

Awareness of Health Care Workers about Children with Disability at Saudi Arabia 2024: A Cross-Sectional Study

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Abstract

Background: Children with disabilities face a complicated, dynamic, multifaceted difficulty that may significantly impede their capacity to integrate or reintegrate into society as well as their primary daily activities. Nearly 15% of people worldwide live with a handicap, and 2-4% of them have significant functional challenges, according to World Health Organization data. Very little study has been done in Saudi Arabia on the incidence and prevalence of disabilities, and the majority of that research has focused on children with disabilities. Researching problems relating to disabilities in Saudi Arabia presents a number of challenges. Here, we examine the present state of Saudi Arabian healthcare professionals' knowledge about children with disabilities. Regretfully, compared to their classmates who are usually developing, children with impairments spend less time participating in PA. In order to help children with impairments raise their level of PA, parents are essential. Nevertheless, little is known about the variables associated with parental support for PA among non-Western parents of disabled children, especially when it comes to Saudi Arabia.

Aim of the study: The study's objective is to evaluate health care professionals' knowledge of children with disabilities in Saudi Arabia in 2024.

Method: Based on a review of the literature, a written questionnaire was created for a cross-sectional survey that was carried out between October and November 2024 among 200 patients who were receiving basic healthcare in Saudi Arabia. Items on the questionnaire measure healthcare professionals' knowledge about children with disabilities.

Result: The majority of participants (38.0%) were in the age group of >38 years, while the majority (32.0%) were in the age group of 25-35 years, followed by the majority of participants (20.0%) in the age group of 32-38 years. The majority of participants were male, with a higher proportion of males than females (54.8% and 45.2%). In terms of marital status, the majority of participants were married (50.0%) and divorced (26.0%); in terms of education, the majority of participants were collectors or higher (32.0%) and secondary practitioners (26.0%), while the majority of participants were private (68.0%).

Conclusion: Due to both structural and personal constraints, it is still very difficult for Saudi Arabian children with impairments to get treatment. The research emphasizes the need to improve professional training, change policies, and make services more physically and financially accessible. Reducing health inequalities and enhancing care for children with disabilities requires addressing these concerns via comprehensive educational programs and focused interventions.

Keywords: Assessment, awareness, health care workers, children, disability

Introduction

Disability is a multifaceted and intricate term that significantly restricts a significant aspect of life, particularly for children. The person and his family may be impacted. If the system does not support them, this will have a detrimental impact on the individual, their family, and society as a whole.[1] Nearly everyone will at some time in their lives be temporarily or permanently disabled, and those who survive will have several limits in their ability to operate and engage in society. [2] According to Saudi Arabia's Labor and Workman Law, "any person whose capacity to achieve and continue a suitable job has actually diminished as a result of a physical or mental infirmity" is considered a "person with disability." [3]The majority of extended families have a handicapped member, and the non-disabled members are responsible for and take care of them.[1–3] How to effectively help and incorporate persons with disabilities is a moral and political dilemma that many nations must deal with. As societies' demographics shift and an increasing number of individuals reach old age, this problem will worsen. For children and adolescents with both normal and atypical development, the physical, cognitive, and psychosocial well-being of children with disabilities is essential [1–4]. Nevertheless, despite several initiatives to encourage PA within this group, a significant portion does not adhere to accepted standards for children with disabilities. [5]. Children with disabilities participate in a wide range of activities. "Any type of movement, whether done voluntarily (sport and exercise), unavoidably (work and housework), or consciously (adopting an active lifestyle)" is one definition of it. [6]. Running, cycling, and joining sports groups are just a few of the official and informal activities that kids with disabilities participate in. [7]. It is acknowledged that interacting with children who have disabilities of any kind may help them avoid developing chronic illnesses. Sedentary behavior throughout adulthood is detrimental to future health and quality of life, according to long-term observational research [8,9]. The recommended daily minimum level of children with disabilities, which calls for 60 minutes of moderate-to-vigorous children with disabilities each day, is difficult for disabled children to achieve and is often not met [10]. Verify that children with disabilities engage in less physical activity than their

