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## Assessment of pharmacy staff Knowledge Towards prevention of osteoporosis in adolescent girls.

Maher A. Atiyah<sup>1</sup>, Mahfoudh F. Hsasn. <sup>2</sup>

<sup>1</sup>A.L. Department of adult nursing, College of Nursing, University of Basra

<sup>2</sup>Prof. Ph.D., Department of physiology, College of Nursing, University of Basra )

<sup>1</sup>Corresponding Author E-mail: [maheralmaliky.ma@gmail.com](mailto:maheralmaliky.ma@gmail.com)

<sup>2</sup>Corresponding supervisor E-mail: [Mahfoodh.Hassan@uobasrah.edu.iq](mailto:Mahfoodh.Hassan@uobasrah.edu.iq)

### ABSTRACT:

Osteoporosis is a metabolic skeletal disease, in which the bone becomes porous, brittle, and more susceptible to fractures. It is an increasingly important health problem as the elderly population expands rapidly worldwide. An epidemiological study estimated that 9–38% of women and 1–8% of men >50 years from industrialized countries suffered from osteoporosis.

The main aim of the study is to determine the Assessment of pharmacy staff Knowledge Towards prevention of osteoporosis in adolescent girls in Al Basra University

The study design is a descriptive, the study was carried out to Assessment of pharmacy staff Knowledge about prevention of osteoporosis in the pharmacy college Al-Basra university between march 20<sup>th</sup>, 2021 to July 22<sup>th</sup> 2021. The research sample includes (30) pharmacy staff. They are selected by using non-probability sampling (purposive sample) from pharmacy college. The study instrument was constructed depending on literature reviews and previous studies related to the osteoporosis. It is a questionnaire format for the research purpose and composed of two parts . This part consists of (5) items which include: (age, gender, marital status, level of education and years of experience). This part is related to the assessment of the knowledge of pharmacy employment. It is consisted of (26) items. The instrument validity was done by panel of experts and content validity was obtained. Furthermore, the questionnaire items were changed according to the notes and recommendations of experts and the reliability of the instrument was determined through the Person correlation coefficient method.

The study findings indicate that there are the level of knowledge was medium in overall II main domains regarding prevention of osteoporosis in adolescent girls.

The study concluded that the assessment of question answers was mostly medium(73%), (27%) was weak and no one good level and a relationship there is no significant statistical relationship between the demography's relationships with knowledge of osteoporosis regarding all domains of demographic data when analyzed by independent t-test and ANOVA test

The researcher recommends Encourage the newly diagnosed person to learn more about their condition and provide correct information through the media. Encourage pharmacy staff in hospitals or others to participate in teaching patients, providing and maintaining necessary information

**KEYWORDS:** assessment, pharmacy staff, Knowledge, Prevention, osteoporosis, adolescent girls.

### INTRODUCTION:

Osteoporosis is a metabolic skeletal disease, in which the bone becomes porous, brittle, and more susceptible to fractures. It is an increasingly important health problem as the elderly population expands rapidly worldwide. An epidemiological study estimated that 9–38% of women and 1–8% of men >50 years from industrialized countries suffered from osteoporosis.<sup>(1)</sup> Osteoporosis is preventable by optimizing peak bone mass during skeletal growth, preserving bone mass during adulthood, and minimizing bone loss during old age. The skeletal system undergoes rapid development between early childhood and late adolescence. The greatest accrual of bone mineral density happens during adolescence, representing about 60% of the bone growth in a lifetime. Up to 90 percent of peak bone mass is acquired by the age of 18 in girls and 20 in boys, which makes youth the best time to invest in ones' bone health.<sup>(2)</sup>

Understanding the factors that encourage osteoporosis preventive behaviors is important for the prevention of this disease at the population level. The reasons for engaging in osteoporosis preventive behaviors are complex because they are influenced by personal and social factors. A study showed that social capital indirectly affected calcium intake through social support, self-efficacy for calcium intake, and self-efficacy for exercise. <sup>(3)</sup> It is important to understand the Assessment of Nurses' Knowledge Towards prevention of osteoporosis in adolescent girls. so that strategies to optimize their peak bone mass can be devised. In addition, with proper knowledge, they can also improve the bone health of their family as they are the caretakers of senior members of their family. The current review aimed to provide a contemporary view Assessment of Nurses' Knowledge Towards prevention of osteoporosis in adolescent girls.<sup>(4)</sup> Which enables it to obtain a huge amount of information when searching for any topic using search sites, whether at home or office<sup>(10)</sup> . Nursing is the sum of services given to individuals and their families to help them maintain their natural state or help them to relieve their organic and psychological pain <sup>(11)</sup> .

