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Evaluation of health care providers' knowledge about physical activity promotion for adults with physical disability in Diyala City

Marwa Laith Muhammad

Academic Nurse, Community Health Nursing, Diyala Health Directorate-Iraq.

Hala Saadi Abdel Wahed

Prof, PhD, Community Health Nursing, College of Nursing/ University of Baghdad - Iraq.

Abstract---Background: Adults with disabilities are three times more likely than adults without disabilities to suffer from heart disease, stroke, diabetes, or cancer. Despite the fact that physical activity can help minimize the impact of many chronic conditions, approximately half of persons with disabilities do not participate in physical activity in their spare time. Caregivers' knowledge plays an important role in such people's health rehabilitation. Therefore, thus aimed to assess health care providers knowledge about physical activity promotion for disabled adults. Methods: A convenience sample of 47 health care providers was recruited using a non-probability sampling approach in Diyala Hospitals for a descriptive cross-sectional study. The questionnaire's dependability was established through a pilot research, and it was subsequently presented to experts for validation. The total number of items in the questionnaire for knowledge related to physical activity promotion was 23. The data was acquired using a self-reporting method and evaluated using descriptive and inferential statistical data analysis techniques. Results: The study's findings revealed that the majority of respondents were young male caretakers. According to the study's findings, 59.5 percent of caregivers had insufficient understanding about how to promote physical exercise. There were differences in knowledge of physical activity promotion among caregivers based on their education ($p=0.001$) and job description ($p=0.054$). Conclusions: The study concludes that the knowledge in terms of promotion of physical activity for disabled adults, health care providers expressed a poor level due to influencing such as diploma graduated and nurses specialist is significantly associated poor knowledge. The Directorate of Health needs to adopt guidelines related to the international standard in the management of disability and to rely on specializations from those who have a high level of education in caring for the disabled.

Keywords---Evaluation, Health Care Provides, Physical Activity.

Introduction

In the past, it was associated with a socially secluded group. Traditionally, "inability" was used as an alternative to "disability" to indicate legal obligations and constraints on those people's constitutional rights. Oxford dictionary classified it as two different terms in 2006 (Wasserman et al., 2011). Disability is not solely a result of medical problems; it is also influenced by factors such as the environment and community (Scambler, 2012). Those people, on the other hand, can better control their own health if they are properly informed and led (Watson, 2012).

There is considerable evidence that health care providers are often uncomfortable with and have dangerous attitudes toward people with disabilities, and that a lack of information about how to deal with these patients exacerbates the situation. As a result, there is a need for health-care workers to be trained and educated on issues involving disabled people in order to enhance their health (McNeal et al., 2002; Nassar et al., 2016).

It is a legal obligation for member countries that have signed the United Nations Convention on the "Rights of Persons with Disabilities" (UN 2006) to provide disabled people with the same level of health care as non-disabled people, including informed consent, awareness, self-respect, and autonomy (Livneh, 2012). This can only be accomplished via suitable training and the dissemination of high health-care standards for disabled people in both the public and commercial sectors (Kirschner and Curry, 2009). Therefore, this study aimed to evaluate health care providers' knowledge about promotion of physical activity of disabled and determine the associated demographic variables in Diyala Province/ Iraq.

Method

The descriptive cross-sectional research design technique entails questioning individuals of the study population with the sole purpose of describing the examined phenomena in terms of its type and degree of existence. The study is conducted at Diyala Health Directorate Baquba General Teaching Hospital which is comprised of medical and surgical wards, dialysis unit, burns unit, intensive care unit, physiotherapy unit, outpatient clinic, consultation clinic, orthopedic unit, laboratories, blood bank and pharmacy through which health care is delivered to the population of the City of Baquba.

Study instrument: The questionnaire is one of the means to help collect data that contribute to achieving the results expected by the study, so the researcher designed this questionnaire, which aims to clarify the study objectives and significance by obtaining answers to the study's questions. This questionnaire consists of two parts which includes the following:

First one is the socio-demographic variables such as (age, gender, education level, years of experience, job description and number of training courses).