non-disabled counterparts; the causes of this are many and complicated [11]. [12] emphasized the value of regular physical exercise for all kids, including those with impairments, since it has several advantages, including the development of both physical and mental health. [13] The obstacles to involvement have been examined more thoroughly than the facilitators of participation in research examining the causes of the low levels of physical exercise engagement among children with disabilities. [14] Barriers to children with disabilities participating in physical activity include, for instance, 'health care workers' lack of knowledge about the advantages of physical activity and how to access opportunities for it, the preferences of children with disabilities regarding physical activity, parents' and children's fear of physical activity, poor parental behavior regarding physical activity, negative attitudes toward those with disabilities who participate in physical activity, inadequate facilities, transportation limitations, program and staff capacity inadequacies, and financial constraints'. [15]

Literature review

According to a Saudi Arabian study, one of the main factors influencing young people's behaviors connected to physical exercise is their parents' social support. The association between youth physical activity-related behaviors and parental social support was the subject of a systematic review. There are four types of social assistance that fall into two different categories: tangible and intangible. There are two types of tangible social support: conditional conducting activities, observing, and supervising, and instrumental buying equipment, paying fees, and transporting. The two types of intangible social support are informative, explaining the advantages, and motivational encouragement and praise. Most research showed that teenage activity and some indicators of parental tangible and intangible social support were positively correlated. In general, parental social assistance showed benefits. It is difficult to distinguish between the particular impacts of parents and the kind of support given, however, since many studies combine social support categories and/or respondents into composite measures. Peer engagement, accessible facilities, parental support, and accessibility to sports facilities are some of the elements that have

been shown to be important in the few studies that have looked into the factors that facilitate PA among children with disabilities. Among them, parental and family support has been shown to be the most significant facilitator of children with disabilities' engagement in physical activity [16].

According to a different research conducted in Saudi Arabia, 'parents have a significant impact on how their children behave in relation to their health; parental support has been identified as a major determinant of children's PA behaviors [17]. The results of the KSA research demonstrate the urgent need for legislation promoting thorough public health education and improved prenatal care services, such as genetic screening and counseling. In order to guarantee that everyone has access to preventative measures and information, health policy should concentrate on incorporating preventive care within basic health services.[18] In order to guarantee that correct information on congenital impairments reaches as many people as possible, it is necessary to urge healthcare providers to take part in public education and outreach initiatives. [19]

Additionally, the study reveals notable deficiencies in Saudi healthcare workers' understanding of oral health, which affects the standard of treatment for kids. According to Zakirulla et al. (2021), pediatric critical care unit nurses acknowledged the value of dental treatment but faced difficulties due to factors such as lack of training, time restraints, and excessive workloads [20]. In a similar vein, just 7% of family doctors had undergone oral health training, according to Alshathri et al. (2020), which resulted in poor referral rates to dental clinics [21]. Only 42% of family doctors would seek dental consultations before bisphosphonate medication, according to Almazrooa et al. (2021), indicating a lack of knowledge about the hazards to oral health that come with specific medicines [22].

True social inclusion, according to Knight et al. [23], can only be attained if it is prioritized at all levels of local government and recognized as a right. The procedure that enables everyone to participate in events and services is known as inclusion. Participation and inclusion reinforce one another. The provision of services to children and adolescents with disabilities, the creation of a coordinating unit and the formalization of individual plans, the overview of who is eligible for services

based on their health conditions and/or disabilities, and the pursuit of inclusion and participation among children and youth with functional difficulties are all covered in another study conducted in Norwegian municipalities. Despite being well-established and centered on rights, the Norwegian health and welfare system has been shown to have a number of issues with coordination, competency, and resources [24].

Rationale

Health disparities affect children with disabilities globally. It is difficult for parents and kids to get high-quality care. Saudi Arabia has comparable difficulties. To increase access to healthcare for people with disabilities, the Saudi government has implemented a number of health initiatives. By using computerized registration, initiatives such as the Priority Card seek to shorten wait times. Additionally, in accordance with worldwide accessibility standards, the King Salman Center for Disability Research's Access Program promotes inclusion in public areas and healthcare institutions. There are still issues in spite of these attempts. Finding suitable clinics is one of the main obstacles to healthcare for kids with impairments, according to research conducted in Saudi Arabia. Additional obstacles include the reluctance of children with disabilities to receive special care, the lack of appropriate health advice, the high cost of care, transportation issues, clinics that are far away, fear of medical personnel, and uncooperative behavior. The purpose of this research was to educate Saudi Arabian healthcare professionals about children with disabilities.

