Original Article

Knowledge, Attitude and Practices about Infections and Immunization in Patients with Autoimmune Inflammatory Disease and Oncological Disease Patients in Pakistan

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ABSTRACT

Objective: Among patients with autoimmune inflammatory related diseases patients in Pakistan, the primary goal of the research is to determine their knowledge, attitudes, and behaviors about illnesses, vaccination, and other topics.
Study Design: Cross-sectional study
Place and Duration of Study: This study was conducted at the Pakistan Institute of Medical Sciences Islamabad during March, 2021 till December, 2021 for a period of nine months.
Materials and Methods: One hundred patients, equally divided across sexes, took part in the research and contributed the data gleaned from it. All patients with autoimmune inflammatory illness and cancer were eligible for participation in the trial, however those who did not wish to participate were excluded.
Results: A total of one hundred patients were polled to gather data. At the time of the study's conclusion, the average age of the participants was 39.6915.86 years. The virus that causes herpes zoster affected seven persons. Four of the participants came down with the flu. Five of the individuals tested positive for pneumonia. They both suffered dengue fever and malaria, but they both recovered. The individual who had a herpes genitalis infection in the previous five years was also included in the study. Patients were provided conventional disease-modifying antirheumatic medications (DMARDs) for 59.7 percent of the total and biological medicines for 9.8 percent of the total after the study's outcomes. Thirty-three (32.9 percent) of the patients were taking glucocorticoids in significant dosages.
Conclusion: It has been concluded that the expertise, approach, and practise of the respondents produced good results. Autoimmune illnesses have a complicated multifactorial origin, and a wide range of variables might play a role in their start and progression.
Key Words: Knowledge, Attitude, Infections, Immunization, Patients, Autoimmune Inflammatory Disease

INTRODUCTION

In the opinion of specialists, the elderly and those with weaker immune systems are at a high risk of infection. There are 1.6 million deaths per year from pneumococcal disease in both developing and developed countries, more than the annual death toll of seasonal influenza. Innumerable lives have been saved and lifelong disabilities avoided thanks to the effectiveness of immunizations as a public health intervention [1]. Because of their effectiveness, safety, and cost savings, vaccines have significantly reduced the number of cases of infection and the mortality and morbidity they cause. Consequently, the incidence of infections has decreased, as well as mortality and morbidity associated with infections. Vaccines are frequently derived from microbes, their toxins, or proteins on their surface that serve as antigens that have been weakened or killed. It's common knowledge that there are four different kinds of vaccines: live, inactivated, subunit, and toxoids (inactivated toxic compounds) [2]. Because of the SARS-CoV2 pandemic, new vaccines, such as mRNA and virus-vectored vaccines, have been developed and are currently being tested. In addition to the antigen, vaccines may include adjuvants, stabilisers, and preservatives, which may contain traces of antibiotics and are used to prevent

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bacterial or fungal contaminations during the manufacturing process.[3]

In terms of the non-monetary factors that determine poverty, such as education and health, the country's socioeconomic foundation is weak[4]. According to international standards, Pakistan's literacy rate is only 58%. Many cases of HIV/AIDS go unreported and undiagnosed as a result of the social stigma attached to the disease, as well as the lack of adequate surveillance, voluntary counselling, and testing systems [5]. As a result of its low rate of condom use, large number of long-distance truck drivers (who are at high risk of HIV infection), thriving commercial sex industry, limited blood transfusion safety protocols, high prevalence of sexually transmitted infections (STIs), limited access to quality STI care, and growing number of injection drug users (IDUs), Pakistan is considered an extremely high-risk country for HIV infection [6].

The prevalence of autoimmune and auto-inflammatory diseases in developed countries is estimated to be one in every fifteen people, and in many cases, they pose a serious health and financial burden to both patients and the public. Long-term outcomes for many patients with autoimmune diseases remain poor despite significant advances in the development of new treatment methods[7]. There is still a high risk of infection in people with rheumatological illnesses. The development of vaccinations has made important contributions to the prevention of infection in the area of rheumatic illnesses. In spite of the fact that vaccination is a powerful immune system stimulant, it may also create or aggravate immunological disturbances that appear as serological indications of immune system dysregulation or clinically manifest autoimmune disease [8].

