transformation in Saudi Arabia, regional health clusters are given autonomy, which may result in variations in the policies, procedures, and activities of the different regions. Therefore, these results may not be generalizable to other regions. Secondly, although the tool used in this study showed an overall high internal consistency, one sub-domain "amotivation" however, showed a low internal consistency which may affect the validity of results in this domain. This may indicate that this tool may be applicable to schools and colleges but may not be appropriate for professionals.

Nonetheless, six out of the seven subdomains showed acceptable internal consistency (Cronbach's alpha > 0.7). Third, motivation was self-reported, which may have been subject to social desirability bias. Fourth, any comparison with other studies is arbitrary, as the tools used, population, and cultures vary widely across studies. Fifth, we did not find any differences in the levels of motivation or reasons for attending the training program with respect to the sociodemographic and professional characteristics of the participants. This could be due to the lack of power in the study as the sample was powered by motivation levels.

Theoretical Implications

This study contributes to self-determination theory[11] by providing empirical evidence on intrinsic and extrinsic motivational factors influencing CPD participation in a Middle Eastern context. The findings reinforce the role of organizational culture in fostering a motivated workforce and expand theoretical discussions on CPD motivation in non-Western healthcare settings.

Practical Implications

The insights gained can inform healthcare policymakers and administrators in designing CPD programs tailored to the specific motivational drivers of healthcare workers. By understanding the impact of education and income on motivation, training programs can be customized to maximize engagement and effectiveness, ultimately improving patient care.

Future Research Recommendations

Future studies should explore the long-term impact of CPD programs on healthcare workers' performance and patient outcomes. Comparative studies across different regions and healthcare settings in Saudi Arabia could enhance the generalizability of findings. Investigating additional factors such as workplace environment and leadership styles could further deepen the understanding of CPD motivation.

Conclusion

In summary, our results showed a high level of motivation to attend training programs among primary healthcare workers in Makkah, Saudi Arabia, which indicates an overall positive attitude of participants towards knowledge and skills development. This provides an opportunity for the Makkah health cluster to actively develop its staff to provide safe, effective, and efficient primary healthcare services to the population. There were no differences in the levels of motivation among participants with respect to their sociodemographic and professional profiles. This indicates a homogenous and strong organizational culture of participation in continuous training programs. The motivation reasons cited by the participants in this research provide evidence for administrators to consider when planning continuous training programs for primary healthcare workers to achieve their desired goals.

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The authors report that there is no conflict of interest.

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