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Mothers' Knowledge, Attitude and Practice about Expanded Program on Immunization (EPI) Vaccination: A Sociological Study in District Dera Ghazi Khan

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ABSTRACT

Vaccination is aspect of public health that is considered the most cost-effective in reducing the prevalence of life-threatening disease. Therefore, it is important to have a sufficient amount of knowledge, a positive attitude, and correct practice regarding vaccinations. So present study has been designed to actually find out the mothers' Knowledge, attitude, and practice about the expanded program on Immunization (EPI) Vaccination in district D.G Khan. The main objectives of the study are; (i) to identify the socioeconomic characteristics of the respondent; (ii) to assess the knowledge of mothers regarding childhood vaccination; (iii) to assess the perception of respondents about the availability and difficulty of EPI vaccination in the local study area; (iv) to suggest some recommendation' to improve the accessibility of general care and encourage peoples for immunization activities and to enhance the parental level of knowledge for a positive attitude, and correct practice regarding vaccinations. In this regard, a survey was conducted, and data was collected through a multistage sampling technique from 200 mothers in tehsil Taunsa. The results showed that the majority 70.0% of the mothers possessed education up to matric; (SSC); 76.0% of respondents were of age group 20-30 years; 55.0% had 1 to 3 children; 58.0% of respondents were housewives; 93.5% mothers had knowledge about EPI vaccination; 89.0% said that difficulty of EPI vaccination is caused by lack of public

awareness; 91.5% mentioned that availability of EPI vaccinations is important for parents;92.5% mentioned that availability of EPI vaccinations necessary for children;92.0% said that availability of vaccinations was caused to protect the children healthy life; 90.5% accessibility of general care encourage people for immunization. Results also showed a significant relationship between the availability of vaccination vs life protection of children; the Presence of doctors and paramedical staff vs adoption of vaccination and accessibility of general care vs immunization activities among people. Research suggested that the government should start an awareness program for the mothers regarding complete knowledge of EPI as well as ensure the availability of vaccination in hospitals i.e. DHQs, THQs, RHCs & BHUs for better child-mother health.

Introduction

Vaccines are an essential part of a health system an effective tool for controlling diseases in many countries around the world (Sunny et al .,2018) and the most cost-effective mechanism for morbidity and mortality prevention that permits people to better protect themselves from particular bacteria and viruses (Lamiya et al., 2019).

Immunization is the process whereby a person is made immune or resistant to an infectious disease, typically by the administration of a vaccine. These vaccines help to stimulate the body's own immune system to protect the person against subsequent infection or disease, therefore it depicts the ability to develop immunity (Farida et al., 2020). Immunization is one of the most successful and cost-effective public health interventions in the constant effort of human beings against diseases that affect our well-being. Immunization has prevented more deaths in the past years than any other health intervention globally (Awosika, 2012).

Proper vaccination is desired for halting infectious or communicable disease by improving immunization among children and adults. Vaccines can also reduce disease escalation in the population. However, the vaccination and immunization policy remains fractured around the world. The United States of America (USA) have introduced the legislation to enforce vaccination for school attending children while Slovenia has far more stringent vaccination program, those who failed to comply the vaccination program in Slovenia are penalized financially (Bofarraj, 2011).

Vaccinating a child with appropriate vaccines would significantly reduce the costs of disease treatment and rates of disease and, therefore, improve the quality of the child's life (Fad et al., 2017) vaccination practices, many factors contribute to the decision-making process. Multiple unaccented children were mostly white, had older mothers with higher levels of education and were from families of high income (Birnbaum, 2013).

Protection from diseases is one of the uttermost benefits that any country can offer to its people (Mugada et al., 2017). The Childhood immunization almost guarantees protection from many

major diseases. It prevents millions of deaths per year worldwide and is widely considered to be "over- whelming good" by the scientific community (Wolfson et al., 2008).

With a population of 2,043,118, one expects a fair number of healthcare facilities addressing vulnerabilities and providing treatment. However, in Dera Ghazi Khan District their number is not commensurate with the population size there are 8 hospitals in the district in all, with a collective capacity of 553 beds. There are 34 dispensaries and 11 Rural Health (RH) Centers. The number of Basic Health Units (BHUs) is 53 with a capacity of 114 beds in total., 42.6% mothers in Dera Ghazi Khan complained of not receiving any antenatal care visit, however the state of health indicators requires a coherent approach to reduce infant and maternal mortality rates with improved reproductive health techniques and immunization (Buzdar 2017).

