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A Study To Assess The Effectiveness Of Video-Assisted Teaching Programme On Knowledge Regarding 5f's (I.E., Food, Finger, Fluid, Fomite, And Faeces) Of Disease Transmission Among Students Age (10-16 Yrs) Of Government Senior Secondary Schools Of Bhangrotu, Nerchowk, Mandi, (H.P) 2023.

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ABSTRACT

Children represent 25% of the global population, with 444 million in India. Their health is crucial for national development, yet many faces preventable diseases due to poor hygiene, inadequate sanitation, and lack of awareness. Communicable diseases like cholera and diarrhoea spread through contaminated food, water, and unclean hands. Schools, especially in rural areas, are hotspots for infections due to poor sanitation. Effective health education on personal hygiene and handwashing is essential to reduce illness-related absences and enhance well-being. Parents and teachers play a vital role in fostering lifelong hygiene habits.

Aim: The main aim of study to assess the effectiveness of video-assisted teaching programme on knowledge regarding 5f's (i.e., food, finger, fluid, fomite, and faeces) of disease transmission among students age (10-16 yrs).

Methodology: A pre-experimental one group pre-test post-test design to assess the effectiveness of a video-assisted teaching (VATP) on knowledge regarding the 5F's of disease transmission among children. Total 60 students were selected by using Nonprobability convenient sampling technique. Data was collected by using selected sociodemographic variables (items), Self- Structured knowledge questionnaire (35 items) regarding 5f's (i.e., food, finger, fluid, fomite, and faeces) of disease transmission. Tool was validated by team of experts. Pilot study was done on 10% of total population that is 6 students. Reliability of tool was checked by using Karl Pearson correlation coefficient formula that is r= 0.86. Data was analysed by using descriptive and inferential statistics.

Results: In the present study, mean pre-test score was 14.83±5.983 which was significantly improved after an intervention. So, mean post-test score was 27.95±3.972 highlighting the effectiveness of intervention in enhancing the level of knowledge regarding 5F's of disease transmission. A significant difference was found between pre-test and post-test knowledge score. However, there was a significant association between knowledge and sociodemographic variables.

Conclusion: The present study demonstrated that the video-assisted teaching program effectively enhanced children's knowledge about the 5F's of disease transmission, significantly improving their understanding of disease prevention.

Key Words: 5F's, knowledge, children, effectiveness, VATP.

INTRODUCTION

BACKGROUND OF THE STUDY

"The health and well-being of our children is the foundation upon which a prosperous and sustainable society is built."

- David Suzuki

Children represent one-third of the world's population and are critical to our future. Ensuring their health and well-being is essential for the backbone and development of any nation. According to a recent report by the Statistic Research Department, the global population of children aged 0-14 years is expected to reach 1.9 billion, which represents approximately 25% of the world's population. In India, out of a total population of 1.3 billion, there are approximately 444 million children aged 0-18 years old. Many of the health issues and deaths that occur within this age range can be avoided if proper preventative measures are taken. Young and growing children do not have enough knowledge and awareness regarding Communicable disease transmission and their effect on health. The major hurdles for mentioned aetiology are innocence, poor information, parent's ignorance, lack of knowledge and utilization of health services provided by health care delivery systems. So, it is very important to create awareness among children as well as in the communities about healthy life style and behavioural modification for the promotion of health and prevention of diseases.

As of April 2021, just over 90 percent of children aged 6-17 years in urban India attended school. The attendance rate for school-going children in rural India is comparatively lower, with only around 86.1 percent of children in the same age group reported to be attending school. So, they are more prone to be affected by diseases that are preventable and even treatable by applying some simple interventions. According to WHO, approximately 1.3 million adolescents and young adults (aged 15-24 years) died in 2020, resulting in a probability of dying this age group of 11 deaths per 1000 adolescents in 2020. Globally deaths among adolescents aged 15-19 years accounted for 43 percent of all deaths in those aged 5-24 years. Injuries (including road traffic and drowning), violence, self- harm, infectious diseases such as respiratory infections, infectious diseases of childhood etc. are the leading causes of death among adolescents and young adults.

