ORIGINAL RESEARCH ARTICLE

Knowledge and attitudes of primary care nurses towards geriatric depression in Jazan Region, Saudi Arabia

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Abstract

Depression is a global health concern, particularly in the geriatric population. The increasing number of hospital admissions among older individuals highlights the need for healthcare professionals, particularly nurses, to understand and treat geriatric depression. Nurses play a crucial role in caring for older adults with depressive symptoms or depression. This study aimed to assess knowledge and attitudes regarding geriatric depression among primary care nurses in Jazan Region, Saudi Arabia. A cross-sectional study was conducted among 210 primary healthcare nurses in Jazan City using a validated self-administered questionnaire. Knowledge scores were measured and compared among selected demographic variables as well as attitudes toward geriatric depression. Data obtained were analyzed using the Statistical Package for the Social Sciences, version. 20.0. Chi-square test, fisher's exact test were used for comparison of variables with categorical data. Most primary care nurses were interested in caring for older patients with depression; however, they never attended training courses focused on geriatric depression. Where the study indicated that 38.1% of participants have poor knowledge about geriatric depression while 25.2% have good knowledge. Where the majority had a high understanding of the potential side effects of antidepressant medications, while they had limited knowledge about symptoms, diagnosis, and medications, the majority of participants demonstrated a positive attitude regarding feeling comfortable dealing with depressed patients' needs (56.7%) and considered their profession as a well-placed to assist patients (83.3%) However, 15.2% had a negative attitude citing a lack of self-discipline and willpower. *(Afr J Reprod Health 2024; 28 [4]: 78-89).*

Keywords: Primary care, nurses, geriatric depression, knowledge, attitudes, Saudi Arabia. Jazan

Résumé

La dépression est un problème de santé mondial, en particulier dans la population gériatrique. Le nombre croissant d'hospitalisations chez les personnes âgées met en évidence la nécessité pour les professionnels de santé, en particulier les infirmières, de comprendre et de traiter la dépression gériatrique. Les infirmières jouent un rôle crucial dans la prise en charge des personnes âgées présentant des symptômes dépressifs ou une dépression. Cette étude visait à évaluer les connaissances et les attitudes concernant la dépression gériatrique parmi les infirmières de soins primaires de la région de Jazan, en Arabie Saoudite. Une étude transversale a été menée auprès de 210 infirmières de soins primaires de la ville de Jazan à l'aide d'un questionnaire auto-administré validé. Les scores de connaissances ont été mesurés et comparés parmi certaines variables démographiques ainsi que les attitudes à l'égard de la dépression gériatrique. Les données obtenues ont été analysées à l'aide du progiciel statistique pour les sciences sociales, version. 20,0. Le test du Chi carré et le test exact de Fisher ont été utilisés pour comparer les variables avec les données catégorielles. La plupart des infirmières de soins primaires souhaitaient soigner des patients âgés souffrant de dépression ; cependant, ils n'ont jamais suivi de formation axée sur la dépression gériatrique. L'étude indique que 38,1 % des participants ont de mauvaises connaissances sur la dépression gériatrique tandis que 25,2 % ont de bonnes connaissances. Alors que la majorité des participants avaient une bonne compréhension des effets secondaires potentiels des médicaments antidépresseurs, alors qu'ils avaient une connaissance limitée des symptômes, du diagnostic et des médicaments, la majorité des participants ont démontré une attitude positive et se sentaient à l'aise pour répondre aux besoins des patients déprimés (56,7 %). et considéraient leur profession comme bien placée pour assister les

patients (83,3 %). Toutefois, 15,2 % avaient une attitude négative citant un manque d'autodiscipline et de volonté. *(Afr J Reprod Health 2024; 28 [4]: 78-89).*

Mots-clés: Mots-clés : Soins primaires, infirmières, dépression gériatrique, connaissances, attitudes, Arabie Saoudite. Jizan

Introduction

The prevalence of geriatric depression is considerably high worldwide, with rates of 42.4% in the Eastern Province of Saudi Arabia and 42% among hospitalized patients aged 65 and above. The increasing number of hospital admissions among older individuals emphasizes the growing demand for nurses as healthcare professionals to possess a broad understanding of geriatric depression[1,2].