Second one deals with health care providers' knowledge towards Physical Activity Promotion of disabled adults, it was constructed by researchers and consist of 23-items MCQ measured on 2-point such as (Correct and Incorrect).

Each component of the study questionnaire was given a level of validity based on its linguistic suitability, connection with the dimension of study variables to which it was assigned, and fit for the study population. Nurses provided data to assess the questionnaire's reliability, and the test was given to eight caregivers from the research group who were not included in the initial sample. Cronbach's alpha was discovered to be 0.86.

In order to statistically analyze the data collected from the study sample to arrive at the results, the researcher used the SPSS ver-20. A One-way analysis of variance and independent sample t test were used to examine variations in variables based on socio-demographic characteristics. For continuous variables, descriptive data is reported as mean standard deviation, and for categorical variables, it is shown as number (percent). Statistical significance was defined as a p 0.05.

Results

Table 1 shows that the participants' age groups, with those aged 26-30 years old having the largest percentage (38.3%), followed by those aged 31-35 years (27.7%), and then those aged 25 and >35 years. In terms of gender, male carers were more prevalent (68.1 percent) than female caregivers (31.9 percent). In terms of educational attainment, one-third of participants (61.7%) were diploma graduates, compared to 36.2 percent and 2.1 percent for bachelors and postgraduates, respectively. When it came to years of experience, health care professionals said they had less than 5 years (48.9%), compared to 5-10 and >10 years (31.9 percent and 19.1 percent). In terms of work description, it is clear that health care providers (44.7 percent) have physiotherapies, followed by medical assistants (23.4 percent), technical parties, and academic nurses (17 percent and 14.9 percent, respectively). More over half of respondents (57.4%) said they had not attended any training sessions, compared to 25.5 percent who said they had attended 1-2 sessions and more than 2 sessions (17 percent).

Table (1)
Socio-Characteristics of Study Sample (SDVs)

SDVs	Class	n=47	%
Age/years	21-25 years old	8	17.0
	26-30 years old	18	38.3
	31-35 years old	13	27.7
	>36 years old	8	17.0
Gender	Male	32	68.1
	Female	15	31.9
Education level	Diploma	29	61.7
	Bachelors	17	36.2
	Post-graduated	1	2.1

Experience	<5 years	23	48.9
	5-10 years	15	31.9
	>10 years	9	19.1
Job title	Technical parties and support	8	17.0
	Physiotherapies	21	44.7
	Academic Nurses	7	14.9
	Medical Assistance	11	23.4
Number of training courses	Never	27	57.4
	1-2 Sessions	12	25.5
	>2 Sessions	8	17.0

The results showed that (59.6%) of caregivers had poor knowledge on physical activity promotion for adults with physical disabilities, as measured by a low average and an SD of 29.57 (± 9.62).

Table (2)
Health Care Providers Knowledge

Knowledge	Freq.	%	M $\pm$ SD
Poor (M=23-30)	28	59.6	29.57 $\pm$ 9.62
Fair (M=31-38)	17	36.2	
Good (M=39-46)	2	4.3	
Total	47	100.0	

Table (3)
Knowledge and Caregivers Age (n=47)

Age	Source of variance	Sum of Squares	d.f	Mean Square	F-statistic	p-value
Physical Activity Knowledge	Between Groups	.149	3	.050	1.560	.213
	Within Groups	1.370	43	.032		
	Total	1.520	46			

There were no significant differences in caregiver knowledge about physical activity promotion for disabled individuals across age categories, according to the findings. ($p > 0.05$).

Table (4)
Knowledge and Caregivers Gender (n=47)

Variables	Gender	Mean	SD	t-value	d.f	p-value
Physical Activity Knowledge	Male	1.30	.201	.121	45	.904
	Female	1.31	.136			

There were no significant variations in caregiver knowledge about physical activity promotion for disabled individuals between male and female caregivers ($p > 0.05$).