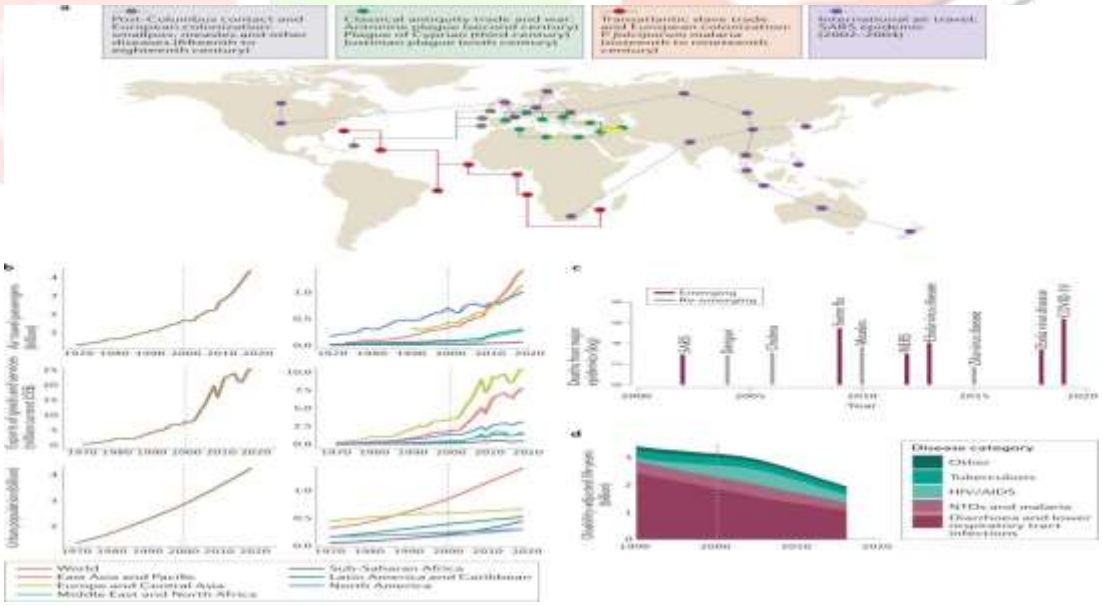

Fig.1: Infectious disease in an era of global change

On World Health Day 2011, the Water Supply and Sanitation Collaborative Council highlighted that in the 19th century, poor sanitation led to the widespread occurrence of illnesses like diarrhoea, cholera, and typhoid, which were the primary causes of childhood mortality in Europe and North America. However, due to significant improvements in sanitation practices, such deaths have become uncommon in these regions today. In developing countries, however, they all are too common, and recent published research suggested that poor hygiene and sanitation are either the major underlying cause in over 8,29,000 people in low- and middle-income countries in each year representing 60% of total diarrhoeal deaths as Published report by WHO.

Infectious diseases and their mode of transmission's knowledge and behaviour to prevent them are key elements which will ensure children health and safety. When a pathogen or a disease-causing agent enters a host and begins to multiply, it is referred to as an infection. A pathogen or infectious agent brings disease to its host (organism can cause infection; it is an infectious agent). These pathogens are: bacteria, viruses, fungi, proti1sts, parasitic worms etc. Communicable or infectious diseases, such as cholera, typhoid, and diarrhoea, are illnesses that are caused by pathogens or the toxins they release. It can be transmitted by man, animals, or from the environment. These infectious agents may transmit through 5 Fs of disease transmission i.e., Food, Fingers, Fluid, Fomites and Faeces. As a result of day-by-day increment in prevalence of Communicable diseases and impact on economy cost, health promotion and prevention of illnesses are increasingly important. As its name elucidate, faeco-oral transmission occurs, when the organisms excreted in the stool passed by infected person (or uncommonly by animals) enter human body via the oral route (mouth). Therefore, some organisms must be pass on in an environment from the faeces of an infected person. The route of transmission in which disease-causing pathogens are spread through contact with faecal matter, often via contaminated food or water, is referred to as the faeco-oral route. Faeco-oral transmission of an organism's causing disease can occur most commonly through contamination of food, water and by infected hands which are not apparently clean at all. The main diseases that are caused by faeco-oral route are diarrhoea, cholera, polio, hepatitis. Even small amounts of faeces can carry enough organisms to establish an infection. Clean-looking hands can transmit and carry micro-organisms to cause and spread diseases.

Infectious diseases can be classified into three main categories based on their impact: Firstly, diseases that result in high mortality rates. Secondly, diseases that cause significant disability and impose a heavy burden on populations. Lastly, diseases that spread rapidly and unexpectedly, with the potential to have severe global consequences.

Schools are the more common places where children get infected because of the large number of groups of different ages are in close contact, inadequate facilities and poor sanitation. Children's are more susceptible to sickness due to higher exposure to germs at school and are more prone for infection. The faeces-oral route for communicable disease and infection in children, the most common route of disease transmission that is 5F's (food, finger, fluid, fomites, and faeces). Poor health among school children is resulted from the lack of knowledge of the health benefits of personal hygiene and which will also lead to absenteeism.