Aim of the Study

To assess the awareness of health care workers about children with disability in Saudi Arabia in 2024

Objectives:

To assess the awareness of health care workers about children with disability in Saudi Arabia 2024.

Subjects and methods.

Study design:

A cross-sectional study was carried out among children with disability at Saudi Arabia 2024.

Study setting

The study was carried out among children with disability at Saudi Arabia 2024 .

Study area:

The study was conducted in Saudi Arabia in 2024, under the supervision of the Directorate of Health Affairs. They are distinguished by their environment and the large number of patients attending the PHC.

Study population:

The study population is health care workers who work with children with disability in Saudi Arabia in the PHC Saudi Arabia, and agreed to fill out the questionnaire.

Eligibility Criteria

a. Inclusion criteria:

Saudi and non-Saudi health care workers in PHC centers available during the duration of the study, Contact with children with disability

Exclusion criteria

Healthcare providers who are not available for the duration of the study.

Study Sample :

Using <http://www.raosoft.com/samplesize.html>, epiInfo, the sample size was determined. Due to the paucity of local research, the sample size is 200 medical professionals who visit PHC, plus an additional 10 to reduce the margin of error (the margin of error is 5%, the confidence level is 95%, and the response distribution of the prevalence counts for 50%). Following the addition of 5% oversampling, the minimum sample size determined by the whole population is 200 participants. The research participants were chosen using a basic random selection procedure produced by a computer.

Sampling technique:

Results

By dividing the whole population by the sample size of 200, the participants were selected at random using a systematic selection procedure.

Data collection tools and instruments :

Data has been collected using a pretested questionnaire. All participants have received the research questionnaire packet. The packet, which was written in English, had screening questions and questions regarding sociodemographic characteristics. A literature study served as the foundation for the questionnaire tool's development. Items on the questionnaire measure knowledge about children with disabilities, including their etiology, characteristics of the patient, and their needs and capacities. The degree of awareness of each subscale was determined by adding together all of its scores. Each subscale's overall score was used to characterize the degree of awareness of it, with correct responses receiving a score of one. The total score on the Disability Assessment questionnaire was equivalent to or higher than the research participants' mean score.

Data analysis :

The statistical software program SPSS 24.0 was used for data input and statistical analysis. Quality control is carried out throughout the data entering and coding phases. For qualitative variables, descriptive statistics were shown as frequencies and percentages; for quantitative variables, means and standard deviations, as well as the inert-quartile range. At the level of data analysis and association, the chi square test and the unpaired t test will be used'.

Ethical concern :

The necessary authorities and institutes have given their approval for the collecting of research data. These data were kept private and were only used for study.

Budget : Self-funded

Table 1 . Distribution of Characteristics the study participants

	N	%
Age of health care workers		
<25	25	10

25-32	80	32
32-38	50	20
>38	95	38
Gender		
Male	137	54.8
Female	113	45.2
Marital status of Mather		
Unmarried	50	20
Married	127	50.8
Divorced	65	26
Widowed	8	3.2
Education level		
Illiterate	53	21.2
Less than secondary	50	20
Secondary	65	26
Collectors or higher	82	32.8
Primary health care		
Governmental	80	32
Private	170	68

majority of participants were married (50.0%) and divorced (26.0%); in terms of education, the majority were collectors or higher (32.0%) and secondary practitioners (26.0%); in terms of occupation, the majority were private practitioners (68.0%) while the majority were governmental practitioners (32.0%).

Table 1 indicates that the majority of participants (38.0%) were in the age group of >38 years, while (32.0%) were in the age group of 25-35 years, followed by those in the age group of 32-38 years (20.0%). The majority of participants were male, with a higher proportion of males than females (54.8% and 45.2%). In terms of marital status, the

Table 2 . Distribution of Participant Awareness of Disabilities.