Table (5)
Knowledge and Caregivers Education Level (n=47)

Education Level	Source of variance	Sum of Squares	d.f	Mean Square	<i>F</i> - <i>statistic</i>	<i>p</i> - <i>value</i>
Physical Activity Knowledge	Between Groups	.485	2	.243	10.314	.001
	Within Groups	1.035	44	.024		
	Total	1.520	46			

There were substantial disparities in caregiver understanding about physical activity promotion for disabled persons across age groups, according to the findings. ($p < 0.05$).

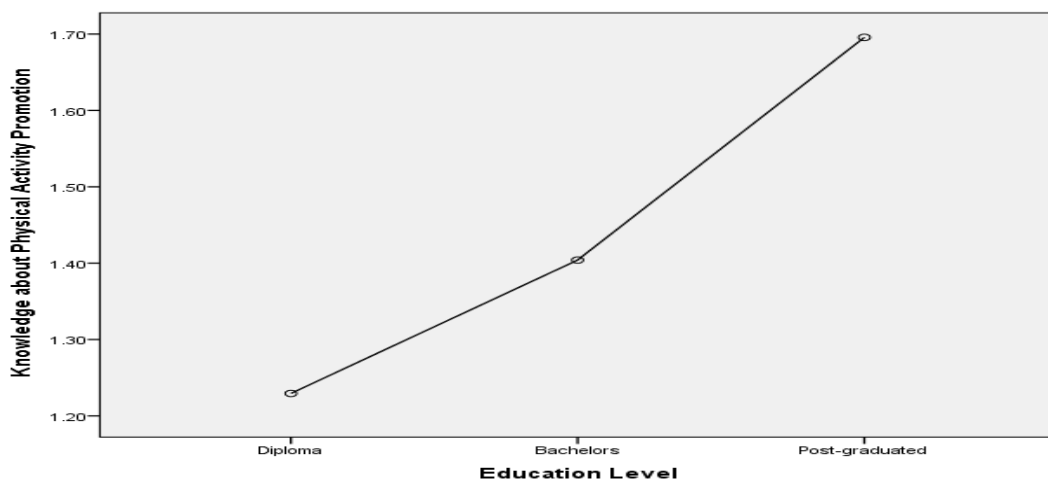


Fig.1.Distribution Knowledge about Physical Activity Promotion on Education Level

Table (6)
Knowledge and Caregivers Years of Experience (n=47)

Years of Experience	Source of variance	Sum of Squares	d.f	Mean Square	<i>F</i> - <i>statistic</i>	<i>p</i> - <i>value</i>
Physical Activity Knowledge	Between Groups	.130	2	.065	2.062	.139
	Within Groups	1.389	44	.032		
	Total	1.520	46			

There were no significant variations in caregiver knowledge of physical activity promotion for disabled individuals based on years of experience ($p > 0.05$).

Table (7)
Knowledge and Caregivers Job Description (n=47)

Job Description	Source of variance	Sum of Squares	d.f	Mean Square	<i>F</i> - <i>statistic</i>	<i>p</i> - <i>value</i>
Physical Activity Knowledge	Between Groups	.173	3	.158	2.842	.054
	Within Groups	1.347	43	.031		
	Total	1.520	46			

There were significant disparities in caregiver understanding of physical activity promotion for disabled individuals in terms of job description ($p < 0.05$).

