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The effect of immunization with seasonal influenza vaccine for health workers in primary health care centers in Al-Madinah Al-Munawwarah region

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Abstract---Primary health care centers in Saudi Arabia have been playing an effective role in safeguarding the lives of the people and also maintaining order in entire Saudi Arabia. Most primary healthcare which employs influenza vaccination requires personnel awareness to know the different impacts of influenza vaccines. This paper seeks to research the suitability of effectiveness of influenza.

Therefore the main aim of the research was to find out the effectiveness of taking influenza vaccines and the impacts of seasonal influenza diseases on the workers in primary health care in Madinah. In the literature review, various papers and articles have been explored to link the existing knowledge with the new knowledge. In the theoretical framework, influenza vaccine and seasonal influenza diseases theory were employed in this research whereby the theory thinks about how the accessibility, development, and exercises of individuals impact the probability of taking influenza vaccines. On the methodology, the research was composed of 403 respondents who were selected for sampling from primary healthcare centers in Madinah. A mixed approach was employed in this research. The questionnaire method was used to collect the data from the respondents. Finding establishes the effects of seasonal influenza diseases and the impacts of the influenza vaccine on the workers. Through data collection, it was established that by attending primary healthcare centers, people get to know about the influenza vaccine and the effects of seasonal influenza diseases by workers has a job advantage.

Keywords---effect immunization, seasonal influenza vaccine, primary health care.

Introduction

Framework

Influenza vaccines and vaccination against all diseases like pneumonia and hepatitis B for example, how can vaccines immunization and millennium positively impact health? This helps in getting the millennium development goals and protection of primary health care workers from seasonal flu diseases. Its partners offer cash for vaccinations and intellectual resources to enhance treatment. Its purpose is to save worker lives and safeguard health by boosting immunization access in developing nations (Alsulaiman et al 2020). They also help increase the health system's ability to sustainably provide immunization and other health services.

With the seriousness of the disease and the accessibility of significant vaccines, lower levels of the influenza epidemic have been reported (Gordon and Reingold, 2018). The coverage of influenza vaccines for most of the healthcare workers and the people of Madinah must be high to protect them. Influenza vaccines can spread quickly because of the vast number of social events and the many people who seek healthcare centers for treatment, the use of medical services that were increased and medical prescriptions. The people in Madinah city engage with neighboring members who are working, (Dittmann et al. 2020).

Inaccessibility to the vaccines, loss of enthusiasm to vaccinate and perceived lack of vaccination requirements are all obstacles that were documented (Steffens et al. 2020). The people in the city who engage themselves with neighboring city members

who are working, performing, and who take part in social activities are at high risk. Moreover, the transmission of susceptible relatives like the people who are at risk (like workers in the medical field), immunologists and the old rises during the breaks of the semester. At Madinah in Saudi Arabia, all people who are aged 6 months are supposed to be informed of the yearly vaccine that fights against seasonal influenza, especially those at risk, such as health workers. People who are aged from 2 to 49 are allowed to use LAIV since it has been licensed in 2007 by World Health Organization, 2014 is safe for their health. The effectiveness of both LAIV and IIV vaccines depends on the composition of the vaccines from year to year and it correlates to varieties which circulate. Vaccine services of the university are typically delivered purely or predominantly IIV (Makarkov et al. 2019). The vaccine's choice could result in very higher levels of vaccination that start with an awareness of LAIV awareness and a preference for medical education. As per the WHO, it is recommended that the health care system in Saudi Arabia that primary healthcare workers should take the influenza vaccine annually to prevent themselves from seasonal influenza diseases.

Problem statement

The main problem is seasonal influenza vaccine hesitancy shown in a health care center is that the Center for control of Diseases and for Prevention diseases (CDC) indicates that all professionals of health care (HCP) get their seasonal influenza vaccine yearly (Frentzel et al. 2020). These associations characterize HCWs extensively; rundown incorporates, however, is not restricted to doctors, attendants, nursing collaborators, advisors, experts, crisis clinical help faculty, dental faculty, drug specialists, research Centre faculty, post-mortem faculty, understudies and learners, authoritative staff. The WHO recommends that immunization is the best method of forestalling contamination and extreme results brought about by influenza infections, more than general disease anticipation estimates, for example, performing legitimate hand cleanliness alone and covering a hack.