Rural mothers should receive adequate health education to improve their understanding of immunization. Medical services laborers ought to assume a main part in achieving mindfulness information on immunizations in rustic regions by leading mindfulness crusades, by dispersing envelopes which portrays significance of vaccination (Wani et al., 2017).

The invulnerable framework's ability to perceive and dispense with unfamiliar proteins (antigens) that it considers to act naturally is used by immunizations. The vaccination process is the process by which a person becomes immune to infectious disease, particularly after receiving the vaccine. Accordingly, immunizations repeat the ability to foster resistance. Invulnerability is the presence of adequate natural safeguards to forestall contamination, illness, or some other undesirable organic intrusion (Sarfaraz M et al., 2017).

Kids under long term old enough are powerless and at risk to get different infections and inabilities which might prompt high mortality. As a result, it is critical to provide comprehensive services for children's health to help them reach their full potential. children's health has a significant impact not only on the well-being of their families and the nation as a whole, but also on the quality of life they enjoy in the years to come (Kaur et al. , 2018).

The idea behind EPI was to expand the use of a set of underused vaccinations in all low-income countries, many of which lacked a general health framework or comprehensive disease control programs. In accordance with Pakistan's Expanded Program on Immunization (EPI) strategy, pregnant women receive BCG/OPV, three doses of DPT/OPV/Hepatitis B antibodies at 6-14 weeks of age, and the vaccinations of meals at nine and fifteen months of age 5, 6, and 7. If the child has received one dose of BCG then they were considered as vaccinate (Bukhari et al., 2018).

Due to the fact that many mothers do not bring their children to Posyandu to receive vaccinations, the immunization problem persists. This is caused by a variety of factors, such as the mother's job. Mothers who work less pay less attention to their children's health because they are too busy at work to go to the posyandu in the morning. Likewise, family support is vital for moms to impact a mother's information thus that moms are spurred to bring their children vaccinations, so they increment the mother's trust in giving essential inoculations to infants so they can influence their vaccination status (Malinda et al., 2023).

World Wellbeing Association (WHO) has created the Worldwide Immunization Activity Plan, a system with the target of disposing of immunization preventable infections by 2020. Regrettably, the contracted global immunization coverage of 90% has not been achieved for the majority of children worldwide, particularly those in developing nations (Gyawali et al., 2024).

Vaccination is a method of generating immunity against pathogens like viruses and bacteria. It works by injecting either live, dead, or altered antigens into the body. This causes the body to produce antibodies against more dangerous forms. Smallpox has been destroyed overall on account of immunization, as have cholera, rabies, and typhoid fever (Sandeep et al., 2024).

Immunization remains as an establishment general wellbeing mediation, recognized for its unrivaled expense viability and enormous effect on improving human prosperity. It is credited with saving the lives of millions of people every year, particularly children around the world, making it a beacon of hope. The global effort to immunize everyone faces difficulties. It is alarming that one fifth of all newborns do not get the necessary vaccinations, which significantly increases their risk of dying in early childhood. The disparity in vaccination coverage is a major issue, highlighting the urgent need to raise vaccination rates as a crucial health policy priority, particularly in developing nations (Memon et al., 2024).

Objectives

- To identify the socio- economic characteristics of the respondent
- To assess the knowledge of mothers regarding childhood vaccination
- To access the perception of respondents about the availability and difficulty of EPI vaccination local study area.
- To suggest some recommendation to improve the accessibility of general care and encourage peoples for immunization activities and to enhance the parental level of knowledge for positive attitude, and correct practice regarding vaccinations.

Material and Methods

For this study, a sample of 200 mothers were selected through multistage sampling technique for data collection; at first stage, 1 tehsil taunsa shareef was selected randomly; at second stage, 4 Union Councils taunsa shareef nari manghrotha and sokar were selected randomly; at third stage, 2 villages were selected from each union council randomly; and at fourth stage, 25 mothers were chosen from each selected village through purpose sampling technique. To get information, an interview schedule was constructed in the light of study objectives and to check the accuracy of research tool, pretesting was made on 20 respondents. Data was analyzed by Statistical Package for Social Science (SPSS) and univariate and bivariate analysis was made.

Results and Discussion

The most important part of the research is its analysis and interpretation. This chapter, assign to a description of the research, findings, suggestions and decides.

