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Original Article

Attitudes of Primary Healthcare Physicians Toward Depression in Oman

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Abstract

Background and aims: The attitudes of primary healthcare (PHC) physicians are essential for integrating mental health services into PHC. This study aimed to assess the attitudes of PHC physicians toward depression in Oman.

Methods: In 2022, a cross-sectional study was conducted on a convenient sample of 445 PHC physicians working under Oman's Ministry of Health. The data were collected using a self-administered online form that included the revised depression attitude questionnaire. An independent t-test and multiple linear regression were used to compare mean attitude scores for binary independent variables and to adjust mean scores for different explanatory variables, respectively.

Results: The percentage of physicians who showed positive attitudes exceeded 60% for most of the questionnaire statements. The overall attitude score of mean ± standard deviation (SD) was 3.56 ± 0.43. In addition, the mean (± SD) scores for the professional confidence, the generalist perspective, and the optimistic view subscales were 3.32 (± 0.66), 4.16 (± 0.55), and 3.41 (± 0.62), respectively. The overall attitude mean score was significantly higher among physicians with previous mental health training (MHT) ($P < 0.001$) and work duration of less than 10 years ($P < 0.001$). Additionally, the scores of physicians with previous MHT were significantly higher across all subscales.

Conclusion: The PHC physicians in Oman demonstrated favorable attitudes toward depression. However, there is still some room for improvement to ensure accessibility and quality of care for people with mental illnesses.

Keywords: Depression, Attitude, Primary healthcare, Mental health, Oman

Introduction

Mental well-being is fundamental to overall health, and psychological and physical illnesses often coexist.[1] Depression, a common mental health disorder (MHD), has been associated with numerous chronic conditions and has become a global concern due to its substantial economic and social impact.[2,3]

n 2019, the age-standardized prevalence of major depressive disorders (excluding dysthymia) in the Middle East and North Africa (MENA) region was estimated at 3,322.1 cases per 100,000 people, surpassing the global estimate of 2,285.6.[4] Within the MENA region, rates ranged from 2,596.7 to 5,259.5 per 100,000.[4] Although among the lowest in the region, the rate in Oman was 2,973.6 per 100,000, still higher than the global figure.[4]

Despite its recognized burden, depression, similar to other MHDs, remains largely undertreated worldwide.[5] Several barriers, such as the unavailability, inaccessibility, unacceptability, or unaffordability of high-quality mental health services, contribute to this gap.[2] Integrating mental health into primary healthcare (PHC) has been recognized as a cost-effective strategy to address these challenges.[2,6] This integration can involve training PHC physicians or embedding mental health professionals within PHC teams.[2] Both approaches have been implemented in several countries across the region to varying degrees, with evidence of improved service delivery and coverage reported in countries such as Iran and Saudi Arabia.[7,8]

While integrating mental health services into PHC is critical, the success of this approach hinges on the attitudes of healthcare providers. Negative attitudes among providers significantly contribute to the stigma surrounding individuals with MHDs.[9] These stigmatizing views have been linked to the deprioritization of MHDs in healthcare, limited skills in managing these conditions, and pessimism regarding treatment outcomes.[10] Such factors create barriers to access and contribute to suboptimal care. Therefore, reducing stigmatizing attitudes among PHC providers is crucial for improving early detection and treatment of these conditions and promoting well-being.[2,6]

One of the earliest tools to assess healthcare workers' views on depression was the Depression Attitudes Questionnaire (DAQ), later revised as the revised DAQ

(R-DAQ).[11,12] Studies using this questionnaire have revealed wide variations in physicians' attitudes, especially regarding management confidence and treatment optimism.[13-19] To date, however, this area has remained unexplored within Oman's PHC. Accordingly, this study seeks to assess the attitudes of PHC physicians in Oman toward depression using the R-DAQ. By offering insights into their perspectives on depression care, treatment optimism, and management confidence, the findings will help identify key gaps for future interventions to enhance mental health service delivery in PHC settings.