Regardless of portrayed advantages of influenza inoculation and the call for widespread vaccination, numerous medical services workers decay to get their annually influenza shot. In 2019, Barqawi and his partners examined take-up of the occasional flu immunization in an effectively high consistence medical services setting - in Tennessee, St. Jude's Children Research Hospital (Barqawi et al. 2021). They observed that, among the unvaccinated HCWs, the laborers were anxious about the possibility that the influenza immunization would cause them to feel wiped out as well as convey uncommon however genuine results. The HCWs additionally communicated questions concerning the adequacy of the immunization. In 2021, a more extensive examination study led to obstructions and inspirations to immunization among workers who gave patient consideration directly (Hancy et al. 2021).

Introduction

The introduction section helps to understand the topic in a detailed manner with proper Background information. Furthermore, the aims and objectives of the research paper are also discussed here in a detailed manner. Learning about the

topic and its main idea can be learned based on the introduction section. The rationale of the topic for selecting the topic is defined here in the paper. Furthermore, the research paper provides a detailed understanding of the research structure in which it is aiming to achieve all its targets and goals. On the other hand, the introduction section is known to be the most effective part of a research paper which is responsible for defining the initial idea of the topic in proper terms. Therefore, depending on the overall understanding of the introduction proceeding toward the literature review section becomes easy and effective as well.

Methodology

This chapter explores how the data was collected and analyzed. This chapter played a significant role in research whereby it's through this chapter the researcher determined whether the research objectives will be achieved.

The approach of the research

In this research paper mixed approach was used. The mixed approach is concerned with both qualitative and quantitative. Mix approach gives a scholar depth and breadth of exploration to the understanding of the topic in question. Through the mixed approach which was applied in this paper, there is room to elaborate and validate the findings by comparing the data collected from different sources. This makes the mix approach to be the best approach over the others. The qualitative approach involves an explanation of ideas using descriptive nature.

Research design

This will be qualitative research whereby a semi-structured questionnaire method was used to obtain data from the 196 samples. The semi-structured questionnaire was used to collect the data from employees and other members of primary health care centers. The corporate responsibility report analyzes the sustainability of the manpower and materials towards the achievement of the health care goals concerning vaccination. Department of primary health care explored how the employees as a resource can be maintained in an effective immunization.

Sample Size and sampling type

This is done to access the significance of the influenza vaccines and the effects of the seasonal influenza vaccines on primary healthcare workers in Madinah. Then the sample size was 403 respondents who were used to fill the formulated questionnaires. The sample community targets the workers of primary health care in the city where the population of the research was selected from the 403 workers in centers of primary health care in Madinah. The sample was selected randomly in which the selected health care workers had equal opportunities to participate in the research. A representative sample was taken from the research population in which each research work according to the table of the statistical

sample with a confidence level of 95% and a rate of error of 5% to reach a sample size of 196.

Table: (1-3) HCP type, study population and sample size

HCP type	Study population	%	sample
Doctors	50	12.40	25
Nursing	208	50.67	99
Health technicians	110	27.30	53
Health administration	38	9.43	19
total	406	100%	196

Data Collection Method

This method of collecting information was used to measure the effectiveness of innovation or change on the performance or quality and analysis of data. Inferential statistics and descriptive are used for data analysis. Statisticians gather and measure information through primary sources. To ensure that information obtained is viable, from a sample that represents the population which is chosen. Also, a questionnaire method of collecting data was used. There was a formulation of closed-ended questions whereby the respondents had to choose answers from the form. Closed-ended questions guide the respondents not to be out of the topic. This enables the researcher to obtain the information which was out of range. Questionnaires schedules were used as the research instruments in this research. The questionnaire was the tool which was used to collect data for the research study because was the most tool which was considered to be more effective in terms of time and cost and also in the collection of much information at a time compared to the other means. It was distributed manually for the possibility and ease of communication with the study sample. To know the trend of the sample members when they answered the main study questions the weight was given to each answer and the average was found for each of the answers separately as shown in the table below.

Table (3-2): answer, weight and value of weight average

answer	weight	Weight average value
Disagree strongly	1	1 to 1.80
Disagree	2	1.80 to 2.60
Agree for sometime	3	2.60 to 3.40
Agree	4	3.40 to 4.20
Agree strongly	5	4.20 to 5

The average weight was calculated for each of the phrases of the study tool and its range was compared in the above table and the corresponding answers were provided to the range which is within the average of the phrase falls.