Table 1: Distribution of Respondents with respect to their Socioeconomic and Demographic Characteristics

Age	F	%
20-25	77	38.5
25-30	75	37.5
35-40	35	17.5
40-45	13	6.5

Total	**200**	**100.0**
Education level of Respondents		
Up to Primary	39	19.5
Up to Matric	140	70.0
Graduate	12	6.0
Post Graduate	4	2.0
Another	5	2.5
Total	**200**	**100.0**
Number of children		
1-3	110	55.0
3-5	74	37.0
5-7	16	8.0
Total	**200**	**100.0**
Acceptation		
Unemployed	35	17.5
Private Job	45	22.5
House Wife	116	58.0
Govt. Job	4	2.0
Total	**200**	**100.0**

In Table 1 age category displays that less than 20 years to 45& above years old. Table data shows that 38.5% were belong to age category of 20 to 25 years, 37.5% asked their age between 25 to 30 years, 17.5% replied between 35 to 40 years, and 6.5% were replied that their age belongs to age category of 40 to 45 years. The results showed that majority (76.0%) were asked that their age between 20 to 30 years as compared to other age categories. In table 1 education category shows that up to primary, up to matric, graduate, postgraduate, another. Table data shows that the majority (70.0%) asked their education was up to matric level, (19.5%) were replied up to primary, (6.0%) told that they were Graduate, (2.0%) have post Graduate education, 2.5% were another category of education like LLB, MBBS etc. In table 1 number of children category showed that 1-7 children. (55.0%) asked that they had 1 to 3 children. (37.0%) were replied 3 to 5 children, and (8.0%) had 5-7 children. In 1 table acceptation of mother category shows that unemployed, private job, house wife, Govt. job. The data shows that majority (58.0%) were house wives, (22.5%) were private employee, (17.5%) asked that they were unemployed and (2.0%) had Govt. job.

Table 2: Frequency and percentage distribution of the respondents, with respect to their perception, Knowledge availability and difficulties of EPI vaccination

Have knowledge about EPI vaccination	F	%
Strong Agree	176	88.0
Agree	11	5.5
Neutral	4	2.0
Disagree	3	1.5

Strong Disagree	6	3.0
Total	**200**	**100.0**
Difficulty of EPI vaccination are caused by lack of public awareness		
Strong Agree	144	72.0
Agree	34	17.0
Neutral	7	3.5
Disagree	12	6.0
Strong Disagree	3	1.5
Total	**200**	**100.0**
Availability of EPI vaccinations is important for parents		
Strong Agree	94	47.0
Agree	89	44.5
Neutral	13	6.5
Disagree	4	2.0
Strong Disagree	0	0.0
Total	**200**	**100.0**
Availability of EPI vaccinations necessary for children		
Strong Agree	155	77.5
Agree	30	15.0
Neutral	7	3.5
Disagree	5	2.5
Strong Disagree	3	1.5
Total	**200**	**100.0**
Availability of EPI vaccinations are caused to protect the children healthy life		
Strong Agree	163	81.5
Agree	21	10.5
Neutral	7	3.5
Disagree	4	2.0
Strong Disagree	5	2.5
Total	**200**	**100.0**
Accessibility of general care encourage people for immunization		
Strong Agree	125	62.5
Agree	56	28.0
Neutral	13	6.5
Disagree	6	3.0
Strong Disagree	0	0.0
Total	**200**	**100.0**

In table 2 data shows that majority (88.0%) asked they were strongly agreed, (5.5%) replied that they were agreed that they had knowledge about EPI vaccination (2.0%) neutral that that they had knowledge about EPI vaccination (1.5%) were disagreed and (3.0%) asked that they were strongly disagreed that that they had knowledge about EPI vaccination. The results showed that majority (93.5%) were agreed and strongly agreed that that they had knowledge about EPI vaccination. The Expanded Program on Immunization (EPI) is intended to control common contagious

microorganisms. Mothers' have low information about the vaccination from EPI and mothers having higher level of education are connected with the improved knowledge of the expanded Program on Immunization (Faisal, 2017).