Materials and Methods

Study Setting

The Sultanate of Oman is a high-income country with an area of 309 500 km^2 in the Arabian Peninsula.[20] Its health system is internationally recognized for its advanced development.[21] In 2022, Oman had 9420 medical doctors, representing a density of 19.1 medical doctors per 10 000 population. Of these, 5999 physicians were employed by Oman's Ministry of Health (MOH), the country's leading healthcare provider. However, there were only 62 psychiatrists, half practicing in the Capital Governorate.[22] To address the shortage of mental health professionals, the MOH is working to improve access to mental health services, particularly by integrating them into PHC facilities.[23] By 2022, Oman had 240 MOH-led PHC facilities run by 2273 PHC physicians,[22] some of whom received mental health training (MHT) and have started integrating these services into their practices.

Study Design and Data Collection Method

This cross-sectional study included physicians working in MOH-led PHC facilities from different governorates in Oman. The study utilized the R-DAQ to quantitatively assess physicians' attitudes toward depression. The assessment was conducted as a self-administered online questionnaire using Google Forms.

Sample Size and Sampling

The sample size was calculated to include at least 330 participants. This calculation followed a conservative approach, assuming that 50% of respondents would agree or disagree with any questionnaire item, with a 95% confidence level and a 5% margin of error.[24] The sample size was also deemed sufficient to compare the mean attitude scores between two categories of four potential explanatory variables (e.g., gender, duration of practice, workplace, and previous MHT) that may influence the attitudes toward depression among PHC physicians, with a significance level of 0.05, a power of 80%, and a medium standardized difference of 0.5. Moreover, the sample size was adequate for conducting multiple linear regression to adjust for differences in mean attitude scores across these four explanatory variables.[25] Due to the anticipated low response rate to an online questionnaire, a convenience sampling method was employed, inviting all eligible participants. The questionnaire was distributed across all governorates through focal points, with reminders sent every few weeks to encourage participation.

Eligibility Criteria

The target population comprised PHC physicians working in Oman. However, only PHC physicians employed by MOH were accessible to the study team. Among this accessible population, all physicians working in PHC facilities were included. To minimize potential confounding and skewness of results, PHC physicians specialized in psychiatry were excluded.

Instrument

The questionnaire consisted of four sections. The first section contained a brief introduction about the study, questions to verify the participant's eligibility, and a consent question for participation. The second section gathered demographic information, such as gender, workplace, specialty, and years of practice. The third section included the R-DAQ, consisting of 22 Likert-scale statements measured on a 5-point response scale ranging from "strongly disagree" to "strongly agree" to assess physicians' attitudes. The psychometric properties of the R-DAQ in our sample were detailed elsewhere.[26] Exploratory factor analysis identified a 16-item scale with three dimensions. The first, second, and third dimensions evaluated professional confidence in providing care for people with depression (six items), the optimistic view on recognizing depression as a health condition (six items), and the generalist perspective on integrating depression care into health practice (four items), respectively. In the fourth section, we included a question that asked the physicians if they had received any previous MHT. Participants who reported not receiving MHT reached the end of the questionnaire. Those who reported receiving previous MHT were asked a few practice questions, including screening for mental disorders, preferred treatment methods, and patient referrals. To minimize missing data, all related questions were made mandatory. Additionally, the online questionnaire was designed to allow only one response per participant to prevent multiple submissions by the same participant.

Pretesting and Pilot Study

A panel of five healthcare workers pretested the questionnaire. In this stage, the panel was asked to comment on and refine the questionnaire content and instructions and assess the questions' relevance, clarity, and flow. Following pretesting, the questionnaire was distributed in one governorate's PHC facilities as an undeclared pilot study to assess the feasibility of the study. The questionnaire contained the researchers' contact numbers and a specified field for comments or feedback to address any major issue or technical problem. The first 30 respondents completed and submitted the questionnaire without any comments, and Cronbach's alpha of the

overall R-DAQ was > 0.6; accordingly, the questionnaire was considered to pass the pilot stage adequately.