Recently, the Saudi National Mental Health Survey revealed major depressive disorder as the third most common mental health condition in Saudi Arabia, with 3% of males and 9% of females diagnosed. The survey excluded Jazan and Najran regions due to armed conflict on the southern border and excluded individuals over 65 years[3,4]. Furthermore, no prior studies evaluating depression in the elderly have been conducted in the Jazan region.

Also, studies have revealed that nurses' knowledge about late-life depression is limited[5]. Furthermore, LTCF nurses also displayed poor knowledge about late-life depression[6].It is evident that there is a pressing need to improve nurses' knowledge level regarding late-life depression through targeted interventions and training programs[5]. The impact of nurses' attitudes towards depression on their elder care is evident. Therefore, it is crucial to improve nurses' knowledge and attitudes towards depression for the purpose of ensuring quality care for older adults addressing gaps in nursing education and promoting positive attitudes towards older adults will help future healthcare providers acquire the necessary skills that enable the provision of care for this vulnerable population, ultimately improving their overall well-being[7,8].

In a Saudi study, 42 elderly patients 75 years of age or over had a considerably greater incidence of depression. The study was conducted to evaluate the prevalence of elderly depression and the impact of various socio-demographic and medical factors in primary healthcare centers.

Study displays that nurses play a critical role in the care of older adults with depressive symptoms or depression[9]. Consequently, it is crucial for nurses to possess accurate knowledge, positive attitudes, and confidence in caring for older individuals with depressive symptoms or depression. Thereforethe study aimed to assess knowledge and attitudes regarding geriatric depression among primary care nurses in Jazan Region, Saudi Arabia. Additionally, the study investigated the factors that influence nurses' attitudes toward geriatric depression, including their perception of the importance of addressing this issue and other barriers they face in providing optimal care for elderly patients with depression.

Methods

Research setting and study sample

The study was a cross-sectional design, and data was collected through the use of a self-report questionnaire. The study was conducted among healthcare nurses in primary healthcare centers (Central PHCCs, Northern PHCCs, Southern PHCCs) in Jazan City, Saudi Arabia "from January 2023 to November 2023". The sample size required for this study is based on data from the literature12 to calculate the sample size with a precision/absolute error of 5% and type 1 error of 5%, Sample size is calculated according to the following formula.

Based on data from literature[10], to calculate the sample size with precision/absolute error of 5% and type 1 error of 5%, Sample size is calculated according to the following formula,

$$n= \frac{(Z1-\alpha/2)\text{^}2.P(1-P)}{d\text{^}2}$$

where, $Z_{1-\alpha/2}$ at 5% type 1 error ($p<0.05$) is 1.96, P is the expected proportion in population based on previous studies and d is the absolute error or precision. Therefore, sample size

$$n= \frac{(1.96)\text{^}2.(0.30)(1-0.30)}{(0.062)\text{^}2} =209.9.$$

Based on the formula, the total sample size required for the study is 210. And they are all primary care nurses who expressed interest in participating in the study.

Study instruments

The researcher constructed a structured self-administered questionnaire for all the nurses

working in the primary health care centers. After an extensive literature review, it was written in simple Arabic language. It includes the following three parts:

First part: Socio-demographic data of the participant (i.e., age, gender, educational level, andlevel of interest).

Second part: General knowledge statements about geriatric depression: The correct response was assigned a score of (1) while an incorrect response was assigned a score of (0). Each participant's summation of knowledge scores was calculated (a minimum of 0 and a maximum of 15). The knowledge of those with total percentage scores less than 60% was graded as "unsatisfactory" and those who had 60% or more were considered to have "satisfactory" knowledge.

Third part: Revised Depression Attitude Questionnaire (R-DAQ). The 22-item Chinese version of the R-DAQ[11]was used in the current study. The R-DAQ was modified **by HADDAD et al[12] Botega N**, **et al[13]** from the Depression Attitude Questionnaire. This scale uses a 5-point Likert scale ranging from strongly agree (5) to strongly disagree (1) to measure participants' attitudes toward depression. Some negatively worded items were recorded in reverse. A higher score (which ranges 22-110) represents more favorable attitudes about depression. The coefficient alpha of the R-DAQ was 0.84[12]**.**

Validity:

The tool was distributed among experts (three in community health nursing, and two in psychiatric nursing). According to experts' views, the researchers made all the modifications suggested.