	N	%
Have you heard of disabilities before		
Yes	75	30
No	175	70
If yes, information Sources about disabilities disorder: (more than one answer could be selected)		
Social media platforms	77	30.8
Books and scientific articles	18	7.2

Internet	130	52
Friends and family	25	10
How would you rate your understanding of disabilities		
No understanding	50	20
Limited understanding	87	34.8
Moderate understanding	25	10
Good understanding	88	35.2
Which of the following do you believe can contribute to the development of disabilities		
Genetic factors		
Environmental factors (eg, pollution)	105	42
Medication/drug use during pregnancy	145	58
Do you believe disabilities are preventable		
Yes	57	22.8
No	30	12
Not sure	163	65.2
Which types of disabilities are you familiar with		
Cleft lip/palate	87	34.8
Down syndrome	163	65.2
Limb deformities	80	32
Not sure	170	68

have contributed to the development of disabilities, the majority of participants, 58.0% of respondents, reported using drugs or medications during pregnancy. Environmental variables were 42.0%, and most participants answered "do you think disabilities are preventable?" 65.2% were unsure while responding. Yes, we were (22.8%). The majority of participants responded with "Which types of disabilities are you familiar with?" 68.0% of respondents said they were unsure, while 65.2% said they had Down syndrome.

The distribution of participant awareness of impairments is shown in Table 2, where the majority of participants respond that they have heard about disabilities previously. Seventy percent of respondents said that if the answer was yes, The majority of participants' sources regarding disability disorders were the Internet (52.0%), followed by social media platforms (30.8%). When asked how well they understood impairments, the majority of participants gave an excellent rating (35.2%), followed by a limited rating (34.8%). When asked which of the following factors they thought may

Table 3 health care workers Awareness of Genetic and Pharmacological Factors Related to Disabilities.

	Yes		No		Chi-square	
	N	%	N	%	X ²	P-value
Do you believe that genetic factors (such as family history) can increase the risk of congenital disabilities?	162	64.8	88	35.2	21.904	<0.001*
Are you aware of any genetic screening or counseling services available in Saudi Arabia for those planning a family?	150	60	100	40	10.000	0.002*
Would you consider genetic counseling if you or your partner has a family history of congenital disabilities?	160	64	90	36	19.600	<0.001*
Do you think that having a family history of certain diseases (eg, heart defects, Down syndrome) increases the likelihood of having a child with congenital disabilities?	182	72.8	68	27.2	51.984	<0.001*
Are you aware of any national or local programs in Saudi Arabia that provide genetic testing or screening for families planning to have children?	210	84	40	16	115.600	<0.001*
Are you aware that certain medications can impact fetal development and increase the risk of congenital disabilities?	177	70.8	73	29.2	43.264	<0.001*
Would you consult a healthcare provider before taking any medication during pregnancy?	195	78	55	22	78.400	<0.001*
Are you aware that some over-the-counter medications (eg, certain pain relievers) may carry risks for fetal development if taken during pregnancy?	192	76.8	58	23.2	71.824	<0.001*
Have you heard of any specific medications or substances (eg, anti-seizure medications, certain antibiotics) that should be avoided during pregnancy due to potential risks to the fetus?	162	64.8	88	35.2	21.904	<0.001*
Do you know that folic acid intake before and during pregnancy can reduce the risk of disabilities?	199	79.6	51	20.4	87.616	<0.001*

Would you consider changing lifestyle habits (eg, improving diet, avoiding smoking) if you knew it could prevent disabilities?	187	74.8	63	25.2	61.504	<0.001*
How often do you seek information on healthy pregnancy practices from professionals or reliable sources?	187	74.8	63	25.2	61.504	<0.001*
Do you awareness are the most effective ways to prevent disabilities?	192	76.8	58	23.2	71.824	<0.001*

majority of participants answered "yes" (60.0%) and "no" (40.0%) when asked whether they would explore genetic counseling if they or their spouse had a family history of congenital impairments. The significant differences were $P=0.001$ and $X^2(19.600)$. There were 64.0% who said "yes," and 36.0% who said "no," for every item pertaining to healthcare personnel. The majority of individuals answered "yes," followed by "no," indicating a substantial difference in awareness of genetic and pharmacological factors related to disabilities ($P=0.001$).

