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Evaluation of a Training Program in General Practitioners' Attitude Toward the Integration of Substance Use Disorders Services in Primary Health Care

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Abstract

Background: Substance use disorders (SUDs) are associated with high burdens for countries. It has been shown that the integration of SUD services into primary health care (PHC) can improve the early identification and treatment of people with SUDs. However, there are many barriers, including negative attitudes of health professionals about SUDs contributing to suboptimal care.
Objectives: This study aimed to investigate the effectiveness of a training program on physicians' attitudes toward providing SUD services in PHC.
Methods: Physicians working in community health centers (CHCs) of Khorasan-e-Razavi Province in Iran were purposefully recruited to participate in a 10-hour in-person training program providing education on understanding the nature of SUDs, basic communication skills, motivational interviewing, and evidence-based SUDs interventions between October and December 2018. Knowledge and attitudes of participants were measured before and after training workshops.
Results: The knowledge of physicians was significantly increased after completion of training. Moreover, participants' attitudes toward the integration of SUD services into PHC significantly improved from 96.23 ± 0.90 to 109.22 ± 0.60 at the end of the workshop. In the multivariable linear regression, previous SUDs' training experiences, being female, and years of work experience in PHC were significantly associated with more favorable attitudinal changes among the participants.
Conclusions: Our results suggest the effectiveness of the training intervention in improving the attitudes toward SUD services among PHC physicians in Iran. Further controlled studies are needed to investigate the effectiveness of training on the attitudes of PHC professionals in the long term and its role in their practice.

Keywords: Attitude of Health Personnel, General Practitioners, Integrated Delivery of Health Care, Primary Health Care, Substance-Related Disorders, Teaching

1. Background

Substance use disorders (SUDs) are among the major public health issues in Iran. According to the Iran National Mental Health Survey in 2010, 2.44% of the general population aged 15 - 64 years old in the country met a current diagnostic and statistical manual of mental disorders, fifth edition (DSM-5) diagnosis of illicit drug use disorders (1). In this study, a 12-month DSM-5 diagnosis of opioid use disorder (OUD; 2.23%) was the most common SUD (except tobacco) in the country, followed by alcohol use disorder (1.3%), cannabis use disorder (0.56%), and stimulant use disorder (0.39%) (1, 2). It has been shown that SUDs are associated with high morbidity, mortality, health care expenses, loss of productivity, and law enforcement costs (3, 4). Despite the major negative impacts of SUDs, they have been overlooked throughout all health care systems, particularly primary health care (PHC) (3).

It has been shown that the integration of SUD services into PHC could reduce substance use (4, 5), improve physical and mental health (5), increase SUD treatment acces-

sibility, and save overall health care costs (6). However, despite the potential benefits of addressing SUDs in primary care, many primary care physicians are uncomfortable with providing SUD care (7, 8).

A systematic review study on stigma among health professionals toward patients with SUDs indicated that negative attitudes to this population are common and contribute to suboptimal care for them (9). People with SUDs were often seen as challenging, potentially unsafe, irresponsible, manipulative, and aggressive (10). The primary care staff experienced frustration and powerlessness and had less empathy and satisfaction while providing SUD services (11). This attitude leads to less willingness in PHC staff to take part in the integration program on the health care system side (8) and results in interrupted, ineffective care on the patient side (12). The knowledge, attitude, and self-confidence of these front-liners can be improved with proper support and training (13).

In Iran, efforts for the integration of SUDs into PHC were initiated in 2004. During the early years of the program, a limited number of SUD services were provided (14). After the implementation of the Iran health transformation plan (IHTP) in 2014, the Iran Ministry of Health (MoH) revised the program for the integration of SUDs in PHC, the number of recommended services was expanded, and the delivery of SUD services in PHC was to be carried out in a collaborative care model by the community health workers, mental health workers, and general practitioners (GPs) involved (15).

One of the major challenges for the integration of SUD services in Iran is the negative attitudes of health care workers toward individuals with SUDs, resulting from the stigma attached to SUDs (16).

2. Objectives

The objective of this study was to investigate the effectiveness of a training program for primary care physicians working in the PHC of Khorasan-e-Razavi Province on their knowledge and attitudes toward the integration of SUD services in PHC.