Questionnaire Administration as a Main Study

Following the pilot study, the questionnaire form was sent to the focal points of non-communicable diseases in all governorates. The focal points were requested to send the questionnaire to all in-charge officers of MOH-led PHC facilities. The officers were instructed to send it to all working PHC physicians in their facilities. This phase lasted from September 2022 to December 2022.

Statistical Analysis

Statistical analyses were performed using SPSS software (Statistical Package for the Social Sciences, version 23). The demographic characteristics of the participants were presented in numbers and percentages. For analyzing the frequency distribution of responses, the negatively phrased statements were coded similarly to the positively phrased ones without any change. The responses to each item of the R-DAQ were grouped as percentages of respondents in agreement, neutral, and disagreement. "Strongly agree" and "agree" were combined into the "agree category". At the same time, "strongly disagree" and "disagree" were grouped into the "disagree category". The "neither disagree nor agree" response was classified under the "neutral category".

To calculate the mean overall scale and subscale scores, the negatively phrased statements were reverse-scored and then summed with the corresponding subscale statements. Since the total score is influenced by the number of constituting items, the overall and subscale scores were averaged.[27] This resulted in a continuous score ranging from 1.00 to 5.00, where scores above 3.00 indicated positive attitudes. This approach was used to preserve the original measurement scale and facilitate comparison across subscales.[28] An independent t-test was used to compare the mean scores based on four physicians' characteristics, which theoretically may explain the difference in attitudes. These characteristics were the physician's gender, duration of work experience, place of work, and previous MHT. Multiple linear regression was performed to assess the effect of each theoretically explanatory characteristic on the mean scores of the overall R-DAQ and its subscales, holding others constant. The main assumptions for multiple linear regression with categorical variables were evaluated, including homoscedasticity of errors, normality of error distribution, and absence of multicollinearity. Due to the violation of homoscedasticity, the weighted least squares method was utilized instead of ordinary least squares.[29] All statistical tests were two-sided at a significance level of < 0.05.

Results

Among the 2273 PHC physicians targeted, 445 completed the questionnaire, resulting in a completion rate of 20%. Only the responses from those who completed the questionnaire were included in our analyses. Table 1 presents the respondents' characteristics. The percentage of female PHC physicians (56%) was slightly higher than that of male physicians. About two-thirds of the respondents (66.5%) worked in health centers, and 18.2% of the total sample worked in the capital governorate (Muscat). About half of the respondents (55.5%) had worked for more than ten years, and 28.5% reported receiving previous MHT.

The response distribution to each statement of the R-DAQ among the total sample of PHC physicians is provided in Table 2. Regarding statements that were proposed to explore the participants' confidence in providing care for people with depression, more than 60% of the respondents were in agreement with statements 1, 7, and 11. About half of the respondents agreed with statement 15, and slightly above half agreed with statement 17. However, 60.7% of respondents indicated a preference for treating physical illnesses over mental illnesses, as reflected in their agreement with statement 8.

As regards the negatively phrased statements intended to assess the optimistic view on recognizing depression as a health condition, the majority of respondents (ranging from 69.7% to 76.6%) expressed disagreement with statements 9, 13, 20, and 21. On the other hand, around 29.7% and 25.8% of respondents disagreed with statements 5 and 12, respectively.