MATERIALS AND METHODS

This cross-sectional study was conducted in Pakistan Institute of Medical Sciences Islamabad during March 2021 till December 2021. A sample of 100 patients, including male and female, have been surveyed for this study. There were no exclusions for individuals with autoimmune inflammatory sickness and cancer, as well as those who did not wish to participate were excluded. Use of an organized questionnaire was used to collect the data needed. Information on socio-demographic status, health status, and knowledge of sickness are all included in this easy-to-use survey. Information on participants' demographics, such as gender, marital status, and education level was requested in the first phase of the survey. The participant's health was the focus of the second portion. Knowledge, attitudes, and practises were divided into three different parts. In the knowledge phase, participants were asked a series of questions regarding the transmission of disease, the symptoms, and whether or not disease can be treated

and cured (see below). If they considered this was a public health concern and should be addressed in order to create awareness, they were questioned about this in the attitude component. Additional questions were addressed concerning people's perceptions of folks with an autoimmune condition, and the results were rather interesting.

SPSS version 20 was used to collect and analyze the data. For each variable, the average and standard deviation were used to summarize the data.

RESULTS

The data was collected from 100 patients. At the time of the research, the average age of the participants was 39.6915.8639.69± 15.86 years. Seven people were infected with the virus that causes herpes zoster. There were four cases of influenza among the patients. Five people were diagnosed with pneumonia. A dengue patient was one of them. During that time, one had a herpes genitals infection. Conventional disease-modifying antirheumatic medications (DMARDs) were prescribed to 59 patients (59.7 percent of the total) and biological agents were prescribed to nine patients (9.8 percent of the total). Patients were using glucocorticoids in 33% of cases.

Table No.1: Demographic and disease characteristics of the participants

Demographic data	Number (%)
Age (years)	39.69 ± 15.86
Gender (males)	79 (33.6)
Disease course (years)	4.48 ± 5.96
Education level (primary school)	22
Education level (university)	78
Diagnosis	
Rheumatoid Arthritis	23 (9.8)
Systemic sclerosis	15 (6.4)
Other CTDs	13 (5.5)
Vasculitis	10 (4.3)
Spondyloarthritis	19 (8.1)
Gout	40 (17)
Glucocorticoids	14 (60.9%)
cDMARDs	15 (67.7%)
Biological agents	9 (3.8%)

A only fifteen people (6.4 %) had had a vaccine in the five years prior to the study's start. Pneumococcal and influenza vaccinations had not been administered to any of the patients in the prior five years. Because they had not been given, 53 of the patients were unable to get these vaccines (53.6 %). The Rabie vaccine was given first, followed by the HBV, tetanus, and HPV immunizations in this clinical research. Only one of the nine patients who got biotherapeutic drugs had previously been vaccinated in the prior five years.