3. Methods

3.1. Study Design and Setting

This is a quasi-experimental before-after study investigating the effectiveness of a training program on attitudes and knowledge of GPs working in PHC. The study setting was the PHC of Mashhad University of Medical Sciences (MUMS) in Iran. Four training workshops were conducted in Mashhad City, the center of Khorasan-e-Razavi Province and the second-most populous city in the country after Tehran.

3.2. Study Population and Sampling

Participants were GPs working in rural and urban community health centers (CHCs) in MUMS. The inclusion criteria were (a) being GP working in PHC; (b) having a permanent contract with the medical university as a family physician to work in CHC; and (c) providing informed written consent to complete training and study assessments.

The eligible participants were purposefully selected by the Department of Psychosocial Health and Addiction in Deputy for Health of MUMS and were invited to participate in the training program as a part of the implementation of IHTP. In this regard, 164 primary care physicians out of approximately 570 GPs working in the PHC system of MUMS were invited to take part in the training program, among which 156 participants (95.12%) completed study assessments. The participation was voluntary, and withdrawal from the study did not have any negative effect on their participation in the workshop. The data were handled and analyzed anonymously.

3.3. Training Intervention

We used guide on substance use disorders services in primary health care: Physicians' book as a reference text for the training. Topics included (1) basics of addiction, (2) an introduction to program framework, (3) an introduction to different substance classes and their associated health consequences, (4) basic communication and counseling skills, (5) substance use and SUDs primary prevention, (6) case identification, care, and follow-up, and (7) harm reduction (15). The physicians' book was developed based on an overview of available international guidelines on evidence-based interventions for early identification, treatment (17), and harm reduction (18) of SUDs. All materials were adapted for the Iran PHC system.

Educational content was provided in 4 2-day, in-person training workshops between October and December 2018. Total training time was approximately 10 hours. Training modules include (1) epidemiology and burden of SUDs in Iran, necessity, and goals of the integration program (60 minutes); (2) etiology of SUDs, neurobiological basis of addiction (60 minutes); (3) flowchart of integration of SUD services in PHC and collaborative model of care (90 minutes); (4) effective communication, basic counseling skills, and brief motivational interventions (90 minutes); (5) case identification, diagnosis and care of people with tobacco, alcohol, and cannabis use disorders (90 minutes); (6) case identification, diagnosis, and care of people with opioids, stimulants, and sedatives use disorders (90 minutes); (7)

diagnosis and care of SUDs in pregnancy and breastfeeding (60 minutes); (8) and harm reduction principles and interventions (60 minutes). Training sessions were delivered through theoretical lectures, role-playing, and group discussions.

3.4. Assessments

We used 40 multiple-choice questions (5 questions from each of the 8 topics covered during training workshops) to assess participants' knowledge before and after training. To measure the attitude of participants toward the integration of SUD services in PHC, we reviewed international studies (7, 19) and developed 28 Likert-type questions scoring from 1 to 5 (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree), assessing both personal (eg, deservingness for care) and professional attitudes (eg, self-confidence, perceived benefits of interventions, and preparedness for role adoption) toward people with SUDs and providing SUD services. Pre-training attitude scores showed excellent internal consistency (Cronbach α = 0.949). We provided an introduction for the attitude questionnaire, explaining that there is no right or wrong answer for the questionnaire items, and the survey only assesses the physicians' attitude toward the delivery of SUD services through a collaborative care model in PHC. Finally, the physicians' demographic information was collected.

3.5. Data Analysis

The outcomes (mean score of knowledge and attitude) and continuous variables were described by mean, SD, and 95% CI. The frequency and percentage were used to describe the qualitative variables. In addition, a paired *t*-test was used to compare the knowledge, and attitude mean scores in the pre- and post-phase of the study. Also, a Stuart test was used to compare qualitative answers (strongly agree, agree, unsure, disagree, and strongly disagree) to attitude questions. Finally, backward (stepwise) linear regression was used to calculate the coefficient and 95% CI to measure the association for each independent variable on attitude difference scores (post score minus pre score). STATA version 16 (College Station, Texas 77845 USA) was used to perform data analysis. All analyzes were conducted as 2-tailed, and P values less than 0.05 were considered statistically significant. The study protocol and questionnaire were approved by the Ethics Committee of Vice-Chancellor for Research Affairs, Tehran University of Medical Sciences (code: IR.TUMS.VCR.REC.1398.961).