For the last set of statements proposed to reflect participants' generalist perspective on integrating depression care into health practice, 73.9% of the respondents agreed upon statement 19, while more than

Table 1. Demographic Characteristics of Respondents (N = 445)

Characteristics	Number	Percent
Gender		
Female	249	56
Male	196	44
Current governorate of work		
Muscat	81	18.2
Other governorates	364	81.8
Current workplace		
Health center	296	66.5
Polyclinic or local hospital	149	33.5
Duration of practice		
≤ 10 years	198	44.5
> 10 years	247	55.5
Professional rank and training		
Non-trained physicians on mental health	318	71.5
Family physician	33	10.4
General practitioner	285	89.6
Trained physicians on mental health	127	28.5
Family physician	58	45.7
General practitioner	69	54.3

Table 2. Distribution of Responses Among the Samples of PHC Physicians (N = 445)

R-DAQ Dimensions and Statements*	Agree (%)	Neutral (%)	Disagree (%)
I. Professional confidence in providing care for people with depression			
Statement 1	65.2	20.9	13.9
Statement 7	69.2	16.2	14.6
Statement 8	60.7	15.1	24.3
Statement 11	62.0	19.8	18.2
Statement 15	47.4	24.7	27.9
Statement 17	57.3	19.8	22.9
II. Optimistic view on recognizing depression as a health condition			
Statement 5	55.1	15.3	29.7
Statement 9	18.0	9.9	72.1
Statement 12	58.2	16.0	25.8
Statement 13	16.2	11.9	71.9
Statement 20	15.5	14.8	69.7
Statement 21	13.5	9.9	76.6
III. Generalist perspective on integrating depression care into health practice			
Statement 10	91.7	3.4	4.9
Statement 14	90.3	4.0	5.6
Statement 16	95.3	2.2	2.5
Statement 19	73.9	16.2	9.9
Statements not included in the overall scale or subscales			
Statement 2	77.1	4.9	18.0
Statement 3	7.6	9.9	82.5
Statement 4	4.0	7.4	88.5
Statement 6	22.0	34.4	43.6
Statement 18	13.0	14.8	72.1
Statement 22	93.7	2.2	4.0

Note. PHC: Primary healthcare; R-DAQ: Revised-Depression Attitude Questionnaire.
*The statements of the original R-DAQ published by Haddad et al.[12] are available as Supplementary file.

90% agreed upon statements 10, 14, and 16.

Table 3 summarizes the mean scores of the overall scale and its subscales for the sample. The overall mean score was 3.56 (95% confidence interval [CI]: 3.52–3.60). Among the three subscales, the generalist perspective had the highest mean score (M = 4.16, 95% CI: 4.10–4.21), followed by the optimistic view (M = 3.41, 95% CI: 3.35–3.47) and professional confidence (M = 3.32, 95% CI: 3.26–3.38). All scores indicated a generally favorable attitude (> 3.00).

The data related to differences in mean scores for the overall R-DAQ scale and its subscales based on physicians' characteristics are listed in Table 4. Significantly higher mean scores on the overall R-DAQ scale were observed for physicians who reported previous MHT ($P < 0.001$) and those with less than 10 years of work experience ($P < 0.001$). For the R-DAQ subscales, physicians who reported previous MHT had higher mean scores in professional confidence ($P < 0.001$) and generalist perspective ($P = 0.039$). In the optimistic view subscale,

Table 3. Mean Scores of the Overall R-DAQ Scale and its Subscales for the Sample of PHC Physicians (N = 445)

R-DAQ Scale/Subscale	Mean ± Standard Deviation	(95% CI of the Mean)
Overall R-DAQ (excluding: 2, 3, 4, 6, 18, and 22)	3.56 ± 0.43	(3.52–3.60)
Professional confidence (Statements: 1, 7, 8, 11, 15, and 17)	3.32 ± 0.66	(3.26, 3.38)
Optimistic view (Statements: 5, 9, 12, 13, 20, and 21)	3.41 ± 0.62	(3.35, 3.47)
Generalist perspective (Statements: 10, 14, 16, and 19)	4.16 ± 0.55	(4.10, 4.21)

Note. PHC: Primary healthcare; R-DAQ: Revised-Depression Attitude Questionnaire; M: Mean; SD: Standard deviation; CI: % Confidence interval. For the Overall R-DAQ Scale Score including statements 2, 3, 4, 6, 18, and 22, M= 3.65 (95% CI: 3.61 - 3.68) and SD=0.38

significantly higher mean scores were found for physicians who reported previous MHT ($P = 0.019$), those with less than 10 years of work experience ($P < 0.001$), and female physicians ($P = 0.037$).