Reliability:

The reliability of the modified scale was done using the internal consistency method. The reliability proved to be high with Cronbach alpha coefficient = 0.873for knowledge and 0.925 for practices.

Pilot study:

A pilot study was performed on 10 % of studied sample, males and females, to evaluate the content of the tools. A pilot study was used to assure clarity of questions, to remove any ambiguity, also helped to estimate the time required for application of the tools and to build up the program. Those who shared in the pilot study were included from the main study sample because no changes done on the tools.

Ethical issues

Ethical approval was obtained from the Standing Committee for Scientific Research – Jazan University **No:** REC-44/10/662 and approval from Jazan Health Ethics Committee No 2366

The objectives and benefits of the study were explained to the participants in the verbal and written form attached to the questionnaires. Participants' confidentiality and anonymity were assured. Signed consents were obtained from the participants. Participants could withdraw from the study at any time.

Data collection procedures

The study involved researchers reaching out to PHC centers via telephone to seek their approval. Then the researchers conducted a nursing staff meeting where they presented the research objective, criteria for inclusion, methods of data collection, and the potential risks and benefits of the study to the nurses.

This information was also provided on the initial page of the questionnaire. Nurses who expressed interest in participating were able to collect a questionnaire and, upon completion, return it to an envelope situated at the nursing station. Returning the questionnaires served as an indication of the nurses' consent to take part in the study.

Afterward, the collected data underwent a coding process and was subsequently entered into a personal computer. Data collection took place between June and September of 2023.

Data analysis

Analysis was performed using Statistical Package for Social Sciences (SPSS®) version 20.0 (SPSS, Chicago, IL). Continuous data were normally distributed and were expressed in mean ± standard deviation (SD). Definite data were articulated in numbers and percentages. The chi-square test (or Fisher's exact test when related) was used for comparison of variables with definite data. The reliability (internal consistency) test for the questionnaires used in the study was calculated. Statistical significance was set at $p<0.05$.

Results

Table 1 shows that the majority of participants (94.8%) were females. More than half (53.3%)

Table1: Socio-demographic characteristics of the participants (n=210)

Characteristic	No	%
Age (Years)		
20 – 29	52	24.8
30 – 39	112	53.3
40 – 49	31	14.8
50 or More	15	7.1
Gender		
Male	11	5.2
Female	199	94.8
Educational Level		
Diploma	114	54.3
Bachelor or Higher	96	45.7
Level of interest in providing care for older patients with depression		
I don't like to	6	2.9
Neutral	38	18.1
I like to	166	79.0
In the current year, having had training courses on geriatric depression		
Yes	29	13.8
No	181	86.2

belonged to the age group 30–39 years and more than half had a diploma degree (54.3%). Most of them (79.0) were interested in providing care for older patients with depression, and most (86.2%) had never attended training courses on geriatric depression.

Table 2 details the respondents' knowledge of depression, most of the respondents showed a low knowledge level (49.5%)(58.6%)(57.6%) regarding symptoms, diagnosis, and medications of depression consecutively, moderate knowledge level regarding risk factors for depression in older adults (70.5%) and barriers to providing effective care for depression in older adults (66.2%) while the majority of respondents (80%)(80.5%)(82.4) (89%)had high knowledge level related to potential side effects of antidepressant medications in older adults, addressing social isolation and loneliness in older adults with depression, screening method for older adults for depression and Involving family members or caregivers in the care of older adults with depression consecutively.

Figure 1 shows that more than one-third of participants (36.7%) were attending conferences and continued education courses, (35.2%) of them were discussing cases with colleges and (28.1%) were reading professional journals or publications, and only (28.1%) were reading professional journals or publications.

Figure 2 shows that more than half of the respondents (53.3%) were encountering challenges in managing depression in older adults while less than one-third of them (29.1%) were not.

Figure 3 shows that 38.1% of PHC nurses had poor knowledge regarding geriatric depression, while 36.7% had average knowledge and only 25.2% had good knowledge.