GI diseases, skin diseases, worm infestations and dental diseases are more commonly have with poor personal hygiene. One of the major health issues faced by school children are infections and the primary causes of infections are contaminated water, poor sanitation, and poor hygienic practices as well. Lack of personal hygiene combined with poor sanitation leads to person-to-person transmission of infection. Infection and malnutrition are the chain of circumstances which will impair children's growth and physical development. Frequent or repeated attacks of infections can worsen the already poor health of children, leading to compromised attendance and performance at school. In some cases, it may even result in death. This condition may even be worse in a community with poor socio-economic condition and compromised living situation. The origins of most of the illnesses of adulthood have their roots from the health behaviours of childhood and adolescence.

As per Monse et al. (2013), absenteeism is a major barrier to achieving quality education and stated by Kathleen (2002), around 75% of school absences among children are attributed to illness, which further emphasizes the impact of absenteeism on the quality of education. Several studies have demonstrated that illness-induced absences can result in negative educational and economic consequences. For example, a child who misses school due to illness may struggle to keep up with coursework and experience academic setbacks (Miller et al., 2008). It is worth noting that the definition and collection of data related to absenteeism varied across different studies. Oshi and Amadi (2013) defined the duration of an absence as the number of days missed due to a single cause, with a maximum of two days of attendance or a weekend between events. The number of absences caused by infectious diseases per 100 student weeks was recorded based on illness-related absences reported by parents and school records, as well as the number of absences reported by both parents and teachers for both illness and non-illness related causes (Talaat et al., 2011; Nandrup-bus and Visitor, 2009). Kathleen (2002) reported that illness-related causes account for around 75% of all school absences among children, with respiratory and gastrointestinal infections being the primary causes as noted by Lau et al. (2012).

An approach to a toilet alone, can reduce children's deaths from diarrhoea by over 30 percent, and handwashing by more than 40 percent. Therefore, all communities or the collaborators should pay special attention to create awareness about health education programs such as importance of personal hygiene, hand-washing, environmental sanitation, safe drinking water and treatment etc. to reduce the consequences of various health outcomes.

Establishing the foundations of lifelong responsibility for personal hygiene begins in childhood, as it is crucial for promoting a healthy childhood, adulthood, and the development of a positive attitude towards health and the utilization of health facilities. It is worth noting that the majority of childhood illnesses can be prevented through the promotion of hygienic practices among school children, which can be facilitated by proper health education from parents and teachers. Children in their primary schooling age can learn specific health-promoting behaviours, though they do not have knowledge and fully understand the correlation between illness and behaviour. Health habits can be developed during childhood period is important to break the chain of infection. Given that hands are a key means of transmitting infectious diseases among school-going children, promoting hand hygiene through the use of soap and water is essential for reducing illness-related absences (Goldmann, 2021).Moreover, handwashing has been recognized as one of the most cost-effective health interventions to reduce the burden of disease (Bartram and Cairncross, 2010) and According to Sharma et al. (2022), hand hygiene is considered the most effective process for reducing the potential transmission of infection through contact with people and objects. However, there is a need for further research on this topic as the current knowledge base is inadequate, hindering the development of improved strategies for promoting personal hygiene maintenance. This is particularly important in developing countries, where the burden of communicable diseases can be reduced through effective hygiene practices.

The health of a nation's children plays a significant role in determining its future. So, the parents and the school teachers, will work as constructive shapers of children's health behaviours, should play a major role in early education of children regarding importance and maintenance of personal hygiene and helps to make a nation, stronger by building healthy nation.