The differences in mean for the overall R-DAQ score and its subscales were adjusted using multiple linear regression (Table 5). Physicians who reported previous MHT demonstrated the most significant effects (unstandardized coefficients) on all scores. Concerning the overall R-DAQ scale, physicians who reported previous MHT scored, on average, 0.27 points higher than their counterparts (B = 0.27, 95% CI: 0.19–0.36). The model accounted for approximately 13% of the variance in overall score ($R^2 = 0.13$). The mean score difference between physicians who reported previous MHT and their counterparts on the professional confidence subscale was 0.51, representing the most substantial effect (B = 0.51, 95% CI: 0.40–0.63). The model explained 18% of the variance in subscale scores ($R^2 = 0.18$). In the optimistic view subscale, physicians who reported previous MHT had an average score 0.15 points higher than those who did not (B = 0.15, 95% CI: 0.02–0.28). This model accounted for 7% of the variance ($R^2 = 0.07$). Finally, the mean score difference for the general perspective subscale was 0.12 points, favoring physicians who reported previous MHT (B = 0.12, 95% CI: 0.01–0.24). However, the model explained only 2% of the variance ($R^2 = 0.02$).

Among the 127 PHC physicians who reported previous MHT, 81 mentioned having undergone formal postgraduate MHT after graduating from medical school. Out of these 81 physicians, 57 considered their training adequate. Among this group, eleven stated that they still refer patients with depression to psychiatrists. The reasons for this referral included the unavailability of medications, patient preference, the presence of a psychiatry clinic in the same facility, and a lack of confidence in managing complicated cases.

Discussion

The attitude of PHC physicians toward depression is an indicator of the physicians' perception of mental health importance in general and a precondition to the successful integration of mental healthcare services into PHC

Table 4. Mean Scores of the Overall R-DAQ Scale and its Subscales Based on the Characteristics of PHC Physicians (N = 445)

Characteristics	Overall R-DAQ Mean Score			Professional Confidence Mean Score			Optimistic View Mean Score			Generalist Perspective Mean Score		
	M	SD	Sig.	M	SD	Sig.	M	SD	Sig.	M	SD	Sig.
Gender												
Male	3.55	0.42	0.595	3.36	0.66	0.226	3.34	0.63	0.037	4.15	0.53	0.759
Female	3.57	0.43		3.29	0.65		3.46	0.61		4.16	0.57	
Work duration												
≤10 years	3.66	0.42	<0.001	3.39	0.60	0.061	3.57	0.61	<0.001	4.20	0.52	0.135
>10 years	3.49	0.42		3.27	0.70		3.28	0.60		4.12	0.58	
Workplace												
Health center	3.59	0.43	0.105	3.36	0.67	0.105	3.42	0.64	0.501	4.17	0.56	0.339
PC or LH	3.52	0.41		3.25	0.63		3.38	0.59		4.12	0.53	
MH training												
Not trained	3.48	0.40	<0.001	3.18	0.64	<0.001	3.36	0.59	0.019	4.12	0.53	0.039
Trained	3.76	0.42		3.69	0.56		3.52	0.67		4.24	0.59	

Note. PHC: Primary healthcare; M: Mean; SD: Standard deviation; Sig.: Level of significance; R-DAQ: Revised-Depression Attitude Questionnaire; PC: Polyclinic; LH: Local hospital; MH: Mental health.