### MATERIAL AND METHOD

To achieve the aims of this study, design is a descriptive, the study was carried out to Assessment of pharmacy staff Knowledge about prevention of osteoporosis in the pharmacy college Al-Basra university between march 20<sup>th</sup>, 2021 to july 22<sup>th</sup> 2021

The research sample includes (30) pharmacy staff. They are selected by using non- probability sampling (purposive sample) from pharmacy college. The study instrument was constructed depending on literature reviews and previous studies related to the osteoporosis. It is a questionnaire format for the research purpose and composed of two parts . This part consists of (5) items which include: (age, gender, marital status, level of education and years of experience). This part is related to the assessment of the knowledge of pharmacy employment. It is consisted of (26) items. The instrument validity was done by panel of experts and content validity was obtained. Furthermore, the questionnaire items were changed according to the notes and recommendations of experts and the reliability of the instrument was determined through the Person correlation coefficient method

Data were analyzed through the use of SPSS application version 26. Descriptive data analysis including Percentage, Mean of the score (M.S), with their Standard Deviation (S.D), and frequency (f). Inferential data analysis includes the T-test for paired samples, One-way analysis of variance (one-way ANOVA), Pearson correlation.

**Table (1): 4-1 Distribution of the Variables Related Demographic Characteristics N=30 Pharmacy staff**

<b>Table 4.1 descriptive statistics of Demographic Variables</b>			
<b>Demographic Variables</b>	<b>Variables Classes</b>	<b>F</b>	<b>Percent</b>
<b>Gender</b>	<b>Male</b>	<b>9</b>	<b>30 %</b>
	<b>Female</b>	<b>21</b>	<b>70 %</b>
	<b>Total</b>	<b>100</b>	<b>100 %</b>
<b>Age</b>	<b>20-29</b>	<b>17</b>	<b>57 %</b>
	<b>30-39</b>	<b>6</b>	<b>20 %</b>
	<b>40-49</b>	<b>7</b>	<b>23 %</b>
	<b>Total</b>	<b>30</b>	<b>100 %</b>
<b>Marital status</b>	<b>Single</b>	<b>18</b>	<b>60 %</b>
	<b>Married</b>	<b>12</b>	<b>40 %</b>
	<b>Total</b>	<b>30</b>	<b>100 %</b>
<b>Education level</b>	<b>Bachelor</b>	<b>18</b>	<b>60 %</b>
	<b>Master</b>	<b>5</b>	<b>17 %</b>
	<b>PhD</b>	<b>7</b>	<b>23 %</b>
	<b>Total</b>	<b>30</b>	<b>100 %</b>
<b>Years of experience</b>	<b>3-13</b>	<b>20</b>	<b>67 %</b>
	<b>14-24</b>	<b>8</b>	<b>27 %</b>
	<b>25-35</b>	<b>2</b>	<b>6 %</b>
	<b>Total</b>	<b>30</b>	<b>100 %</b>

Table (4-1) indicate that female was more than males, the age between (20-29) years mostly in the study, most of the sample was, 60% of were single, 60% of them had Education level was Bachelor, most of the study sample were Years of experience between (3-13), of the study sample.

**Table 2: 4-2 Results assessment the sample answers in the questionnaire questions, N=30 Pharmacy staff**

<b>Table 4.2.1 Assessment of the questions answers</b>						
<b>Questions</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>MS</b>	<b>Std. Deviation</b>	<b>Eva.</b>
Q1	30	1	3	2.13	0.571	M
Q2	30	1	3	2.10	0.548	M
Q3	30	1	3	1.57	0.728	W
Q4	30	1	3	1.73	0.691	M
Q5	30	1	3	1.67	0.661	M
Q6	30	1	3	1.37	0.615	W
Q7	30	1	3	2.30	0.651	M
Q8	30	1	3	2.30	0.596	M
Q9	30	1	3	1.43	0.679	W
Q10	30	1	3	1.13	0.434	W
Q11	30	1	3	1.57	0.817	W
Q12	30	1	3	1.87	0.730	M
Q13	30	1	3	1.30	0.535	W
Q14	30	1	3	1.80	0.664	M
Q15	30	1	3	2.10	0.759	M
Q16	30	1	3	2.13	0.776	M
Q17	30	1	3	1.90	0.845	M
Q18	30	1	3	1.67	0.661	M
Q19	30	1	3	1.83	0.648	M
Q20	30	1	3	1.80	0.847	M
Q21	30	1	3	2.20	0.714	M
Q22	30	1	3	2.00	0.788	M
Q23	30	1	3	2.03	0.669	M
Q24	30	1	3	2.17	0.592	M
Q25	30	1	3	2.00	0.695	M
Q26	30	1	3	1.60	0.770	W