In table 2 data shows that majority (72.0%) were asked that they strongly agreed, (17.0%) were replied that they agreed that difficulty of EPI vaccination is caused by lack of public awareness. (3.5%) were neutral that difficulty of EPI vaccination is caused by lack of public awareness. (6.0%) asked that they were disagreed and (1.5%) replied that they were strongly disagreed that difficulty of EPI vaccination is caused by lack of public awareness. The results show that majority (89.0%) of the respondents were agreed and strongly agreed that difficulty of EPI vaccination is caused by lack of public awareness. These outcomes are as per past examinations, as the vast majority of the writing showed that where definitive correspondences are used in giving the data to individuals. This elevated degree of parental figure's familiarity with vaccination might have come about because of the decisive wellbeing training done by wellbeing laborers in medical services habitats, peer bunch impact, and general local area cooperation in routine vaccination. This is confirmed by the observation that medical services savants were the commonest wellspring of data followed by the broad communications and companions (Uwaibi and Akhimienho, 2020).

In table 2 data shows that majority (47.0%) were asked they strongly agreed, (44.5%) were replied that they agreed that availability of EPI vaccinations is important for parents. (6.5%) were neutral that availability of EPI vaccinations is important for parents (2.0%) asked that they were disagreed that availability of EPI vaccinations is important for parents. The results show that majority (91.5%) were agreed and strongly agreed that availability of EPI vaccinations is important for parents. These findings are consistent with those of previous studies, as the majority of the literature demonstrated that the following factors were used to determine parents' knowledge, attitudes, and practices regarding immunization: a) the source of information regarding immunization; b) their response in the face of harmful reactions; c) their awareness of the immunization schedule; d) the reasons for missing vaccinations; and e) the availability of vaccination (Sylvia, 2011).

In 2 table data shows that majority (77.5%) asked that they were strongly agreed, (15.0%) replied that they were agreed that availability of EPI vaccinations necessary for children. (3.5%) were neutral that availability of EPI vaccinations necessary for children. (2.5%) were asked that they disagreed and (1.5%) replied that they strongly disagreed that availability of EPI vaccinations necessary for children. The results show that the majority (92.5%) were agreed and strongly agreed availability of EPI vaccinations necessary for children. These outcomes agree with past examinations, as the vast majority of the writing showed that since many variables might impact inoculation inclusion, significant contrasts ought to be thought of, for example, recurrence of antibody-preventable sicknesses, accessibility of immunization focuses, level of information and data about inoculation, and various techniques used to gauge vaccination status (Olabode, 2024).

In 2 table data shows that the majority (81.5%) were asked that they strongly agreed, (10.5%) were replied that they agreed that availability of EPI vaccinations is caused to protect the children healthy life. (3.5%) were neutral that availability of EPI vaccinations is caused to protect the

children healthy life. (2.0%) asked that they disagreed and 2.5% replied that they were strongly disagreed that availability of EPI vaccinations is caused to protect the children healthy life. The results show that the majority (92.0%) were agreed and strongly agreed that availability of EPI vaccinations was caused to protect the children healthy life. These results are accordant with previous studies, as most of the literature showed that the Expanded Program on Immunization not only protects children's health but also has important socio-political suggestions. It is necessary to develop impressive media programs to improve knowledge about EPI and encourage the belief of mothers in the vaccination programs and the safety of vaccines, thus limiting the vaccination availability, taking care of children to enough health for vaccination, and insuring vaccination during the pandemic (Giang 2022).

In 2 table data shows that majority (62.5%) were asked that they strongly agreed, (28.0%) replied that they agreed that accessibility of general care encourages people for immunization. (6.5%) were neutral that accessibility of general care encourages people for immunization. (3.0%) asked that they disagreed and (2.0%) replied that they strongly disagreed that accessibility of general care encourage people for immunization. The results show that the majority (90.5%) agreed and strongly agreed that accessibility of general care encourages people for immunization. These outcomes are as per past examinations, as a large portion of the writing demonstrated the way that the distinction could be because of contrasts in the socio-social foundation of the review populace. 85% of guardians knew about the following planned date for vaccination for their kids. Such a presentation of inspirational perspective by the guardians is gladly received and ought to be energized (Joseph, 2015).