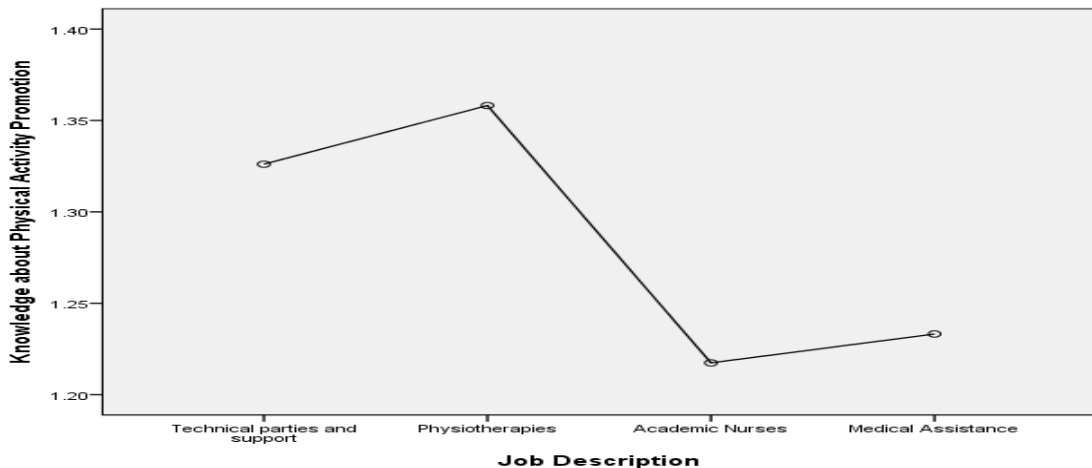


Fig. 2. Distribution of Knowledge about Physical Activity Promotion on Job Description

Table (8)
Knowledge and Caregivers Training Courses (n=47)

Number of Training Courses	Source of variance	Sum of Squares	d.f	Mean Square	<i>F</i> - <i>statistic</i>	<i>p</i> - <i>value</i>
Physical Activity Knowledge	Between Groups	.011	2	.006	.167	.847
	Within Groups	1.508	44	.034		
	Total	1.520	46			

There were no significant variations in caregivers' understanding of physical activity promotion for disabled individuals based on the number of training courses ($p > 0.05$).

Discussion

Adults with disabilities are three times more likely than adults without disabilities to suffer from heart disease, stroke, diabetes, or cancer. Despite the fact that physical activity can help minimize the impact of many chronic conditions, approximately half of persons with disabilities do not participate in physical

activity in their spare time. Knowledge of caregivers plays a large role in the health recovery of such people. Therefore, this study aimed to assess health care providers' knowledge about physical activity promotion for disabled adults.

Physical activity can be promoted among adult patients with disabilities by health providers. Adults with disabilities who received a recommendation from their caretakers were 82 percent more likely to be physically active than those who did not. In the United States, however, just 44% of persons with disabilities who visited a doctor in the previous year received a physical exercise suggestion from their caregivers (Centers for Disease Control and Prevention, 2016). In current study findings, (59.6%) of caregivers exhibited a poor knowledge related to physical activity promotion for adults with physical disability as described by low average and $\pm$ SD= 29.57 ($\pm$ 9.62) (table 2). In this survey, the majority of respondents only give right answers in terms of (What is the disability, disability resulting from and defects related to movement disorders). This conclusion was lower than that of Osborne et al. and Lobelo et al., who found that caregivers with moderate to satisfactory understanding had received training on a regular basis (Osborne et al., 2017; Lobelo et al., 2018).

This finding is similar to those of Segar et al. and Ojo et al., who found that health care providers with limited knowledge associated physical activities with people with disabilities due to a lack of physical activity guidelines. They also found that health institutions should hire specialized medical personnel and follow the guideline that all adults should avoid inactivity. Some physical exercise is preferable than none, and individuals who engage in any quantity of physical activity boost their health (Segar et al., 2020; Ojo et al., 2019). While Martin and Hardcastle et al. pointed out that one of the challenges to physical activity among these caregivers dealing with people with disabilities is their lack of awareness about physical activity (Martin, 2013; Hardcastle et al., 2013).

According to Shields et al. and O'Brien et al., a lack of training was linked to low knowledge among health care workers (Shields et al., 2012; O'Brien et al., 2019). Appropriate education, training, and access to resources are crucial for supporting healthcare professionals' promotion of physical activity in ordinary practice in order to address a lack of information linked to the promotion of physical activity for individuals with disabilities. Physical activity promotion in healthcare settings has the potential to have population-wide health benefits, especially in adult populations (Pears et al., 2016; Cunningham, & O'Sullivan, 2021). Lack of training and competence, low education level, health care providers do not continuously develop and update their knowledge, most caregivers who work in health institutions stop reading books so they do not follow up and only engage in their practices, resulting in them being unable to remember some information, particularly knowledge associated with disabilities.