4. Results

A total of 156 participants were included in this study, of which 38% were male, and 62% were female. The mean age was 39.83 $\pm$ 8.89 years. Participants had 10.71 $\pm$ 7.16 years of work experience; in detail, 38.7% worked in rural CHC (n = 136), 13.6% worked in rural-urban CHC (n = 38), 26.5% worked in urban CHC (n = 74), and 11.1% worked in administrative and managerial positions (n = 31). In addition, 10.7% of participants (n = 30) had work experience in public-owned opioid agonist treatment (OAT) clinics, and 21.51% (n = 60) had previous work experience in private OAT clinics. Finally, 37.63% (n = 105) participated in previous short-term training workshops on SUD services. The demographic characteristics of the study participants by gender are presented in Table 1.

The result of a paired *t*-test analysis showed that, on average, the total knowledge points of participants increased by 11.28 scores out of a total score of 40 (30.46 in post-training vs 19.18 in pre-training), which was statistically significant (95% CI, 10.69 - 11.86; P < 0.001).

Pre- and post-training comparisons of participants' attitudes toward providing SUD services through PHC significantly improved at the end of the workshop. The total sum of attitude scores increased from 96.23 $\pm$ 0.90 to 109.22 $\pm$ 0.60 (P < 0.001). The results of a paired *t*-test analysis showed that the attitude scores increased by an average of 13 points in favor of people with SUDs and providing services for them (95% CI, 12.12 - 13.85; P < 0.001). The total score of the attitude questionnaire ranged between 28 and 140. Average total attitude scores toward providing SUD services through PHC improved about 10% after training. The pre-and post-training changes in 28 attitudinal statements are presented in Table 2.

The results of multivariable linear regression are shown in Table 3. The mean attitude scores increased on average by 6.55 scores (4.7% of the total score), which was more in participants who had participated in previous short-term training workshops on SUD services compared with those who participated in SUDs training for the first time (95% CI, 6.94 - 9.03; P < 0.001). In addition, the attitude scores in females increased by 2.31 scores (1.7% of the total score), which was higher compared with male participants (95% CI, 0.50 - 4.12; P = 0.013). Finally, each unit increase in the years of work experience in PHC predicts a 0.23 more favorable change (0.16% of the total score) in attitude (95% CI, 0.11 - 0.36; P < 0.001).

5. Discussion

Our findings demonstrated a significant positive shift in GPs' knowledge and attitudes toward the integration

Table 1. Demographic Characteristics of Participants by Gender

Variables	Male (n = 106)	Female (n = 173)	Total
Age (mean ± SD)	44.11 ± 8.96	37.20 ± 7.76	39.83 ± 8.89
Work experience by year (mean ± SD)	13.05 ± 8.09	9.28 ± 6.19	10.71 ± 7.16
Work position			
Rural CHC	21 (13.46)	55 (35.26)	76 (48.72)
Urban-rural CHC	13 (8.33)	8 (5.13)	21 (13.46)
Urban CHC	12 (7.69)	30 (19.23)	42 (26.92)
Administrative	13 (8.33)	4 (2.56)	17 (10.90)
Work experience in a public-owned OAT clinic	10 (6.41)	7 (4.49)	17 (10.90)
Work experience in a private OAT clinic	18 (11.54)	15 (9.62)	33 (21.15)
Participating in previous short-term training workshops on SUD services	40 (25.64)	19 (12.18)	59 (37.82)

Abbreviations: CHC, community health center; OAT, opioid agonist treatment; SUD, substance use disorder.

Table 3. Multivariable Linear Regression to Identify Factors Predicting Change in Attitude Scores (Post-training Minus Pre-training Attitude Score)

Variables	Coefficient	SD	P Value	95% CI	
Having previous training in SUD services	6.55	1.03	< 0.001	4.94	9.03
Being female	2.31	0.92	0.013	0.50	4.12
Years of work experience	0.23	0.06	< 0.001	0.11	0.36

of SUD services in PHC after attending the training course providing them with knowledge about the burden of SUDs, evidence-based SUDs interventions, skills needed for effective communication, and brief motivational counseling. The positive changes in knowledge, attitude, and self-efficacy for providing SUD services were consistent with previous studies from international settings among health professionals (20, 21).