Table No.2: Questions and answers about disease perception and vaccination

Number	Question	Yes Or I agreed Number (percentage)	No Or I disagreed Number (percentage)	I didn't know Number (percentage)
Knowledge and attitudes about vaccination				
Q2	Have you already heard of the flu vaccination before?	59 (67.7)	76 (32.3)	-
Q3	Pneumococcal vaccination, had you aware of it?	62 (26.4)	173 (73.6)	-
Q4	Herpes zoster vaccine has been around for a while, right?	43 (18.3)	192 (81.7)	-
Q5	Which of the aforementioned vaccinations can you get?	10 (43.8)	132 (56.2)	-
Q12	If I get vaccinated, I won't get sick with the flu.	26 (11.1)	117 (49.8)	92 (39.1)
Q13	A person who hasn't had a flu shot is much more likely to become sick than someone who's had a flu shot.	43 (60.9)	23 (9.8)	69 (29.3)
Q14	As a result of getting pneumococcal vaccine-tion, I am less likely to develop pneumonia.	15 (48.9)	30 (12.8)	90 (38.3)
Q17	There are no risks to vaccination.	10 (43.4)	38 (16.2)	95 (40.4)
Q18	Getting vaccinated is fraught with danger.	22 (9.4)	16 (49.4)	97 (41.2)
Q19	Access to information regarding immunization is readily available to me.	75 (31.9)	35 (14.9)	25 (53.2)
Q15	The influenza and pneumococcal vaccines are both covered by most health insurance plans.	29 (12.3)	22 (9.4)	84 (78.3)
Q16	Regardless of the price, I will not be vaccinating myself against influenza and pneumonia.	36 (15.3)	139 (59.1)	60 (25.5)
Q20	Due to my age and health conditions, I know that I must get a flu vaccination.	41 (17.4)	33 (14)	16 (68.6)
Q21	Because of my age and condition, I'm not sure whether I should be vaccinated against pneumococcal illness.	79 (33.6)	15 (6.4)	14 (60)
Q22	Influenza and pneumococcal vaccinations have been administered to members of my family or close acquaintances in the past.	34 (14.5)	47 (20)	154 (65.5)
Q6	Do you know of a doctor who recommends that you get the vaccines listed here?	9 (3.8)	221 (94)	5 (2.2)
Q24	In the event that my doctor recommends that I get an influenza or pneumococcal vaccination, I am open to doing so.	91 (38.7)	44 (18.7)	90 (38.3)
Vaccination uptake status				
Q1	Vaccination uptake			
	Influenza	1		
	Pneumonia	0		
	Herpes zoster	0		
	HAV	0		
	HBV	3		
	HPV	2		
	Rabies	4		
	Tetanus	2		
	Others	3		
Q2	Reasons given for non-vaccination			
	Unnecessary	21 (8.9)		
	too expensive	7 (3.0)		
	Troublesome	20 (8.5)		
	No reason	24 (52.8)		

DISCUSSION

The 3% of RD patients were never inoculated because the vaccine was too costly, according to one research [9]. The percentage of patients who did not know that influenza vaccination is free was greater among those who had never been vaccinated, although the majority of patients were aware.

Many vaccine-preventable illnesses are more common in people with autoimmune inflammatory rheumatic diseases, including influenza, pneumonia, herpes zoster, and HPV infections. As a consequence, patients with this illness must take extra precautions to prevent infection [10]. Immunizations are a major source of concern since they may aggravate or accelerate the course of pre-existing autoimmune diseases. A risk/benefit analysis of the recommended vaccines for people with autoimmunity is used to determine whether or not vaccinating them is useful in most cases. Vaccine-associated disease exacerbations have been reported in just a few studies [11]. HPV vaccination has been linked to an increase in SLE start and aggravation, although bigger studies have revealed no difference in incidence or exacerbation rates between vaccinated and non-vaccinated individuals. Vaccines do not raise the chance of developing SLE. Researchers who looked into the possibility that vaccines can cause or exacerbate MS found no evidence of a link. For example, there was no evidence that vaccines against hepatitis B, tetanus, and influenza exacerbated the symptoms of multiple sclerosis.12

As a consequence of immunizations, death rates throughout the world have been reduced by a wide variety of infectious diseases. Recently reported cases such as the measles epidemic have revealed, however, that reaching an adequate vaccination coverage throughout the global population remains a tough challenge [13].

Most patients said that gastroenterologists and family physicians were the primary sources of information on vaccines. A patient's primary source of information while dealing with a chronic health condition is often their family doctor. Additionally, in Poland, vaccinations are provided by a general practitioner in the office. Flu vaccine advice from a physician was shown to be undervalued by parents of children with chronic diseases in research [14].

CONCLUSION

It has been concluded that now the knowledge, attitude, and practise of the participants produced excellent results. Autoimmune illnesses have a complicated multifactorial origin, and a wide range of variables might play a role in their start and progression. As a result, vaccinations have also been investigated and tracked over time in order to determine if there is a relationship between vaccination and the development of autoimmune illnesses or immune-mediated phenomena. However, certain areas of knowledge, such as the transmission of hepatitis B and C, and attitudes, such as the necessity for post-exposure consultation with a specialist, need to be rectified or modified in order to be effective.

Author's Contribution:

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