Table 3 shows primary healthcare nurses' knowledge grades regarding geriatric depression. Nurses with an educational level bachelor's or higher degree had a significantly higher percentage of good knowledge grades than those with a diploma educational level (69.8% and 30.2% p <0.001**). Nurses who had training courses on geriatric depression had good knowledge significantly more frequently than nurses who had poor knowledge (35. 8%, 2.5% p= <0.001**). However, a knowledge grade about geriatric depression there was not significant to their age, gender, or level of interest in providing care for older with depression.

Table 4 the study found that participants had a positive attitude towards dealing with depressed patients, with 56.7% feeling comfortable with their needs. They believed depression is a disease like any other, and health professionals should have skills in recognizing and managing it (90%). They also believed that recognizing and managing depression is important for managing other health problems. However, 15.2% of participants had a negative attitude towards working with depressed patients, with 17.6% citing lack of self-discipline and willpower as the main cause of depression. Additionally, 26.2% of respondents believed that antidepressant therapy was unsuccessful for depressed individuals. The study also revealed that depression treatments medicalize unhappiness (26.2%), and it is a response that is not changeable.

Table 5 shows primary healthcare nurses' attitudes regarding geriatric depression. Nurses with bachelor's or higher degrees had a significant percentage than those who a diploma degree (57.3% and 42.7%, p= 0.004*), with a higher percentage of positive attitudes among those who are interested in providing care for older patients with depression than those who did not like (91.0%, 0.0%, p= <0.001**). Those who have taken training courses on geriatric depression also have a higher percentage of positive attitudes 27.0% versus 4.1%, p = <0.001**).

Table 2: Distribution of the nursing knowledge regarding geriatric depression (n=210)

Knowledge Statements	Correct		Incorrect	
	N	%	N	%
Symptoms for depression	104	49.5	106	50.5
Types of depression	159	75.7	51	24.3
Risk factors for depression in older adults	148	70.5	62	29.5
Diagnosing Depression in the elderly	123	58.6	87	41.4
Medications used to treat depression in the elderly	121	57.6	89	42.4
Potential side effects of antidepressant medications in older adults	168	80.0	42	20.0
Addressing social isolation and loneliness in older adults with depression	169	80.5	41	19.5
Barriers to providing effective care for depression in older adults	139	66.2	71	33.8
Screening method for older adults for depression	173	82.4	37	17.6
Involving family members or caregivers in the care of older adults with depression	187	89.0	23	11.0

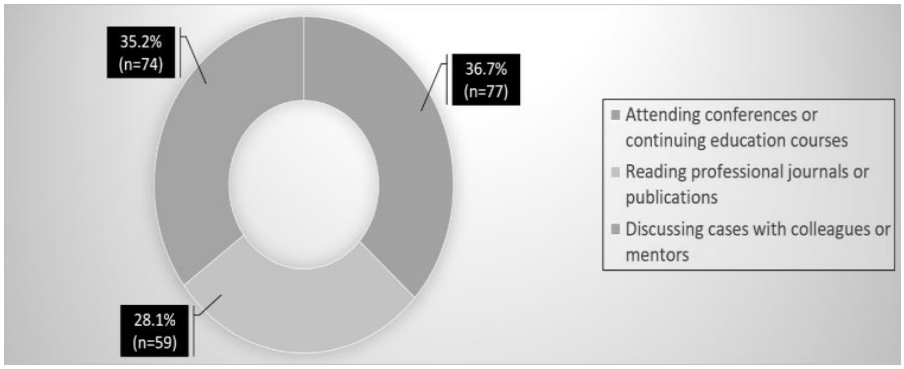


Figure 1: Staying up-to-date on best practices for managing depression in older adults