The validity and reliability of the results

Validity and reliability both deal with how well a statistical method measures something; Reliability is the measure of consistency i.e. whether results are produced again under the same conditions. Validity is the measure of accuracy i.e. whether the results represent what they are required to measure. To validate the research instruments pilot analysis was carried on to ensure the research instruments used as simple and understandable. 10 respondents were chosen for pilot analysis. This pilot analysis was aiming to prepare the final research instruments such as questionnaires. After conducting a pilot analysis it was found that some terminologies were very difficult to be understood by an ordinary employee. Therefore, the researcher used simple terminologies in preparation for the final research instruments to avoid misinterpretation of questions.

Table (3-3): correlation coefficients between research tools and total score

no	Correlation coefficients	no	Correlation coefficients
1	.596**	14	.554**
2	.592**	15	.503**
3	.356**	16	.566**
4	.344**	17	.452**
5	.575**	18	.544**
6	.563**	19	.541**
7	.599**	20	.518**
8	.485**	21	.482**
9	.478**	22	.542**
10	.601**	23	.535**
11	.602**	24	.563**
12	.507**	25	.563**
13	.415**		

The above table shows the correlation relationship between each questionnaire's phrases and the total score of the tool. On the other hand, it turns out that the correlation coefficients ranged between (0.415-0.602) which are very high values which mean that there was internal consistency between every statement and the total score of the tool.

Study management

This shows how to help teams, individuals and organizations to meet their effective potential for the influenza vaccine. As mentioned earlier this study employed a mixed approach thus, is qualitative and quantitative methods. The qualitative analysis employs non-numerical data to discuss the data collected. The data was tabulated and presented using charts and tables. Quantitative analysis involves numerical data. This research employed cross-tabulation as this research tried to revolve around resource management and sustainable development. The data collected from the 403 respondents were analyzed and presented using tables which aided the data visualization process. The interpretation of data enables readers to get concepts without struggling.

Tools and statistical methods used

- There were several statistical methods which were used to answer the questions posed by the researcher, they include:
- One way vaccine analysis
- Arithmetic mean and standard deviations
- Chi modulus
- Ratios and repetitions

Approval of the ethics

Ethical approval was obtained by the Ethics Committee

Chapter 4

Data analysis and findings

Introduction

In this chapter, the characteristics of the study sample will be described, and the statistical analysis of the study tool will be done by finding descriptive statistics and some relationships in order to answer the study's axes, according to the following.

First: The characteristics of the study sample:

The characteristics of the study sample members were determined by job title, academic qualification, and work experience of the primary healthcare workers. Frequencies and percentages of personal data were calculated as follows as per the table below.

Table (4-1): Characteristics of the study sample

Age	%	Frequency
Below 30 years	8.17	17
From 30 to 40 years	52.56	105
From 40 to 50 years	22.96	45
Above 50 years	15.31	29
Total	100.0	196
Qualification	%	Frequency
Diploma	65.82	127
Specialist	24.49	48
Higher than specialist	9.69	21
total	100.0	196
HCP type	%	Frequency
Doctors	12.40	25
Nursing	50.67	99
Health technicians	27.30	54
Health administration	9.43	18
total	100.0	196

Experience Years	%	Frequency
Below 5 years	31.12	62
5 - 10 years	52.55	101
10 years and above	16.33	33
total	100.0	196

It is clear from the above results in the table that most of the sample members are aged more than 30 to less than 40 years with a percentage of 52.56%, followed by those aged more than 40 to less than 50 years with a percentage of 22.96%, then from their ages More than 50 years old with a percentage of 15.31% and finally those under 30 years old with a percentage of 8.17. Also, It is clear from the results of the table that the academic qualification for most of the sample members is the diploma qualification with a percentage of 65.82%, followed by a specialist with a percentage of 24.49%, and then higher than a specialist with a percentage of 9.69%. It is also clear from the results of the table that the job title of most of the sample members is a nurse with a percentage of 50.67%, followed by health technicians with a percentage of 27.30%, then a doctor with a percentage of 12.40% and finally administrators with a percentage of 9.43%. From the results of the table, it is clear that the years of experience for most of the sample are between 5- to 10 years, with a percentage of 52.55%, followed by those under 5 years with 31.12% and finally those over 10 years with 16.33%

Second: Analysis of the responses of the study sample to the study variables:

In this part, the statistical analysis of the responses of the study sample to the study variables is presented, through five axes, which include.