By the end of the training, participants were more confident in the feasibility and effectiveness of SUDs interventions and admitted their role in providing SUD services along with their routine care. They challenged the disappointing idea of "providing SUDs services in PHC is futile" (Q8 to Q10) more strongly, which might result from the most recent scientific data portraying SUDs as preventable and treatable brain conditions. The change in attitude was observed in different aspects, including perceived benefits of integrating SUD services into PHC, self-efficacy for delivery of these services, preparedness for responsible role adoption in this area, and stigma toward people with SUD. This is in line with international studies indicating that enhanced knowledge and skills and increased self-confidence and comfort in providing SUD services might lead to diminished social distance and stigma toward people with SUDs among health care providers (20, 22, 23).

Study participants had a more positive attitude toward providing services for tobacco (Q25), alcohol (Q26), or prescription medication misuse (Q28) as compared to illicit drugs (Q27) or providing OAT in PHC (Q29) before training. Participants' attitudes changed positively in all mentioned areas after training, although a pattern for less favorable attitudes toward illicit drugs and providing OAT in PHC remained unchanged. This is in line with the results of a cross-sectional study from the US, indicating that staff working in mental health agencies felt more prepared to address their clients' alcohol use than cannabis use (24). These differences should be considered for the development of training programs for physicians working in PHC.

Participants with a history of previous training in SUDs intervention showed a significantly more increase in total attitude scores after training, which is consistent with previous international studies reporting more positive attitudes toward providing SUD services among health care staff with previous training in this field (25, 26). This might imply the potential role of continuous training rather than a 1-time training session. Previous international studies have shown that single training was not sufficient to adequately change health care providers' behaviors to put SUD services into practice (27). Ongoing training and support are necessary for the proper implementation of health programs aiming to integrate SUD services into general health services (28). However, our finding is in contrast with the results of another study from the US, indicating those study participants who reported the least

amount of pre-training clinical and/or prior academic exposure to substance use reported the greatest screening, brief intervention, and referral to treatment (SBIRT) practice increases (29). Further studies are needed to identify best practices to incorporate training in SUD services into the basic and ongoing training curriculum of primary care GPs.

We found that female GPs and those with a longer duration of work experience were more positively impacted by the training intervention. This is consistent with the results of a study from the US that showed that female health care providers and those with longer tenure in the health system were more likely to adopt brief interventions for unhealthy alcohol use in an integrated health care system (30). Another study from the US examining the effectiveness of an SBIRT curriculum for emergency department (ED) staff showed that length of time in practice was positively associated with SBIRT utilization, controlling for gender, race, and type of profession (31).

Beyond training programs, several other factors influence the primary care staff's attitudes and preparedness to provide SUD services, including time constraints, alignment with other priorities, and organizational support (4, 11, 28, 31). The shortage of PHC staff in Iran has resulted in a high workload of several health programs with competing priorities, while career development and job promotion opportunities remain limited (32). Furthermore, the implementation of HTP in 2014 caused added duties and more expectations of primary care physicians (33). Thus, for the successful integration of SUD services in PHC in Iran, future studies are needed to explore the role of the service delivery process and organizational barriers to the effectiveness of the program.

Our study had several limitations. First, we did not have a control group and did not assess the persistence of favorable attitudes toward providing SUD services in PHC in the long term. Second, we did not measure the impact of the intervention on GPs' practice in providing SUD services in PHC. Further controlled studies are needed to investigate the most effective training programs to improve knowledge and attitudes and to increase the adoption of SUD services into routine practice by primary care GPs and other health care providers. Third, considering the complex nature of service delivery in PHC in Iran, there is also a need to investigate the effectiveness of training interventions as a part of more comprehensive, multi-component implementing strategies addressing organizational barriers to providing SUD services in PHC. Fourth, we used an author-made questionnaire to assess the effectiveness of our training program. Further studies using standard attitudinal measures are warranted.

5.1. Conclusions

Our findings suggest that the primary care GPs exposed to a SUD training course show a significant increase in their knowledge and positive change in their attitudes toward working in the SUD field with an increase in optimism, readiness, and confidence in providing SUD services as a part of their routine practice.

This study presents a contemporary addition to an under-examined area of research in Iran; that is, how training interventions could prepare primary care staff to integrate SUD services into their work. Further controlled studies are imperative to investigate the impact of training on the attitudes and skills of primary care staff in the long term.