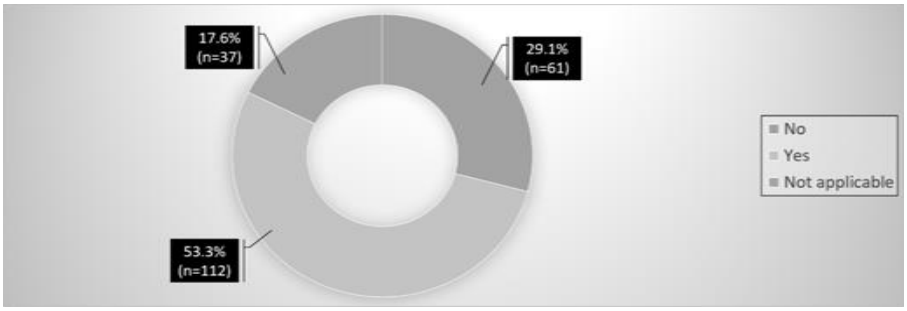


Figure 2: Encountering challenges in managing depression in older adults

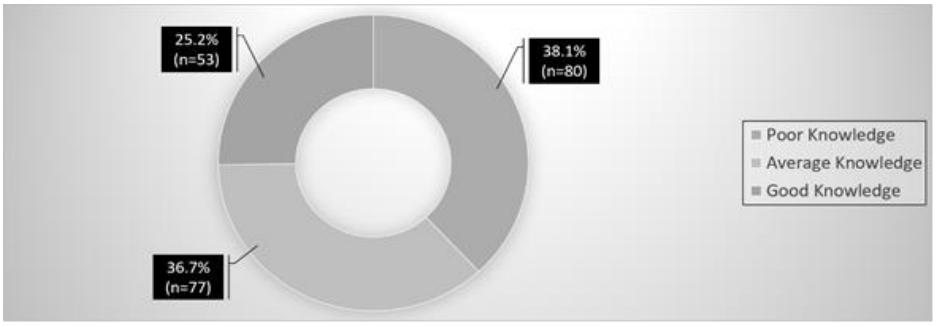


Figure 3: Total nurse knowledge level

Table 3: Association between the socio demographic characteristics and total knowledge level

Personal characteristics	Poor Knowledge (n=80)		Average Knowledge (n=77)		Good Knowledge (n=53)		Chi – Square test / Fisher's exact test	
	n	%	N	%	N	%	X^2	P
Age (Years)								
20 – 29	22	27.5	21	27.3	9	17.0		
30 – 39	39	48.8	43	55.8	30	56.6		
40 – 49	12	15.0	10	13.0	9	17.0		
50 or More	7	8.8	3	3.9	5	9.4	4.406	0.622
Gender								
Male	4	5.0	5	6.5	2	3.8		
Female	76	95.0	72	93.5	51	96.2	0.483	0.786
Educational Level								
Diploma	61	76.3	37	48.1	16	30.2		
Bachelor or Higher	19	23.8	40	51.9	37	69.8	29.159	<0.001**
Level of interest in providing care for older patients with depression								
I don't like to	3	3.8	1	1.3	2	3.8		
Neutral	11	13.8	12	15.6	15	28.3		
I like to	66	82.5	64	83.1	36	67.9	6.299	0.178
In the current year, having had training courses on geriatric depression								
Yes	2	2.5	8	10.4	19	35.8		
No	78	97.5	69	89.6	34	64.2	30.983	<0.001**

P <0.05=* P<0.01=** P<0.001=***

Table 4: Distribution of the Revised Depression Attitude Questionnaire (R-DAQ) (n=210)

Attitude Statements	Negative Attitude		Neutral Attitude		Positive Attitude	
	N	%	N	%	N	%
I feel comfortable in dealing with depressed patients' needs	22	10.5	69	32.9	119	56.7
Depression is a disease like any other (e.g., asthma, diabetes)	39	18.6	13	6.2	158	75.2
Psychological therapy tends to be unsuccessful with people who are depressed	96	45.7	59	28.1	55	26.2
Antidepressant therapy tends to be unsuccessful with people who are depressed	75	35.7	79	37.6	56	26.7
One of the main causes of depression is a lack of self-discipline and will-power	127	60.5	46	21.9	37	17.6
Depression treatments medicalize unhappiness	69	32.9	80	38.1	61	29.0
I feel confident in assessing depression in patients	53	25.2	45	21.4	112	53.3
I am more comfortable working with physical illness than with mental illnesses like depression	135	64.3	43	20.5	32	15.2
Becoming depressed is a natural part of being old	49	23.3	58	27.6	103	49.0
All health professionals should have skills in recognizing and managing depression	8	3.8	13	6.2	189	90.0
My profession is well placed to assist patients	10	4.8	25	11.9	175	83.3
Becoming depressed is a way that people with poor stamina deal with life difficulties	140	66.7	50	23.8	20	9.5
Once a person has made up their mind about taking their own life no one can stop them	24	11.4	40	19.0	146	69.5
People with depression have care needs similar to other medical conditions	30	14.3	4	1.9	176	83.8
My profession is well trained to assist patients with depression	79	37.6	72	34.3	59	28.1
Recognizing and managing depression is often an important part of managing other health problems	6	2.9	38	18.1	166	79.0