Do you think that genetic variables (such family history) might raise the likelihood of congenital impairments? Table 3 demonstrates health care providers' awareness of genetic and pharmacological factors related to disabilities. The significant differences in this relationship were $P=0.000$ and $X^2(21.904)$. Most participants respond There are significant disparities between $P=0.002$ and $X^2(10.000)$ in the majority of participants' responses to the question, "Are you aware of any genetic screening or counseling services available in Saudi Arabia for those planning a family?" The

Table 4 Distribution of the awareness toward disabilities Disorder .

		awareness		Score	
		N	%	Range	Mesn±SD
Weak		63	25.2	5-13.	8.24±2.111
Average		140	56		
High		47	18.8		
Total		250	100		
Chi-square	X ²	59.336			
	P-value	<0.001*			

participants was 8.24 ± 2.111 , and the data range was 5–13. The average of the majority of participants was 56.0%, while the weakest participants were 25.2%.

Table 4 demonstrates that the distribution of awareness regarding disabilities disorder has a significant differences relation with a P-value of 0.001 and $X^2(49.336)$. The mean $\pm$ SD of the

Figure 1: Distribution of awareness toward disability disorders

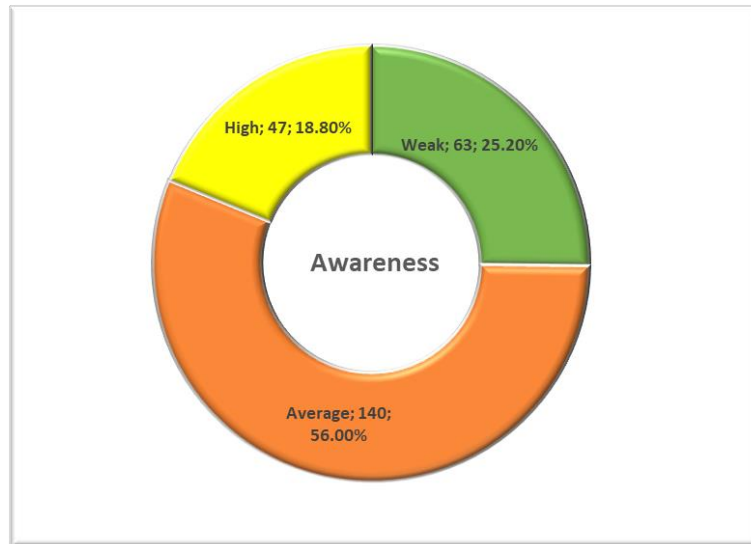


Table 5: Distribution of the relationship of the awareness toward disability disorders and Socio-demographic characteristics.

		N	Awareness		F or T	ANOVA or T-test	
			Mean	± SD		Test value	P-value
Age	<25	25	7.360	± 0.860	F	2.960	0.033*
	25-32	80	7.875	± 2.707			
	32-38	50	8.340	± 2.105			
	>38	95	8.537	± 1.556			
Gender	Male	137	8.139	± 2.080	T	-0.245	0.807
	Female	113	8.204	± 2.092			
Marital status of Mather	Unmarried	50	8.260	± 2.039	F	0.094	0.964
	Married	127	8.189	± 1.938			
	Divorced	65	8.062	± 2.410			
	Widowed	8	8.125	± 2.031			
Education level	Illiterate	53	6.057	± 1.865	F	60.517	0.000*
	Less than secondary	50	7.200	± 1.616			
	Secondary	65	9.215	± 1.833			
	Collectors or higher	82	9.293	± 1.094			
Primary health care	Governmental	80	6.725	± 1.855	T	-8.535	0.000*
	Private	170	8.847	± 1.824			

there is no significant relationship between awareness and marital status. An increase in Unmarried individuals was (Mean $\pm$ SD 8.260 $\pm$ 2.039), also P-value=0.964, F=0.094. Regarding the Educational level, a significant relation between awareness and Educational level increase in Collectors or higher was (Mean $\pm$ SD 9.293 $\pm$ 1.094), also P-value=0.000, F= 60.517. Regarding Primary health care, there is a significant relation between the increase in private employees (Mean $\pm$ SD 8.847 $\pm$ 1.824), also P-value=0.000, T= -8.535.