Table 5. Linear Regression of PHC physicians' Characteristics on the Mean of the Overall R-DAQ Score and its Subscale (N = 445)

	Unstandardized Coefficient		Standardized Coefficient	t	Sig.	R^2	Adjusted R^2
	B	95% CI of B	Beta				
Overall R-DAQ mean scale score							
Constant	3.62	[3.53, 3.70]		84.26	<0.001		
Gender [a]	- 0.03	[- 0.10, 0.05]	- 0.03	- 0.70	0.487		
Work duration [b]	- 0.18	[- 0.25, - 0.10]	- 0.21	- 4.60	<0.001	0.13	0.12
Workplace [c]	- 0.05	[- 0.13, 0.03]	- 0.06	- 1.24	0.217		
MH training [d]	0.27	[0.19, 0.36]	0.28	6.25	<0.001		
Professional confidence mean subscale score							
Constant	3.38	[3.26, 3.51]		54.55	<0.001		
Gender [a]	- 0.16	[- 0.27, - 0.05]	- 0.12	- 2.80	0.005		
Work duration [b]	- 0.15	[- 0.26, - 0.04]	- 0.12	- 2.66	0.008	0.18	0.18
Workplace [c]	- 0.10	[- 0.22, 0.02]	- 0.07	- 1.69	0.093		
MH training [d]	0.51	[0.40, 0.63]	0.38	8.78	<0.001		
Optimistic view mean subscale score							
Constant	3.50	[3.37, 3.63]		52.41	<0.001		
Gender [a]	0.05	[- 0.07, 0.17]	0.04	0.86	0.391		
Work duration [b]	- 0.28	[- 0.40, - 0.17]	- 0.23	- 4.91	<0.001	0.07	0.06
Workplace [c]	- 0.03	[- 0.14, 0.09]	- 0.02	- 0.42	0.672		
MH training [d]	0.15	[0.02, 0.28]	0.10	2.26	0.025		
General perspective mean subscale score							
Constant	4.19	[4.07, 4.30]		70.27	<0.001		
Gender [a]	- 0.01	[- 0.12, 0.09]	- 0.10	- 0.21	0.834		
Work duration [b]	- 0.08	[- 0.19, 0.02]	- 0.08	- 1.58	0.114	0.02	0.01
Workplace [c]	- 0.04	[- 0.15, 0.07]	- 0.04	- 0.78	0.436		
MH training [d]	0.12	[0.01, 0.24]	0.10	2.07	0.039		

Note. PHC: Primary healthcare; R-DAQ: Revised-Depression Attitude Questionnaire; Sig.: Level of significance; CI: Confidence interval; MH: Mental health.
a. Males compared to Females (Reference Category). b. Duration > 10 years compared to Duration ≤ 10 years (Reference Category). c. Polyclinic and Local Hospital compared to Health Center (Reference Category). d. Previous Training in Mental Health compared to No Previous Training in Mental Health (Reference Category).

facilities. In our study, the percentage of PHC physicians who showed positive attitudes toward depression exceeded 60% for most of the R-DAQ statements. Additionally, PHC physicians who reported receiving previous MHT had higher R-DAQ scores.

For the subscale assessing the physicians' confidence in providing care for depressed patients, the response percentages to individual statements were promising, even surpassing those reported by Haddad et al in Pakistan,[16] Aldahmashi et al in Saudi Arabia,[17] Camacho-Leon et al in Argentina, Chile, and Venezuela,[19] and Xie et al in China.[19]

The optimistic and pessimistic views on recognizing depression as a health condition revealed that the majority had an optimistic view. However, slightly above 50% attributed depression to a lack of self-discipline and willpower, and about 60% regarded depression as a way people with poor stamina deal with life difficulties. These percentages of pessimism are higher than those reported in Saudi Arabia[13] or Argentina, Chile, and Venezuela.[14] Nevertheless, our sample was more optimistic than those from Pakistan or China.[16, 19]