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Footnotes

Authors' Contribution: Study concept and design: A. N. and H. S.; acquisition of data: S. F. and S. M.; analysis and interpretation of data: M. J., H. S., L. J., and J. G.; drafting of the manuscript: H. S., L. J. K., and A. N.; critical revision of the manuscript for important intellectual content: A. N., R. R., and J. G.; statistical analysis: M. J. and J. G.; administrative, technical, and material support: S. F. and S. M.; study supervision: A. N.

Conflict of Interests: We declared that one of our authors (Richard A. Rawson, a member of the editorial board of IJPBS) is one of the editorial board. The journal confirmed that the mentioned author with CoI was completely excluded from all review processes. We also introduced this author with CoI during the submission as an opposed reviewer. Funding or research support: Grants received from Tehran University of Medical Sciences (number: 41130-49-02-98). Employment: Assistant professor, Iranian National Center for Addiction Studies, Tehran University of Medical Sciences, Tehran, Iran. Personal financial interests: None. Stocks or shares in companies: None. Consultation fees: None. Patents: Not applicable. Personal or professional relations with organizations and individuals (parents and children, wife and husband, family relationships, etc): None. Unpaid membership in a government or non-governmental organization: I am a member of the Iranian Physicians Council and Iranian Psychiatrists Association

(IPA). Are you one of the editorial board members or a reviewer of this journal? Yes, I have been a reviewer for this journal.

Data Reproducibility: The dataset presented in the study is available on request from the corresponding author during submission or after its publication. The data are not publicly available due to confidentiality considerations.

Ethical Approval: The study protocol and questionnaire were approved by the Ethics Committee of Vice-Chancellor for Research Affairs, Tehran University of Medical Sciences (code IR.TUMS.VCR.REC.1398.961). Link: ethics.research.ac.ir/IR.TUMS.VCR.REC.1398.961

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Table 2. Pre- and Post-training Comparisons of Participants' Attitudes Toward Providing Substance Use Disorder services Through Primary Health Care

Attitude Item	Pre					Post					P Value	Pre (Mean ± SD)	Post (Mean ± SD)	P Value
	Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree	Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree				
1. If I find out that my patient uses tobacco, alcohol, or other substances or has non-medical use of psychotropic medications, I think he/she deserves the same level of medical care as people who don't use drugs.	0 (0)	13 (8.33)	6 (3.85)	19 (12.18)	115 (73.72)	0 (0)	7 (4.49)	13 (8.33)	11 (7.05)	124 (79.49)	< 0.001	4.62 ± 0.84	4.69 ± 0.79	< 0.001