I feel confident in assessing suicide risk in patients presenting with depression with depression	71	33.8	60	28.6	79	37.6
Depression reflects a response which is not amenable to change	61	29.0	79	37.6	70	33.3
It is rewarding to spend time looking after depressed patients	22	10.5	29	13.8	159	75.7
Becoming depressed is a natural part of adolescence	53	25.2	43	20.5	114	54.3
There is little to be offered to depressed patients who do not respond to initial treatments	108	51.4	34	16.2	68	32.4
Anyone can suffer from depression.	22	10.5	34	16.2	154	73.3

Table 5: Association between the socio demographic characteristics and total depression attitude questionnaire level

Personal characteristics	Negative view (n=121)		Positive view (n=89)		Chi – Square test / Fisher's exact test	
	n	%	n	%	X^2	P
Age (Years)						
20 – 29	25	20.7	27	30.3		
30 – 39	73	60.3	39	43.8		
40 – 49	17	14.0	14	15.7		
50 or More	6	5.0	9	10.1	6.565	0.087
Gender						
Male	6	5.0	5	5.6		
Female	115	95.0	84	94.4	0.045	0.832
Educational Level						
Diploma	76	62.8	38	42.7		
Bachelor or Higher	45	37.2	51	57.3	8.360	0.004*
Level of interest in providing care for older patients with depression						
I don't like to	6	5.0	0	0.0		
Neutral	30	24.8	8	9.0		
I like to	85	70.2	81	91.0	14.289	<0.001**
In the current year, having had training courses on geriatric depression						
Yes	5	4.1	24	27.0		
No	116	95.9	65	73.0	22.464	<0.001**

Table 6: Linear regression analysis for socio-demographic factors predicting the total knowledge score

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	10.266	1.588		6.467	<0.001**
Age (Years)	0.054	0.171	0.025	.315	0.753
Gender	0.239	0.580	0.029	.412	0.681
Educational Level	0.637	0.402	0.248	2.335	0.038*
Level of interest in providing care for older patients with depression	0.231	0.262	0.062	.885	0.377
In the current year, having had training courses on geriatric depression	0.634	0.382	0.121	1.663	0.098

However, these attitudes are not significantly influenced by age or gender. Overall, nurses' attitudes towards geriatric depression remain largely unchanged. Table 6 revealed that the linear regression analysis for socio-demographic factors predicted the total knowledge score. The nurses' knowledge of depression was associated significantly with their educational Level (B = 0.637, p 0.038*).

Table 7: Linear regression analysis for socio-demographic factors predicting the depression attitude score

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	7.843	1.192	0.368	6.581	<0.001**
Age (Years)	0.232	0.573	0.024	0.405	0.686
Gender	0.651	1.009	0.037	0.645	0.520
Educational Level	2.962	.580	0.310	5.104	<0.001**
Level of interest in providing care for older patients with depression	4.420	.539	0.454	8.196	<0.001**
In the current year, having had training courses on geriatric depression	2.571	.802	0.187	3.204	0.002*

Table 8: Association between the knowledge and total Depression Attitude Questionnaire level

Knowledge Level	Negative view (n=121)		Positive view (n=89)		Chi – Square test / Fisher's exact test	
	n	%	n	%	X^2	P
Poor Knowledge	67	55.4	13	14.6		
Average Knowledge	42	34.7	35	39.3		
Good Knowledge	12	9.9	41	46.1	49.221	<0.001**

Table 7 revealed that the linear regression analysis for socio-demographic factors predicted depression attitude. The nurses' attitudes toward depression were associated significantly with their educational Level (B = 2.962, p <0.001**), Level of interest level in providing care for older patients with depression (B = 4.420, p <0.001**), also with who had training courses on geriatric depression in the current year, (B = 2.571, p= 0.002*).