H_1: More will be the presence of doctors and paramedical staff; more will be adoption of vaccination

Table 3: Association between the presence of doctors and paramedical staff and adoption of vaccination

Presence of doctors and paramedical staff	Adoption of vaccination					Total
	St Agree	Agree	Neutral	Disagree	St Disagree	
Strong Agree	131	0	0	0	0	131
Agree	38	15	0	0	0	53
Neutral	0	4	2	0	0	6
Disagree	0	0	3	2	0	5
Strong Disagree	0	0	0	2	3	5
Total	**169**	**19**	**5**	**4**	**3**	**200**

$\chi^2 = 358.697$, (p = 0.000), $\gamma = 1.000$, (p = 0.000)

Chi-square value (358.697) in table 3 displays a significant association (P = 0.000) between the use of vaccine death rate disability in children. Gamma value (1.000) also revealed a positive relationship between these variables. So, the researcher accepts the hypothesis and concluded that

variables have an association between them. It means "more the presence of doctors and paramedical staff; more the adoption of vaccination". So, the hypothesis was statically accepted at 0.01 level of significance. These outcomes agree with past examinations, as the majority of the writing showed Well-being experts assume a significant part in producing both Vaccination mindfulness and organization in recommended dates to moms. Despite mindfulness through different sources, information on unique immunization for moms is yet exceptionally poor. To overcome this, initiative must be taken (Dharmalingam, 2017).

H_2: More will be the availability of vaccination; more will be the children life protect

Table 4: Association between availability of vaccination and children lives protection

Availability of vaccination	**Children lives protection**					**Total**
	St Agree	**Agree**	**Neutral**	**Disagree**	**St Disagree**	
Strong Agree	154	0	0	0	0	154
Agree	4	24	3	0	0	30
Neutral	0	0	2	5	0	7
Disagree	0	0	0	1	4	5
Strong Disagree	0	0	0	0	3	3
Total	**158**	**24**	**5**	**6**	**7**	**200**

χ^2 = 484.226, (p = 0.000), γ = 1.000, (p = 0.000)

Chi-square value (484.226) in table 4 displays a significant association (P = 0.000) between availability of vaccination and children lives protection. Gamma value (1.000) also revealed a positive relationship between these variables. So, the researcher accepts the hypothesis and concluded that variables have an association between them. It means "more availability of vaccination and children lives protection". So, the hypothesis was statically accepted at 0.01 level of significance. These results are accordant with previous studies, as most of the literature showed that the Expanded Program on Immunization not only protects children's health but also has important socio-political suggestions. It is necessary to develop impressive media programs to improve knowledge about EPI and encourage the belief of mothers in the vaccination programs and the safety of vaccines, thus limiting the vaccination availability, taking care of children to enough health for vaccination, and insuring vaccination during the pandemic (Giang 2022).

H_3: More will be the accessibility of general care; more will the immunization activities among people

Table 5: Association between accessibility of general care and the immunization activities among people

Accessibility of general	**The immunization activities among people**

care	St Agree	Agree	Neutral	Disagree	Total
St Agree	119	]5	0	0	123
Agree	0	46	11	0	57
N	0	0	13	0	13
Disagree	0	0	3	3	6
St Disagree	0	0	0	0	0
Total	**119**	**51**	**27**	**3**	**200**

χ^2 = 363.811, (p = 0.000), γ = 1.000, (p = 0.000)

Chi-square value (484.226) in table 5 displays a significant association (P = 0.000) between accessibility of general care and the immunization activities among people. Gamma value (1.000) also revealed a positive relationship between these variables. So, the researcher accepts the hypothesis and concluded that variables have an association between them. It means "more the accessibility of general care; more the immunization activities among people". So, the hypothesis was statically accepted at 0.01 level of significance. These outcomes are as per past examinations, as a large portion of the writing demonstrated the way that the distinction could be because of contrasts in the socio-social foundation of the review populace. 85% of guardians knew about the following planned date for vaccination for their kids. Such a presentation of inspirational perspective by the guardians is gladly received and ought to be energized (Joseph, 2015).

Conclusion

Mothers' Knowledge, Attitude and Practice about Expanded Program on Immunization (EPI) Vaccination: A Sociological Study in District Dera Ghazi Khan.To suggest some recommendation to improve the accessibility of general care and encourage peoples for immunization activities and to enhance the parental level of knowledge for positive attitude, and correct practice regarding vaccinations. Result showed the association between knowledge about EPI and the use of vaccination in children, the association between use of vaccination and death rate and disability in the children. Association between the availability of vaccination and the children lives protection; association between the awareness of mothers about EPI and the practice of Vaccine among children; association between the accessibility of general care and the immunization activities among people; association the presence of doctors and paramedical staff and the adoption of vaccination.

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