2. Among those who present to a GP for routine medical complaints, and the GP has found out that they use substances, referral to a mental health worker increases the chance for early identification and providing timely care.	2 (1.28)	14 (8.97)	1 (0.64)	27 (17.31)	111 (71.15)	0 (0)	11 (7.05)	4 (2.56)	22 (14.10)	118 (75.64)	< 0.001	4.61 ± 0.82	4.70 ± 0.71	< 0.001
3. Among those who present to a GP for routine medical complaints, and the GP find out that they use substances, patient screening, care, and follow-up for substance use involvement by a mental health worker and GP will improve the outcomes of their medical condition.	2 (1.28)	15 (9.62)	15 (9.62)	52 (33.33)	72 (46.15)	0 (0)	0 (0)	10 (6.41)	53 (33.97)	91 (58.33)	< 0.001	4.29 ± 0.89	4.56 ± 0.59	< 0.001
4. I feel competent enough to identify patients' current lifestyle problems (eg, substance use involvement) and relate them with patients' medical conditions.	0 (0)	48 (30.77)	29 (18.59)	51 (32.69)	26 (16.68)	0 (0)	0 (0)	46 (29.49)	66 (42.31)	42 (26.92)	< 0.001	3.43 ± 1.12	3.95 ± 0.75	< 0.001
5. I feel competent enough to advise and motivate the patients who use substances to cut down or stop using.	14 (8.98)	50 (32.05)	6 (3.85)	63 (40.39)	21 (13.46)	0 (0)	7 (4.49)	23 (14.74)	90 (57.69)	34 (21.80)	< 0.001	3.30 ± 1.27	4.04 ± 0.69	< 0.001
6. I feel competent enough to advise and motivate patients who use substances to refer them to a mental health worker.	0 (0)	18 (11.54)	12 (7.69)	91 (58.33)	33 (21.15)	0 (0)	10 (6.41)	19 (12.90)	71 (45.51)	55 (35.26)	< 0.001	3.99 ± 0.83	4.14 ± 0.79	< 0.001
7. I feel competent enough to advise and motivate patients with SUDs to get referred to a specialized medical center.	0 (0)	29 (18.59)	16 (10.26)	71 (45.51)	37 (23.72)	0 (0)	15 (9.62)	11 (7.05)	63 (40.38)	66 (42.31)	< 0.001	3.84 ± 1.01	4.26 ± 0.88	< 0.001
8. Screening and providing care for patients with SUDs in PHC is futile since the patients do not honestly report their substance use problems.	20 (12.82)	34 (21.80)	18 (11.54)	63 (40.39)	19 (12.18)	9 (5.77)	34 (21.80)	18 (11.54)	52 (33.33)	42 (26.92)	< 0.001	3.24 ± 1.28	3.58 ± 1.28	< 0.001
9. Screening and providing care for patients with SUDs in PHC is futile since the patients might feel like a violation of their privacy.	13 (8.33)	37 (23.72)	14 (8.97)	68 (43.59)	21 (13.46)	0 (0)	22 (14.10)	34 (21.80)	54 (34.62)	45 (28.85)	< 0.001	3.39 ± 1.21	3.77 ± 0.99	< 0.001
10. Screening and providing care for patients with SUDs in PHC is futile since patients would not change their behavior unless they hit rock bottom.	6 (3.84)	9 (5.77)	22 (14.10)	96 (61.15)	22 (14.10)	6 (3.84)	7 (4.49)	19 (12.90)	72 (46.15)	51 (32.69)	< 0.001	3.86 ± 0.84	4.07 ± 0.89	< 0.001
11. GPs are trained to treat general medical conditions, and they are not interested in screening, early identification, and providing care for SUDs.	24 (15.39)	26 (16.67)	42 (26.92)	41 (26.28)	21 (13.46)	20 (12.82)	29 (18.59)	35 (22.44)	41 (26.28)	31 (19.87)	< 0.001	3.07 ± 1.23	3.18 ± 1.29	0.003
12. Changing behavior and lifestyle is on the patients, and GPs do not have any responsibility regarding it.	10 (6.41)	18 (11.54)	23 (14.74)	78 (0.5)	24 (15.39)	0 (0)	18 (11.54)	20 (12.82)	62 (39.74)	53 (39.37)	< 0.001	3.67 ± 1.06	3.97 ± 0.96	< 0.001