Participants' age, gender, education level, years of experience, job description, and training sessions were the most prevalent factors influencing knowledge in this study. These aspects and demographic traits can be worked on to improve the knowledge of the investigated sample if they are interfering with it.

There were no significant variations in caregiver knowledge about physical activity promotion for disabled individuals across age groups ($p=213$), according to the findings (table 3). That is, carers' knowledge is unaffected by their age (younger and older caregivers have the same understanding regarding physical activity promotion), and hence research on the age variable is impractical because caregivers, regardless of age, do not improve their knowledge. A qualitative research of health care providers' and patients' perspectives revealed that the health care providers' age had no bearing on their attitudes toward physical activity promotion (Carstairs et al.,2020).

There were no significant variations in caregiver knowledge about physical activity promotion for disabled persons based on gender ($t=0.121$; $p>0.904$), according to the findings (table 4). The findings revealed that there is no difference in knowledge between men ($M=1.31$) and women ($M=1.31$). It is impossible to modify one of them at work since it does not enhance information about how to improve the health of impaired people. As a result, the gender variable is regarded as inconsequential in enhancing caregiver knowledge. There should be no distinction between male and female healthcare providers in terms of their role in promoting physical exercise as part of normal care [19]. The findings revealed that carers' understanding of physical activity promotion for disabled individuals differed significantly across age groups ($p=0.001$) (table 5). The education considered influencing factors linked knowledge, that is, differences in favor of bachelors and post-graduated (recorded highest average of knowledge), and knowledge is much lower among diploma graduates (Fig.1). That is, as one's educational level rises, so does one's knowledge. The Department of Health and decision-makers should use higher-education care providers to improve services for individuals with disabilities (Van der Ploeg et al.,2004).

There was a link between caregiver education and the promotion of physical exercise for people with impairments (Smith et al.,2019). Caregivers with a higher academic certification in oral hygiene care have much more knowledge (Abullais et al.,2020).

There were no significant variations in caregiver knowledge of physical activity promotion for disabled individuals based on years of experience ($p=0.139$), according to the findings (table 6). That is, their knowledge is unaffected by how many or few years of experience they have, therefore it is not possible to work on this variable by using providers with more or less experience because their knowledge does not vary. This is confirmed by studies from Egypt, which found no significant link between carers' disability understanding and their years of experience (Ghazawy et al.,2020).

There were significant disparities in carers' understanding of physical activity promotion for disabled individuals in terms of job description ($p0.054$), according to the findings (table 7). The job description variable is highly crucial in these results, as caregivers who are labeled Physiotherapies and Technical parties and support have the highest average knowledge, whilst those who are academic and medical aid nurses have the lowest average knowledge (Fig. 2). The Department of Health and decision-makers must rely on specialized professionals (physiotherapists) in dealing with impairments because relying on nurses (academic or technician) in disabled wards diminishes the quality of care offered

to the disabled. Because of the reliance on specialist employees to provide care, the disabled enjoy rehabilitative services and physical activities, according to the Australian Institute of Health and Welfare (AIHW) ((Australian Institute of Health,2012)) The findings revealed no significant differences in caregivers' understanding of how to promote physical activity for individuals with disabilities based on the number of training sessions ($p = 0.847$). (Table 8). Because the majority of them (57.4%) did not attend training classes, the majority of them (59.6%) had limited expertise. Training courses have no bearing on knowledge because they are concerned with a practical aspect that aids in the application of knowledge.

Conclusion

The study concludes that the knowledge in terms of promotion of physical activity for disabled adults, health care providers expressed a poor level due to influencing such as diploma graduated and nurses specialist is significantly associated poor knowledge. The Directorate of Health needs to adopt guidelines related to the international standard in the management of disability and to rely on specializations from those who have a high level of education in caring for the disabled.

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