MS = mean score, Eva.= evaluation, W=Weak, M= Medium

Table (4-2-1) show the answers in the questions mostly between weak to medium but no one question has good evaluation in all question

<b>Table 4.2.2 summary Assessment of the questions answers</b>		
<b>Ass. Levels</b>	<b>N of questions</b>	<b>%</b>
<b>Weak</b>	7	27 %
<b>Medium</b>	19	73 %
<b>Good</b>	0	0 %
<b>Total questions</b>	26	100 %

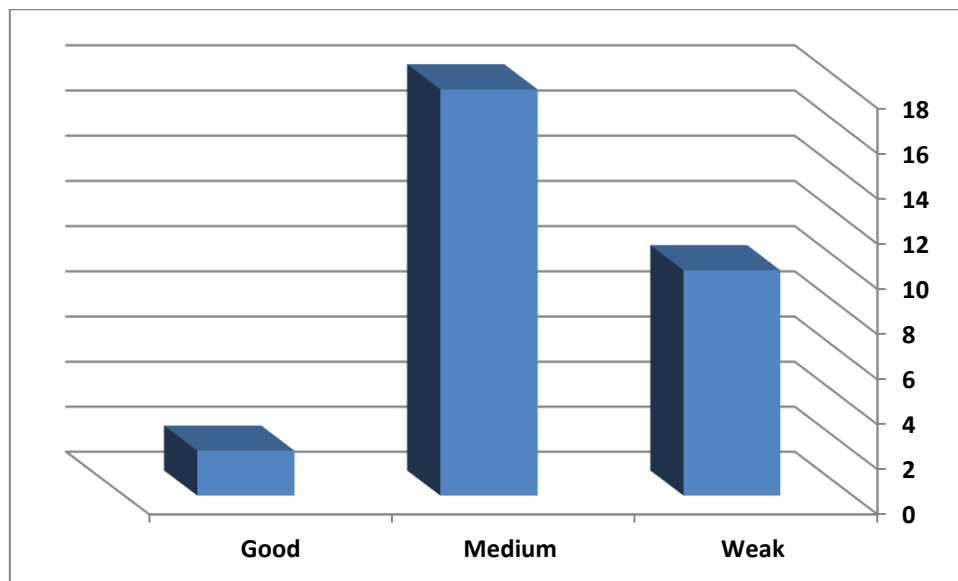
Table (4.2.2) show the summary assessment of question answers was the mostly medium(73%), (27%) was weak and no one good level

**Table 4-3 Results Overall assessment of the knowledge about osteoporosis (N=30 Pharmacy staff)**

Table 4.3 Pharmacy staff's knowledge toward osteoporosis						
Pharmacy staff's knowledge						
Ass. levels	f	%	Scale	Total		
				MS	SD	Ass.
Weak	10	33 %	1 – 1.66	1.83	0.281	Medium
Medium	18	60 %	1.67 – 2.33			
Good	2	7 %	2.34 – 3			
<b>Sum</b>	<b>30</b>	<b>100 %</b>				

MS= mean score, SD= stander deviation, Ass= assessment

Table (4.3) indicate overall assessment of knowledge about osteoporosis was medium in mean score (1.83) and stander deviation (0.281).



**Figure 4.3 Overall Assessment of Pharmacy staff's knowledge**

**Table4 - 4 Results the demography's relationships with knowledge of osteoporosis related domains N=30 Pharmacy staff**

Table 4.4 Relationships of Demographic Variables with knowledge of osteoporosis										
Demographic Variables	Variables Classes	N	MS	Sd	Eva.	df	Significant			
							Cal.	Tab.	P-value	Sig.
Gender	Male	9	1.85	0.373	M	28	T-test =0.198	T-test =2.04	0.120	NS
	Female	21	1.82	0.243	M					
Age	20-29	17	1.83	0.217	M	27,2	Anova = 0.342	Anova = 3.34	0.713	NS
	30-39	6	1.76	0.313	M					
	40-49	7	1.89	0.408	M					
Marrital status	Single	18	1.84	0.257	M	28	T-test =0.170	T-test =2.04	0.866	NS
	Married	12	1.82	0.327	M					
Education level	Bachelor	18	1.78	0.202	M	27,2	Anova = 0.729	Anova = 3.34	0.429	NS
	Master	5	1.93	0.349	M					
	Phd	7	1.89	0.408	M					
Years of experience	3-13	20	1.83	0.243	M	27,2	Anova = 0.028	Anova = 3.34	0.973	NS
	14-24	8	1.84	0.300	M					
	25-35	2	1.78	0.734	M					

MS = mean score, N.=significant, if (P – value) < 0.05 then significant (S), if (P – value) > 0.05 then no significant (NS).