13. Substance use is not a common and important complaint among patients visiting GPs.	0 (0)	25 (16.03)	23 (14.74)	73 (46.80)	33 (21.15)	0 (0)	17 (10.90)	19 (12.90)	63 (40.39)	54 (34.62)	< 0.001	3.77 ± 0.95	4.03 ± 0.92	< 0.001
14. Case finding and associating the presented medical condition with the patients' lifestyle (eg, substance use involvement) must be the GPs' responsibility.	12 (7.69)	38 (24.36)	57 (36.54)	32 (20.51)	14 (8.97)	9 (5.77)	27 (17.31)	31 (19.87)	51 (32.69)	36 (23.08)	< 0.001	3.06 ± 1.09	3.56 ± 1.18	< 0.001
15. Advice and motivating patients with SUDs on cutting down or stopping substance use must be the GPs' responsibility.	9 (5.77)	44 (28.21)	43 (27.56)	41 (26.28)	19 (12.90)	5 (0.32)	18 (11.54)	64 (41.03)	30 (19.23)	38 (24.36)	< 0.001	3.17 ± 1.14	3.48 ± 1.10	< 0.001
16. Advice and motivating patients with SUDs on referral to a mental health worker must be the GPs' responsibility.	10 (6.41)	29 (18.59)	36 (23.08)	62 (39.74)	18 (11.54)	0 (0)	18 (11.54)	36 (23.08)	57 (36.54)	42 (26.92)	< 0.001	3.39 ± 1.09	3.78 ± 0.97	< 0.001
17. Advice and motivating patients with SUDs on referral to a specialized addiction treatment center must be the GPs' responsibility.	5 (3.20)	39 (25)	35 (22.44)	56 (35.90)	18 (11.54)	6 (3.84)	10 (6.41)	37 (23.72)	49 (31.41)	52 (33.33)	< 0.001	3.34 ± 1.09	3.93 ± 0.98	< 0.001
18. Screening, brief intervention, and referral to treatment services for patients with SUDs in PHC have a negative and discouraging impact on the attendance of other patients without SUDs.	9 (5.77)	63 (40.39)	55 (35.26)	25 (16.03)	3 (1.92)	7 (4.49)	14 (8.98)	72 (46.15)	33 (21.15)	28 (17.95)	< 0.001	2.65 ± 0.80	3.38 ± 0.98	< 0.001
19. OATs with methadone and buprenorphine for OUD must be the GPs' responsibility.	30 (19.23)	59 (37.82)	29 (18.59)	37 (23.72)	1 (0.64)	10 (6.41)	71 (45.51)	18 (11.54)	48 (30.77)	7 (4.49)	< 0.001	2.38 ± 1.02	2.84 ± 1.10	< 0.001
20. Providing OATs for people with OUD in PHC has a negative and discouraging impact on the attendance of other patients without SUDs.	3 (1.92)	36 (23.08)	58 (37.18)	30 (19.23)	27 (17.31)	0 (0)	17 (10.90)	41 (26.28)	29 (18.59)	66 (42.31)	< 0.001	3.29 ± 1.00	3.92 ± 1.09	< 0.001
21. I feel comfortable discussing the association between cigarette smoking and patients' medical conditions with them.	6 (3.84)	29 (18.59)	9 (5.77)	79 (50.64)	29 (18.59)	0 (0)	11 (7.05)	6 (3.84)	41 (26.28)	94 (60.26)	< 0.001	3.72 ± 1.08	4.47 ± 0.83	< 0.001
22. I feel comfortable discussing the association between alcohol drinking and patients' medical conditions with them.	11 (7.05)	32 (20.51)	13 (8.33)	72 (46.15)	25 (16.03)	7 (4.49)	17 (10.90)	25 (16.03)	37 (23.72)	68 (43.59)	< 0.001	3.42 ± 1.81	3.98 ± 1.13	< 0.001
23. I feel comfortable discussing the association between illicit drug use and patients' medical conditions with them.	10 (6.41)	22 (14.03)	23 (14.74)	74 (47.44)	26 (16.67)	11 (7.05)	10 (6.41)	20 (12.82)	33 (21,15)	79 (50.64)	< 0.001	3.49 ± 1.21	4.08 ± 1.18	< 0.001
24. I feel comfortable discussing the association between misuse of medications with abuse potential and patients' medical conditions with them.	6 (3.84)	14 (8.97)	24 (15.39)	82 (52.56)	28 (17.95)	0 (0)	6 (3.84)	16 (10.26)	69 (44.23)	62 (39.74)	< 0.001	3.71 ± 0.99	4.29 ± 0.71	< 0.001
25. GPs' intervention is effective in reducing cigarette and tobacco use and its associated complications.	17 (10.90)	18 (11.54)	35 (22.44)	62 (39.74)	22 (14.10)	1 (0.64)	11 (7.05)	26 (16.67)	58 (37.18)	57 (36.54)	< 0.001	3.33 ± 1.17	4.07 ± 0.90	< 0.001
26. GPs' intervention is effective in reducing alcohol drinking and its associated complications.	16 (10.26)	44 (28.20)	29 (18.59)	55 (35.26)	9 (5.77)	6 (3.84)	24 (15.39)	47 (30.13)	56 (35.90)	21 (13.46)	< 0.001	2.93 ± 1.13	3.40 ± 0.97	< 0.001
27. GPs' intervention is effective in reducing illicit drug use and its associated complications.	22 (14.10)	53 (33.97)	43 (27.56)	33 (21,15)	3 (1.92)	6 (3.84)	57 (36.54)	33 (21,15)	48 (30.77)	10 (6.41)	< 0.001	2.57 ± 0.97	2.97 ± 1.00	< 0.001
28. GPs' intervention is effective in reducing misuse of medications with abuse potential and its associated complications.	16 (10.25)	32 (20.51)	25 (16.03)	66 (42.31)	15 (9.62)	9 (5.77)	25 (16.03)	22 (14.10)	50 (32.05)	48 (30.77)	< 0.001	3.14 ± 1.15	3.78 ± 1.22	< 0.001

Abbreviations: PHC, primary health care; OAT, opioid agonist treatments; OUD, opioid use disorder; SUD, substance use disorder; GPs, general practitioners.