- The general perception of the workers about the seasonal influenza vaccine.
- The importance of taking the vaccine for the workers
- Personal beliefs about the influenza vaccine and its importance and impact on work.
- About the effect of the seasonal influenza vaccine on the performance of health workers in health centers
- The role of the vaccine in preventing the transmission of infection between employees and patients.

First axes: The general perception of the workers about the seasonal influenza vaccine

Phrase	average	deviation	approval level	square chi	Indication level
Do you think that influenza is a serious disease?	3.3	1.21	Sometime agree	18.3	0.002
Do you think that influenza causes absenteeism from work?	3.6	1.05	Agree	28.3	0.003
In your opinion, what are the most important factors that help prevent the transmission of influenza?	3.00	1.08	Sometime agree	54.5	0.004

Do you know there is a seasonal flu vaccine?	3.2	0.99	Sometime agree	67.1	0.002
Do you support annual influenza vaccination for health workers?	2.90	1.02	Sometime agree	31.6	0.001
Do you take the seasonal flu vaccine?	2.90	0.97	Sometime agree	48.5	0.004
Total average	3.2	1.1	Sometime agree		

The above table is the answers of the sample members to the statements of the first axis which is the general perception of the employees about the seasonal influenza vaccine. It is clear from the value of the general arithmetic mean of the axis, which amounted to (3.2) corresponding to the answer somewhat agreeable, which means that the sample of members agree to some extent that there is a good perception to have around the seasonal flu vaccine.

The phrases were arranged in descending order, starting from the largest mean and ending with the smallest mean. We find that the phrase (knowledge of the presence of seasonal influenza vaccine) at the beginning of the order with an average of (3.6) and a degree of agreement, and then the phrase (influencing factors that prevent the transmission of seasonal influenza) with an average of (3.3). And the degree of approval to some extent, and then the phrase (the effect of seasonal flu on employee absence) with an average of (3.2) and the degree of approval to some extent, and then the phrase (the presence of advanced programs for the application of electronic management) with an average of (2.9) and the degree of approval of agreeing to some extent, and then the phrase (annual vaccination support) with an average of (2.9) and a somewhat agreeable degree of approval.

Arithmetic averages and standard deviations of the planning axis for the needs of human resources in the hospital. And through the values of the levels of statistical significance for the Chi-square test for each statement separately, amounted to (0.000) less than (0.05), which means that there are differences between the answers of the sample members on each statement, and through the general average of the axis, we find that these differences are in favor of the agreement.

Second axis: the importance of taking the vaccine for the workers

Phrase	average	deviation	approval level	square chi	Indication level
Did you get the seasonal flu vaccine this year?	2.9	0.9	Sometime agree	29.63	0.004
Do you take the flu vaccine for work requirements?	3.5	1.1	agree	7.04	0.003
When you took the seasonal influenza vaccine, was your performance at work affected?	3.3	0.9	Sometime agree	25.2	0.002
Is the seasonal influenza	2.7	1.1	Sometime	32.6	0.001

vaccine available to combat the center's employees, or is there a shortage?			agree		
How do you see your satisfaction with the importance of the seasonal influenza vaccine?	3.8	0.8	agree	49.2	0.004
Total average	3.4				

The above table is the responses of the sample members to the statements of the second axis (the importance of taking the vaccine for the workers). It is evident from the value of the general arithmetic mean for the axis, which amounted to (3.1) corresponding to the answer somewhat agreeable, which means that the sample members agree to some extent on the extent to which they accept the vaccine Seasonal influenza. The phrases were arranged in descending order, starting from the largest average and ending with the smallest average. We find that the phrase (the percentage of satisfaction about the importance of taking the seasonal influenza vaccine) at the beginning of the arrangement with an average of (3.8) and a degree of approval and then the phrase (taking the seasonal influenza vaccine for work requirements) with an average of (3.5) and the degree of agreement agree, and then the phrase (when taking the influenza vaccine, is working affected) with an average of (3.3) and the degree of approval somewhat agree, and then the phrase (as the seasonal flu vaccine taken this year) with an average of (2.9) and a degree of agreement A somewhat agreeable agreement, then the phrase (the extent of primary health care workers satisfaction about taking the influenza vaccine) with an average of (2.7) and a somewhat agreeable degree of approval, and then the phrase (weak culture about the vaccine and its effect) with an average of (2.6) and a somewhat agreeable degree of approval. Through the values of the levels of statistical significance for the Chi-square test for each statement separately, it amounted to (0.000) less than (0.05), which means that there are differences between the answers of the sample members on each statement, and through the general average of the axis, we find that these differences are in favor of the agreement.