Table 8 shows that highly significant association between knowledge and total depression attitude level. 55.4% of the participants with negative views had poor knowledge and only 9.9% had good knowledge. On the other hand, 14.6% of the participants with positive views had poor knowledge and 46.1% had good knowledge (X2= 49.221, p <0.001**).

Discussion

The results of the current study indicate that a majority (79%) of PHC nurses in the Jazan Region expressed interest in caring for older patients with depression. This is an encouraging result, given that depression is a problem among the elderly, especially since aging trends around the world predict that mental health problems for the elderly, such as depression, will rise significantly in the coming decades[14]. A US study found that 11.5% of over 2,000 patients over 65 had been diagnosed with clinically significant depression in the past year. Proper management of depression in old age is crucial[15]. Ji and Li also stressed that geriatric depression is among the most common problems faced by the elderly. It represents the second-highest social burden after ischemic heart disease. Given the prevalence of depression in old age, proper management of depression in this population is crucial[16].

Although depression among the elderly is becoming increasingly important, the findings of the current study revealed that 86.2% of PHC nurses had never attended geriatric depression training courses, indicating a lack of knowledge and experience in treating older adults. The study also found that attending training courses and workshops significantly improved knowledge about geriatric depression. This is consistent with the findings of a study conducted by Lee and Tseng in northern Taiwan, which showed that around 75% of PHC nurses had not taken any training courses focused on geriatric depression[5]. This may explain why PHC nurses have limited knowledge and experience in treating depression in older adults.

Furthermore, the Creighton study showed that 50% or more of nurses had a low level of knowledge about symptoms, diagnoses, and medications related to depression[17]. This is

consistent with previous research showing that over half of healthcare professionals have a low level of knowledge in identifying symptoms of depression in the elderly[18]. Another study found that 60% nurses had insufficient knowledge to manage patients with depression.[19] However, other studies indicated that nurse practitioners in a primary care setting [20] and advanced practice nursing students[21] had better scores on knowledge about late-life depression.

Despite the results of the Shanghai study, which aimed to evaluate nurses' knowledge in long-term care facilities about depression in late life, the percentage of knowledge in the Late Life Depression Questionnaire (LLDQ) increased slightly compared to previous studies[22]. However, the study conducted by Berman, J., showed that nurses with a higher educational level obtained higher scores on the knowledge test, which explains the importance of obtaining higher certificates and continuous training to increase the level of knowledge and raise the quality of nursing services[23].

The study reveals that 38.1% of primary care nurses have poor knowledge, while 25.2% have good knowledge. This is in line with a related study in Tumkur, Karnataka, which found that long-term care nurses had 55.92% correct answers[19]. This is also a relatively low percentage, although it is higher than the results of the current study, as is the case in the study conducted in Taiwan, which found that hospital nurses have limited knowledge about late-life depression, with a score of 55.15% on the late-life depression test[24].

The study found that 90% of PHC nurses have a positive attitude towards recognizing and managing depression, with a higher proportion of positive attitudes among those who deal with depression cases. This is consistent with previous literature, with 87% of nurses showing a positive attitude towards depression care[25]. PHC nurses expressed positive experiences and attitudes toward older adults, feeling comfortable dealing with depressed patients' needs (56.7%). They believed that depression is a disease like any other (75.2%), and all health professionals should have skills in recognizing and managing it (90%). People with depression have care needs similar to those of other medical conditions (83.8%). Recognizing and managing depression is often an important part of managing other health problems (79%). It is rewarding to spend time looking after depressed patients (75.7%). PHC nurses remained neutral about the statements that depression treatments medicalize unhappiness and that depression is a response that is not amenable to change.

Despite a majority of PHC nurses in the Jazan Region having a positive attitude toward recognizing and managing geriatric depression, their attitudes are suboptimal. Only 15.2% feel comfortable working with depressed patients, and lack of self-discipline and willpower is the main cause of depression. Antidepressant therapy often fails with depressed patients, indicating that geriatric depression is under-recognized and unmanaged. This is consistent with previous studies indicating that many elderly people with depression do not receive adequate treatment, necessitating a need to improve nursing services for this population[26]. Negative attitudes towards geriatric depression among primary care nurses have been identified in several studies[27]. The difference in attitude between nurses in some studies and the current study appears to be due to differences in the study population. Also Van Daele *et al*. found that nurses had no significant change in attitude following education. However, lack of change in attitude may be related to nurses' positive attitudes toward depression at baseline[28].