Table (5) show Distribution of the relationship of the awareness toward disabilities Disorder and Socio-demographic characteristics that is a significant relation between awareness and age increase in 32-38 years were (Mean $\pm$ SD 8.340 $\pm$ 2.105), follow by >38 age in awareness were (Mean $\pm$ SD, 8.537 $\pm$ 1.556) P-value=0.033, F= 2.960. Regarding gender, there is no significant relation between awareness and gender increase in females were (Mean $\pm$ SD 8.204 $\pm$ 2.092), followed by males were (Mean $\pm$ SD, 8.139 $\pm$ 2.080), also P-value=0.807, T= -0.245. Regarding marital status,

Figure 2: Distribution of the relationship between the awareness of disability disorders and age.

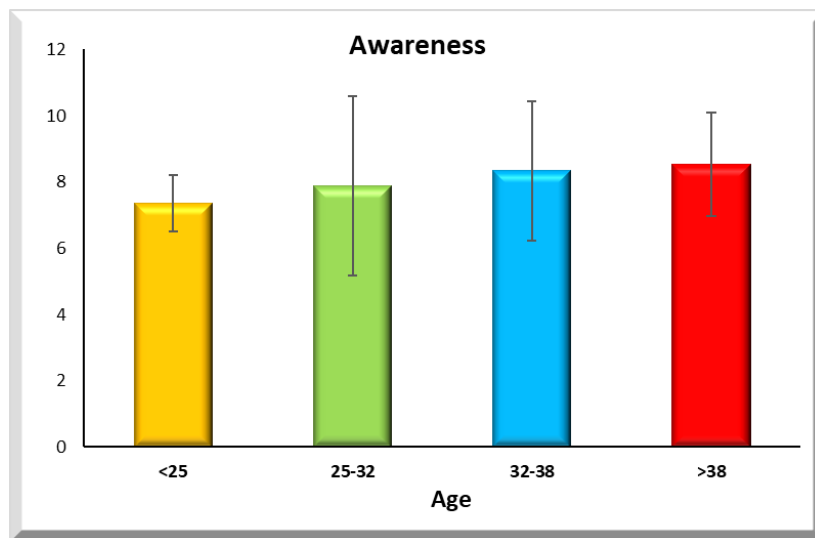


Figure 3: Distribution of the relationship between the awareness of disability disorders and education level.