Third axis: In the following, we address the statistical analysis and discuss and discuss the results of the axis, as follows:

Table No. (4-4) Statistical analysis of the sample answers about personal beliefs about the influenza vaccine and its importance and impact on work

Phrase	average	deviation	approval level	square chi	Indication level
Do you think that the seasonal flu vaccine has more benefits than its side effects?	2.9	0.9	Sometime agree	29.36	0.003
Do you always advise Friends and colleagues to take the seasonal influenza vaccine?	3.3	0.9	Sometime agree	25.2	0.004
Do you think that one of the reasons for absenteeism from	2.7	1.1	Sometime agree	32.6	0.001

work is not getting the seasonal flu vaccine?					
In your opinion, there are many important reasons for not complying with seasonal influenza vaccination among health workers?	2.8	0.9	Sometime agree	41.2	0.000
Do you think strict measures should be taken regarding the seasonal flu vaccination for medical workers?	3.8	0.8	agree	49.2	0.003
Total average	3.2		Sometime agree		

The above table is the answers of the sample members to the statements of the third axis (personal beliefs about the influenza vaccine and its importance and impact on workers). It is evident from the value of the general arithmetic mean for the axis, which amounted to (3.1) corresponding to the answer somewhat agreeable, which means that the sample members agree to some extent on the importance of personal beliefs about the influenza vaccine, the importance of taking it and its impact.

The phrases were arranged in descending order, starting from the largest mean and ending with the smallest mean. It was found that the phrase (belief about the necessity of compelling medical workers to take the vaccine) at the beginning of the arrangement with an average of (3.8) and a degree of approval of the agreement, and then the phrase (about advising friends and colleagues to take the vaccine) with an average it reached (3.5) and the degree of agreement agreed, and then the phrase (the benefits of taking the vaccine are more than its negative effects) with an average of (2.9) and the degree of approval to some extent, and then the phrase (there are several reasons that prevent the vaccination among health staff) with an average It reached (2.8) and the degree of approval was agreed, and then the phrase (Is not taking the vaccine one of the reasons for a worker in primary healthcare absence, the lack of financial allocations for training programs for workers in the field of electronic management) with an average of (2.7) and the degree of approval to some extent. Through the values of the levels of statistical significance for the Chi-square test for each statement separately, it amounted to (0.000) less than (0.05), which means that there are differences between the answers of the sample members on each statement, and through the general average of the axis, we find that these differences are in favor of the agreement.

Fourth Axis: In the following, it is addressed that the statistical analysis and discussion of the results of the axis, as follows

Table No. (4-5) Statistical analysis of the sample answers about the effect of the seasonal influenza vaccine on the performance of health workers in health centers

Phrase	average	deviation	approval level	square chi	Indication level
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Do you think that there is adequate support by the departments to urge workers to take the seasonal influenza vaccine annually for health workers?	3.4	1.3	agree	9.1	0.001
Do you think health center workers who have not received the seasonal influenza vaccine could expose patients to influenza infection?	3.3	1.2	Sometime agree	35.5	0.002
there is a relationship between voluntarily taking the seasonal influenza vaccine and between the pixel card	2.6	0.8	Sometime agree	33.36	0.003
Is it possible to have symptoms when I get the seasonal flu vaccine?	3.7	1.0	agree	76.4	0.004
Total average	3.1		Sometime agree		