Regarding the generalist perspective on integrating depression care into health practice, more than 90% of respondents had positive attitudes toward recognizing and providing care for patients with depression. Although just above 70% agreed that it is rewarding to spend time looking after depressed patients, it is considered encouraging, as the percentage of those who disagreed was less than 10%. Compared with other studies, our percentages were higher than those reported in different countries.[16-19]

Variability of Attitudes Across Places, People, and Time

Although the percentages of our PHC physicians who showed positive attitudes toward depression were higher than those reported by most previous studies, this does not imply superiority, as attitudes can vary across places, people, and time. In other words, different samples of physicians may have different attitudes concurrently due to variations in culture or specialties. Likewise, attitudes within the same sample of physicians may change over time as they encounter new experiences. It is noteworthy that this crucial argument is supported by the findings from Haddad et al.[30]

Training as One of the Key Factors Influencing Physicians' Attitudes and the Functional Integration of Mental Health Services Into PHC

Several studies have shown that training programs can modify physicians' attitudes.[31-33] Our study revealed a significant difference in mean scores between PHC physicians who reported receiving previous MHT and their counterparts, highlighting the effect of learning experiences on attitudes. However, a change in attitudes does not necessarily translate into a change in behaviors.

The theory of planned behavior postulates that individuals form intentions based on their evaluation of behavior, social pressures, and perceived capability to perform that behavior.[34,35] Thus, for depression care to be integrated into PHC, healthcare workers must develop positive attitudes toward integration, recognize the social need for addressing depression as a health condition, and feel competent in providing care to patients with depression.[26] Training may positively influence all these dimensions. Nevertheless, based on our findings, it can be argued that training alone cannot change physicians' behavior; some PHC physicians who reported receiving previous MHT still refer patients to psychiatrists. This may be explained by the fact that the functional integration of mental health into PHC requires other measures apart from training. These include the availability of national guidelines for integrating mental health services into PHC, as well as the provision of psychiatric medications and psychological interventions in PHC facilities.[36]

Hypothetical Link Between Physicians' Attitudes and Sustainable Development

At the time of the study, the national guideline for managing mental disorders in PHC was in its third edition.[23] Additionally, a fair number of PHC physicians had received MHT, and an expanded list of psychiatric medications had been approved in selected PHC facilities. Nevertheless, there remains potential for enhancement. Increasing the number of trained PHC physicians and expanding the availability of psychiatric medications in these facilities is likely to improve physicians' perspectives, optimism, and confidence in providing depression care. This, in turn, will enhance the integration of depression care into PHC. Implementing such a strategy (Figure 1) should improve the accessibility and coverage of mental health services, which is crucial for optimizing patient outcomes, promoting community well-being, and directly contributing to achieving sustainable development goals.[37]

Limitations of the Study

Several limitations were encountered and addressed in our study. First, this study used an online questionnaire known for its low response rate. Nonetheless, this method was preferred for several reasons, including minimizing the social desirability response and maximizing the facility coverage.[38] Second, the convenience sampling method was used in this study, which is known to introduce selection bias and potentially limit the sample's representativeness. Although several measures were taken to mitigate these problems, we acknowledge that generalization beyond the study sample should be avoided.[39] Third, the mean scores of our sample were not compared with those of previous studies, as the replicability of exploratory factor analysis did not meet the lowest threshold.[26] Fourth, it would be expected that a higher percentage of physicians received MHT than reported. However, the perception of being trained may vary based on factors such as training quality, duration, and the time elapsed since completion. Considering that our data were collected by