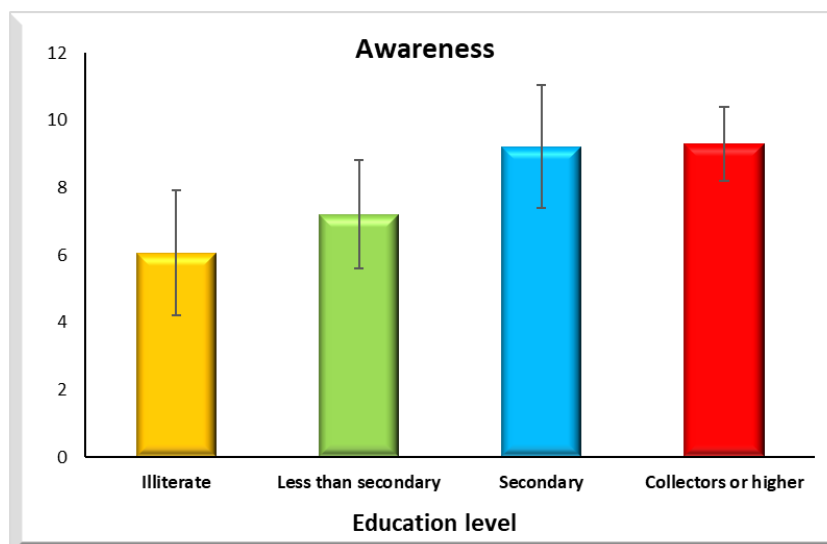
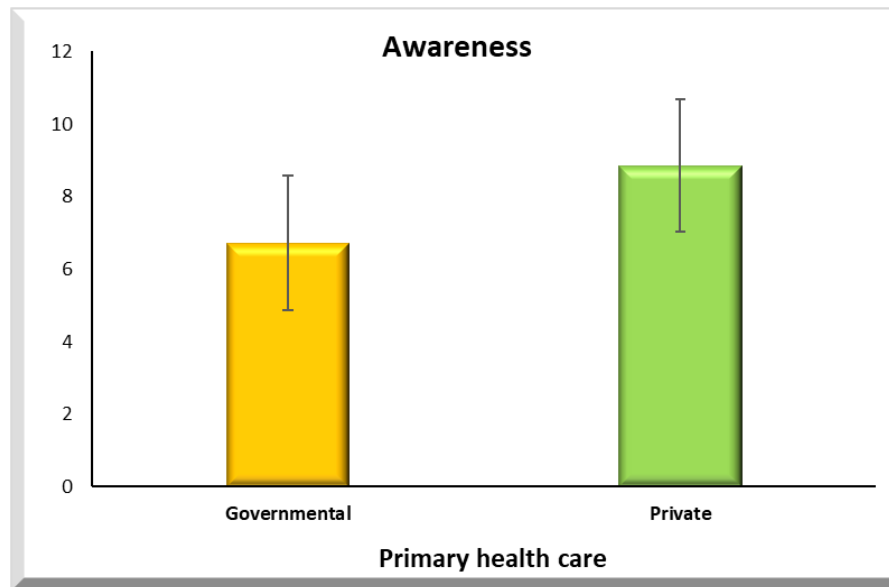


Figure 4: Distribution of the relationship of the awareness toward disability disorders and primary health care.



Discussion

The purpose of this cross-sectional research was to evaluate health care practitioners' knowledge of children with disabilities in Saudi Arabia in 2024. Children with disabilities are at the heart of today's worldwide health issues.[14] Little progress has been achieved in improving the health of children with disabilities, and their health remains neglected despite more than 30 years of demands for action to address these challenges in policy and practice [25, 26].[20]

According to the study's survey, most medical professionals said they often interact with this patient population. Respondents did, however, also mention a lack of formal knowledge or training in the health of children with disabilities. According to this research, the existing level of health care provider education in children with disabilities raises concerns about whether it can effectively satisfy the demands of the health care system in providing efficient services to this patient population. A barrier to providing children with disabilities with proper health care has been noted as a lack of training in the health of children with disabilities and/or the health care challenges that are unique to them in comparison to adults and children.[27] Furthermore, studies indicate that specialized training in the health of children with disabilities may be effective in enhancing clinical practice and capabilities. [28] and raising doctors'

self-perceived proficiency in dealing with disabled children [29]. It is imperative that Saudi Arabian medical and nursing institutions include the health of children with disabilities within their curricula. Conferences and continuing professional education programs are crucial platforms for giving working healthcare professionals the knowledge and skills they need to support the health of children with disabilities.[30] Few efforts have been made to incorporate the findings of several research on the obstacles to the availability and use of health care for children with disabilities into the development of comprehensive services that are inclusive of these individuals.[22] The majority of the medical professionals who took part in this survey agreed that the demands of children with disabilities are different from those of children and adults. Furthermore, the majority of respondents disagreed with the existing practice of moving disabled children from pediatric to special education settings, and providers thought that teenagers should get specialized assistance. [13]

Conclusion

Improving physical accessibility to health care services, addressing financial barriers to make treatment more accessible to parents, and guaranteeing sufficient training for healthcare professionals are all crucial aspects of access. Developing sustainable financial support programs, improving interprofessional cooperation with other

medical and health-related professions, improving accessibility for children with disabilities, and improving education for children with disabilities are all part of offering answers. Reducing inequities and enhancing the general health and well-being of children with disabilities seem to require addressing these areas. The research emphasizes the significance of sustainable rehabilitation programs as well as changes to healthcare and childhood disability policies and practices. To find methods to enhance the experience of obtaining health care, more study is needed.

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