The table shows the sample's answers to the expressions of the fourth axis (the effect of seasonal influenza vaccine on the performance of health workers in health centers): The effect of seasonal influenza vaccine on the performance of health workers in health centers. The phrases were arranged in descending order, starting from the largest average and ending with the smallest average, so we find that the phrase (the appearance of symptoms after taking the influenza vaccine) at the beginning of the order with an average of (3.7) and a degree of approval of OK, and then the phrase (the need to compel workers to take the vaccine annually) with an average of (3.4) and the degree of agreement to some extent agree, and then the phrase (staff not taking the influenza vaccine may expose patients to seasonal influenza infection) with an average of (3.3) and the degree of approval to some extent, and then the phrase (there is a relationship between voluntarily taking the seasonal influenza vaccine) and between the pixel card with an average of (3.2) and the degree of approval to some extent. Through the values of the levels of statistical significance for the Chi-square test for each statement separately, it amounted to (0.000) less than (0.05), which means that there are differences between the answers of the sample members on each statement, and through the general average of the axis, we find that these differences are in favor of the agreement.

Fifth axis: the role of the vaccine in preventing the transmission of infection between workers and patients.

In the following, the statistical analysis and discussion of the results of the axis are addressed, as follows:

Table No. (4-6) Statistical analysis of the sample answers about the role of the vaccine in preventing the transmission of infection to staff and patients

Phrase	average	deviation	approval level	square chi	Indication level
Vaccination reduces seasonal influenza infection among employees	3.35	0.93	Sometime agree	54.6	.003
The effect of taking the vaccine in preventing the transmission of influenza to patients visiting health centers	3.35	0.93	Sometime agree	64.9	.002
Taking the vaccine reduces absenteeism among employees by protecting them from seasonal influenza	3.45	0.89	agree	37.04	.004
It is necessary to adhere to the means of personal protection when symptoms of influenza appear	3.10	0.97	Sometime agree	41.28	.001
Taking the necessary precautions to deal with patients to prevent infection, including taking the seasonal influenza vaccine	3.50	1.05	agree	39.2	.002
Advise patients about the importance of getting the influenza vaccine	3.15	1.14	Sometime agree	29.1	.004
Total average	3.3		Sometime agree		

The table above is an expression of the sample members' answers to the expressions of the fifth axis (the vaccine prevents the transmission of infection between workers and patients). The value of the general arithmetic mean for the axis, which reached (3.3), corresponds to the answer somewhat agreeable, which means that the sample members agree to some extent that the vaccine prevents the transmission of infection between staff and patients.

The phrases were arranged in descending order, starting from the largest average and ending with the smallest average, so we find that the phrase (the necessity of taking personal precautions at the time of dealing with patients, including the seasonal flu vaccine) at the beginning of the order with an average of (3.50) and a degree of approval of agreement, and then the phrase (taking the vaccine prevents absence between workers by protecting them from seasonal influenza infection) with an average of (3.45) and a degree of approval to some extent, and then the phrase (taking the influenza vaccine prevents transmission of infection to auditors of health centers) with an average of (3.35) and a degree of approval to some extent, and then the phrase (advising patients is important taking the seasonal influenza vaccine) with an average of (3.35) and a degree of approval to some

extent, and then the phrase (the necessity of using personal protection methods when flu symptoms appear) with an average of (3.35) and a degree of approval to some extent. Through the values of the levels of statistical significance for the Chi-square test for each statement separately, it amounted to (0.000) less than (0.05), which means that there are differences between the answers of the sample members on each statement, and through the general average of the axis, we find that these differences are in favor of the agreement.

Third: Explain and arrange the strength of the influence of the independent variables on the dependent variable according to the arithmetic averages and chi-square:

The following explains and explains the order of strength of the influence of the independent variables on the dependent variable:

Table No. (4-7): The order of strength of the influence of the independent variables on the dependent variable

independent variables	overall average	square chi	order
The general perception of the workers about the seasonal influenza vaccine	3.1	41.25	4
The importance of taking the vaccine for the workers	3.4	31.46	1
Personal beliefs about the influenza vaccine and its importance and impact on work.	3.2	34.87	2
About the effect of the seasonal influenza vaccine on the performance of health workers in health centers	3.1	33.43	3

It is noted from the above table that:

- The independent variable (The importance of taking the vaccine for the workers) is the most independent variable affecting the dependent variable where the arithmetic mean was 3.4, and the value of chi-square was 31.46.
- The independent variable (Personal beliefs about the influenza vaccine and its importance and impact on work.) comes in the second place to influence the dependent variable (Effect of seasonal influenza vaccine on health workers in Madinah), where the arithmetic mean was 3.2, and the value of chi-square is 34.87.
- The independent variable (About the effect of the seasonal influenza vaccine on the performance of health workers in health centers) comes in the third place to influence the dependent variable (Effect of seasonal influenza vaccine on health workers in Madinah), where the arithmetic mean was 3.1, and the value of chi-square was 41.25

- The independent variable (The general perception of the workers about the seasonal influenza vaccine) comes in the last place to influence the dependent variable (Effect of seasonal influenza vaccine on health workers in Madinah), where the arithmetic mean was 3.1, and the value of chi-square was 33.43.