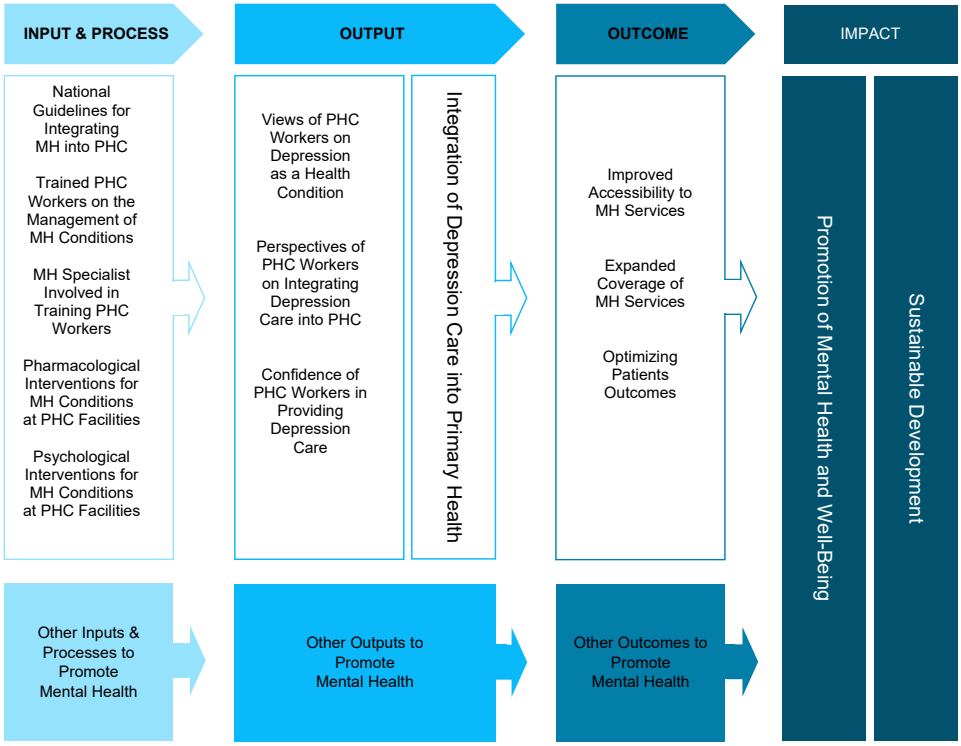

Figure 1. Physicians' Attitudes and the Functional Integration of Depression Care Into Primary Healthcare: A Hypothetical Link to Sustainable Development. Development relies on promoting community mental health and well-being through improved access and expanded coverage of mental health services. These outcomes can be attained by integrating depression care and other mental health services into PHC, which hinges on three key dimensions of PHC workers' attitudes toward depression and mental health conditions. Strengthening these dimensions requires implementing five criteria for the functional integration of mental health into PHC; they include the availability of national guidelines, training PHC workers, involvement of mental health specialists in training, and the provision of pharmacological and psychological interventions in PHC facilities.

a self-administered online questionnaire with anonymous responses, reported percentages and subsequent analyses in our study were based on the assumption that responses reflect reality.

Conclusion

The PHC physicians in Oman revealed favorable attitudes toward depression. Nonetheless, there is still an opportunity for improvement. MHT was found to be an independent factor in increasing the mean of the overall R-DAQ scale and subscale scores. Nevertheless, complementary measures are required to suffice the functional integration of mental health services into PHC, thereby reducing stigma related to mental illness and enhancing the accessibility and quality of mental healthcare services.

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Authors' Contribution

Conceptualization: All authors.
Data curation: Ali Gharbal.
Formal analysis: Ali Gharbal.
Investigation: Muzna Al-Balushi, Azza Al-Hinai.
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Supervision: Najla Al-Lawati, Shadha Al-Raisi.
Validation: Ali Gharbal.
Visualization: Ali Gharbal.
Writing–original draft : Muzna Al-Balushi, Ali Gharbal.
Writing–review & editing: All authors.

Competing Interests

The authors declare that there is no conflict of interests.

Ethical Approval

This study was approved by the Health Studies and Research Approval Committee of Oman's Ministry of Health (MoH/CSR/22/25699) on June 30, 2022.

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Supplementary Files

Supplementary file contains Table S1-S3

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