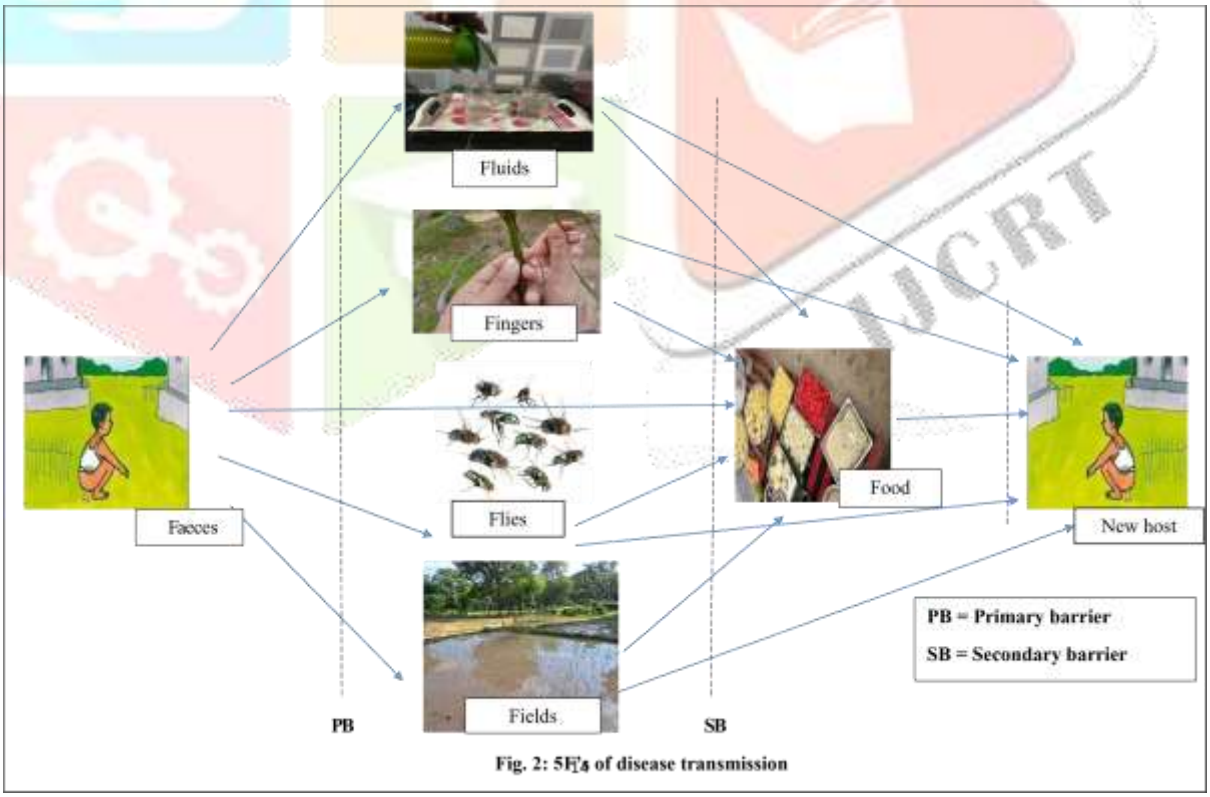

Fig. 2: 5Fs of disease transmission

Need for the study

The global COVID-19 pandemic has highlighted the critical role of handwashing with soap as a fundamental defence against infectious diseases. Despite advances in healthcare, preventing the spread of infections remains a challenge, particularly through the "five F's" of disease transmission: Food, Finger, Fluids, Fomites, and Faeces. Understanding these pathways is essential for developing effective strategies to curb disease transmission and protect public health.

Studies emphasize the profound impact of hand hygiene on reducing disease risks. For instance, handwashing with soap can lower the incidence of diarrhoea by over 40% and decrease respiratory infections, such as pneumonia, by about 25% among children under five.These findings underscore the significance of promoting proper handwashing practices, especially in vulnerable populations, to prevent avoidable illnesses and save lives.

Improving hygiene goes beyond handwashing; it encompasses access to clean water, adequate sanitation, and health education. The lack of these basic necessities contributes to approximately 3.1% of global annual deaths and 3.7% of annual disability burdens. Shockingly, every day, thousands of children die from infectious diarrhoea due to inadequate sanitation. Ensuring comprehensive hygiene measures is crucial to reducing these preventable deaths and promoting well-being.

Children aged 10-16 are a critical demographic for health education on disease transmission. At this stage of development, instilling proper hygiene practices can have lasting effects on health and educational outcomes. Moreover, insufficient knowledge about disease transmission can impact attendance and academic performance. Therefore, studies focusing on this age group are vital for designing tailored interventions that promote healthy behaviours and contribute to overall community health.

Although many studies have been conducted on the knowledge of mothers of under-five children, there is a significant gap in research on the knowledge and practices of children aged 10-16 years. Therefore, this study is necessary to bridge this gap and contribute to the development of effective interventions for this age group. The study on the knowledge of the 5F's of disease transmission among the age group of 10-16 years is essential for several reasons.

Firstly, this age group is at a crucial stage of development and understanding the importance of proper hygiene practices can have a significant impact on their overall health and wellbeing.