Fourth: Study results and discussion:

- The study confirmed that there is a general perception of workers about the seasonal influenza vaccine, and this is evident in - Knowledge of influenza and its impact on absenteeism from work, as well as knowledge of the importance of vaccination for seasonal influenza annually.
- The study showed that the importance of taking the vaccine for workers is of great importance in preventing infection and increasing work efficiency, and this is shown in: - Taking the flu vaccine annually, regardless of work requirements such as pixel certification or work during the Hajj season. Just as the internal persuasion increases the coverage of the seasonal flu vaccine. When the health worker is convinced of the importance of the vaccine and its effectiveness in addressing this disease, he recommends it to colleagues as well as the surrounding community.
- The study showed that the adequacy of personal beliefs about the influenza vaccine and its importance and impact on work has a clear relationship to the extent of the commitment of health workers in health care centers to receive the influenza vaccine. The more positive the personal beliefs, the greater the commitment to take the flu vaccine.
- The support of the senior management to motivate health workers to take the influenza vaccine has a clear impact on the desire to be vaccinated. And facilitating the procedures for health workers to receive the vaccine also contributes to the increase in the desire to be vaccinated. Also, direct and indirect support through motivation and support, facilitating procedures and reducing waiting time to receive the vaccine have an effect on increasing the desire for vaccination.

Chapter 5

This chapter deals with the summary and conclusions of the study, as well as the most important recommendations of the study, which are as follows:

Results

From the feeling of the formulated questionnaires by the works below are the results which were obtained. It was confirmed that an influenza disease places tremendous healthcare and financial burden on the health system. It is also attributed to low coverage of vaccines among the targeted population, despite the fact that immunization against flu diseases has been advised for many years it remains the most effective method for preventing disease in Al-Madinah. Primary healthcare workers are more likely than the general population to be affected by respiratory viruses, such as flu, posing a danger to their health and the safety of their patients and also their family

From the research, it was also found that the main problem is seasonal influenza vaccine hesitancy shown by health care professionals. The Ministry of Health in Saudi Arabia suggest that all primary health care professionals (HCP) get their seasonal influenza vaccine yearly. These associations characterize HCWs extensively; rundown incorporates, however, is not restricted to doctors, attendants, nursing collaborators, advisors, experts, dental faculty, drug specialists, learners, and authoritative staff.

Also, it was found that when primary health care workers take the influenza vaccine their consistency in going to work remains accurate thus they provide quality and effective service to their colleagues and the people of Al-Madinah. Also, it was found that the influenza vaccine has many more positive benefits than its effects thus people are encouraged to take the vaccine to keep them safe from infection of flu diseases. Taking of influenza vaccine should be forced on everybody since people who are not vaccinated will infect those who have received their vaccine against the flu diseases.

Recommendations

According to the results and discussion, this research makes the following recommendations:

1. Primary health care centers should encourage people to get the Influenza vaccine since they are important to all people because they protect them from being infected by seasonal flu diseases.
2. There is a need for all workers to take the Influenza vaccine to protect them from being infected, when this happens, they will be able to attend to their duties regularly without absenteeism attributed to flu-like sickness.
3. The workers should educate people about the benefits and effects of taking influenza vaccines.
4. The government together with the health care system should set annual strategies to ensure that every person will receive the influenza vaccine.
5. There is a need for people to know the risk of flu diseases and how to prevent themselves from being infected.

Study limitations

The research collects the data using a questionnaire. However, the researcher also relies on secondary sources. The secondary sources which are relevant to the research topic may be few hence not giving a wide range of information. Due to this, the researcher will majorly rely on the questionnaire to ensure valid data is obtained. The timeframe located for this research is not enough to allow maximum interaction with all participants. This will force the researcher not to guide the respondents in filling out the questionnaire.

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