P – value using T-test for independent samples when it is two groups , P – value using one-way ANOVA when it is three or more group, df: degree of freedom , T – test (n – 2) , ANOVA (n – groups), Cal.= calculated , Tab.= tabular

Table (4.4) indicate that there is no significant statistical relationship between the demography's relationships with knowledge of osteoporosis regarding all domains of demographic data when analyzed by independent t-test and ANOVA test

**DISCUSSION:****Part one: Discussion of the patient Socio-Demographic Characteristics (table 1):****1. Gender:**

The characteristics of pharmacy staff that the majority of the sample were female. These results agree with findings Jamileh Moghimi, & Zahra Safaei, (2017), who found that the majority of the samples were females. <sup>(5)</sup>

**2. 2 Age:**

The analysis of findings in table (4-1) reveals that equal numbers (57%) of the sample are within the age group of (20-29) years. These findings are supported by a study conducted by Hissa Al-Muraikhi et al., (2017), who found that the majority of patient (58%) of the study sample were at age (20-29) years. <sup>(6)</sup>

**3. Educational Level of Patient:**

Regarding educational level, one-third of the sample for is Bachelor about(60%) of participants, followed by Ph.D. and master.

**4. Marital Status of Patient:**

Based on the study results, there are most participants in each of our single (60%). The current finding is inconsistent with the study of Hissa Al-Muraikhi et al., (2017), who reported not similar results that single (30.6%) of the study. <sup>(6)</sup>

**5. year of experience:**

Based on the study results, about (67 %) of participants in the study have been experienced years between(3-13). and (27%) of participants experienced years were (14-24). another hand (6%) of participants was the experienced years (25-35)

**Part two: discussion Results assessment the sample answers in the questionnaire questions**

Regarding to the answers in the questionnaire questions of pharmacy staff concerning preventative measure of osteoporosis, the findings reveals there are show the answers in the questions mostly between weak to medium but no one question has good evaluation in all question. table (4.2)(4.3)

This result consistent with a study carried out by Anderson et al., (2005) who reported that the knowledge percentage was 52% had scores that reflected low to moderate. But this result inconsistent with another study's results that carried out by (AlHarthi et al., 2017) who showed that the a good level of knowledge about osteoporosis.

**Part three: discussion Relationships of Demographic Variables with knowledge of osteoporosis**

In these findings, that there is no significant statistical relationship between the demography's relationships with knowledge of osteoporosis regarding all domains of demographic data when analyzed by independent t-test and ANOVA test. Table (4.4)

This finding agrees with Shawashi & Darawad (2020), who found that No significant differences were observed in participants' knowledge, beliefs, and self-efficacy of osteoporosis based on their demographic variables except their college specialty

**CONCLUSIONS:**

1.about demographic data indicate that female was more than males, the age between (20-29) years mostly in the study, most of the sample was, 60% of were single, 60% of them had Education level was Bachelor, most of the study sample were Years of experience between (3-13), of the study sample.

2.the assessment of question answers was mostly medium(73%), (27%) was weak and no one good level

3.about a relationship there is no significant statistical relationship between the demography's relationships with knowledge of osteoporosis regarding all domains of demographic data when analyzed by independent t-test and ANOVA test

**RECOMMENDATIONS**

Based on the previously listed results of the study, the researcher recommends the following:

1.instruction manual on prevention of osteoporosis disease should be published and delivered to patients with bone disease

2.Encourage the newly diagnosed person to learn more about their condition and provide correct information through the media.

3. Special Education Programs Medical professionals, specifically pharmacy staff working with osteoporosis patients, should be required to raise awareness of one of the most important complications of its Disease.

4.Encourage pharmacy staff in hospitals or others to participate in teaching patients, providing and maintaining necessary information about secondary prevention of osteoporosis disease through lectures and continuing education for patients.

5.Further research should be conducted on a larger sample of cases of osteoporosis in Iraq, urging the practical application of instructions and precautions, management methods, preventive measures, and monitoring its impact on a long-term lifestyle for patients with osteoporosis.

6.Continuing education and rigorous clinical trials are needed to address the importance of early identification and management of osteoporosis

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