The study reveals that PHC nurses' knowledge and attitudes towards geriatric depression are significantly higher among those with a bachelor's or higher degree and those who have held training courses on the subject. This aligns with previous research by Almeida Tavares et al., who found that nurses with a bachelor's degree or higher had a higher percentage of positive attitudes towards geriatric depression[29]. Nurses who were interested in providing care for older patients with depression also had higher percentages of positive attitudes. However, there was no significant association between attitudes and age or gender. The study also highlights the role of educational qualifications and interest in caring for the elderly in shaping nurses' knowledge and attitudes towards depression[5,30].

The current study found no significant association between PHC nurses' age, gender, or interest in providing care for older people with depression and their knowledge or attitudes towards geriatric depression. In a similar vein, Rush *et al*. noted that age, gender, and level of interest in providing care to older patients with depression did not show significant associations with nurses' knowledge and attitudes toward geriatric depression[31]. However, it found that PHC nurses'

knowledge of depression was significantly associated with their educational level, attitude toward depression and interest in providing care for older patients with depression. This suggests that education has a stronger effect on attitudes as in the Swoboda's experiment[32]. Research indicates a positive correlation between nurses' knowledge and attitudes, despite their lack of understanding of depression, and the dependency of older adults with them[19,24,32].

In the current study over half of primary health care nurses with negative opinions have poor knowledge, while only 9.9% have good knowledge. Nearly half have good knowledge. Work experience improves clinical experience, and experienced nurses can influence less experienced nurses' attitudes by conveying their attitudes that is supported by Desi's study which found that experienced nurses were less fearful in clinical environments, and experienced nurses could influence less experienced nurses by conveying their attitudes[33]. Arani M. and Ross's studies indicate that nurses often have positive experiences and attitudes towards caring for older adults, but their knowledge and experiences do not predict a positive attitude towards elder care[34]. Finally this study underscores the significance of educational qualifications in enhancing nurses' understanding of geriatric depression, thereby enabling them to provide more effective care and support to older adults.

Limitations

To our knowledge, this is the first study to explore knowledge and attitudes regarding geriatric depression among PHC Nurses in Jazan region, KSA. Where the current study contains a small sample size which may cause a decrease in the power of the study. So our findings cannot be generalized to all PHC Nurses, it provides a snapshot of the Nurses who participated in this study but may not represent the larger population of PHC nurses. Therefore the study needs to be replicated with a larger, random sampling of advanced In different healthcare settings jazan city.

Conclusion

The study highlights the importance of educational qualifications in improving nurses' understanding of geriatric depression and demonstrates a positive attitude toward depressed patients, as most primary health care nurses felt comfortable dealing with depressed patients and considered their profession well-placed to assist depressed patients. The study recommends examining and evaluating in-service depression training geriatric depression in primary care settings, considering delivery methods and length of the training. It also recommends early research on interventions to enhance nurses' knowledge and attitudes towards geriatric depression and its impact in various settings. Additionally, encouraging older adults to engage in enjoyable activities like volunteering and hobbies can boost their sense of purpose, satisfaction, and fulfillment.

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Conflict of interest

The authors have no conflict of interest to declare.

Ethical approval

This study was reviewed and approved by the Standing Committee for Scientific Research - Jazan University (HAPO-10-Z-001) Reference No.: REC-44/10/662. Date of decision (Approval):19 May 2023.

Author’s contributions

EM and WB conceived and designed the study, conducted research, collected and organized the data, wrote the initial draft of the manuscript, conceptualized, conducted the literature review, reviewed the manuscript, and approved its final revision. DMand AK analyzed and interpreted the data. Wrote the final draft of the manuscript, EM and WB participated in project administration, designed methodology, reviewed the manuscript, and approved its final revision. All authors have critically reviewed and approved the final draft and are responsible for the content and similarity index of the manuscript.

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