Secondly, inadequate knowledge about the 5F's can lead to the transmission of preventable diseases, which can have a detrimental effect on the educational attainment and attendance of students.

Thirdly, given that the majority of the global annual death and burden of disability is caused by using unsafe water and lack of basic sanitation and hygiene, it is important to assess the knowledge and awareness of this age group regarding disease transmission. Fourthly, there is a lack of studies focusing on this age group, and therefore, this study will contribute to the existing literature on the subject.

Overall, this study has the potential to identify gaps in knowledge and behaviour regarding hygiene practices and inform the development of effective interventions to improve the health and wellbeing of students in this age group.

In conclusion, understanding the "five F's" of disease transmission and promoting hygiene practices among children aged 10-16years is crucial. By addressing gaps in knowledge and behaviours related to hygiene, we can develop targeted interventions that enhance health outcomes and contribute to sustainable development goals.

PROBLEM STATEMENTS

A pre-experimental study to assess the effectiveness of video-assisted teaching Programme on knowledge regarding 5F's (i.e., Food, Finger, Fluid, Fomite, and Faeces) of disease transmission among students age(10-16yrs) of Government senior secondary schools of Bhangrotu, Nerchowk, Mandi, HP. (2023)

OBJECTIVES

1. To assess the pre-test knowledge regarding 5F's of disease transmission among students age(10-16yrs) of selected Government senior secondary schools of Bhangrotu, Nerchowk, Mandi (H.P).

2. To construct and impart the video-assisted teaching programme on knowledge regarding 5F's of disease transmission.

3. To assess the effectiveness of video assisted-teaching programme on knowledge regarding 5F's of disease transmission among students age(10-16yrs) of selected Government senior secondary schools of Bhangrotu, Nerchowk, Mandi (H.P).

4. To determine association between level of knowledge regarding 5F's of disease transmission among students age(10-16yrs) with their selected socio-demographic variables.

HYPOTHESES

H_1: There will be significant difference between mean pre-test and post-test knowledge scores of students regarding 5F's of disease transmission (Food, Fingers, Fluid, Fomites, and faeces).

H_2: There will be significant difference between post-test knowledge scores of students regarding 5F's of disease transmission (Food, Fingers, Fluid, Fomites, and faeces) with their selected socio-demographic variables

OPERATIONAL DEFINITIONS

1. ASSESS: To evaluate and measure the significance of the video-assisted teaching program and the level of knowledge about the 5F's of disease transmission among the target population.

2. EFFECTIVENESS: The degree to which the video-assisted teaching program has successfully achieved its intended goal of improving the knowledge of students, as determined by statistically significant differences between pre-test and post-test knowledge scores.

3. 5F'S: The five main modes of disease transmission, including Food, Fingers, Fluids, Fomites, and Feaces.

4. FOOD: Consumable substance, contaminated food can transmit pathogens if not handled properly.

5. CONTAMINATED FOOD: refers to food that has been compromised by harmful substances, microorganisms, chemicals, or physical objects, posing a risk to human health if consumed.

6. FINGERS: Digits of the hand, can transmit pathogens if contaminated and not washed.

7. FAECES: Solid waste excreted from the body, can transmit pathogens if not properly disposed of or contaminates surfaces.

8. FOMITES: Objects or surfaces that can become contaminated with pathogens and transmit disease.

9. FLUIDS: "Fluids" refers to the transmission of infectious agents through contaminated liquids or fluids, including water, saliva, respiratory droplets, blood, urine, faeces, vomit, and genital secretions.

10. CONTAMINATED WATER: Water sources can become contaminated with pathogens from human or animal waste, leading to the spread of waterborne diseases such as cholera, typhoid fever, and hepatitis A.

11. KNOWLEDGE: The level of awareness and understanding of the 5F's of disease transmission among the target population.

12. VIDEO-ASSISTED TEACHING: A planned teaching method that combines a lecture with video material to enhance the learning experience.

13. CHILDREN: The target population for this study, which includes school age children who are at risk of contracting and spreading infectious diseases through the 5F's of disease transmission.

CONCEPTUAL FRAMEWORK

The present study to assess the effectiveness of video assisted teaching programme on knowledge regarding 5f's of disease transmission among students age(10-16yrs) of Government senior secondary schools of Bhangrotu, Nerchowk, Mandi. The conceptual framework of present study was based on The Health Belief Model (HBM) was developed in the 1950s by a group of social psychologists, Hochbaum, Rosenstock, and Kegels. The components of the HBM, helped to gain insight into children's beliefs about disease transmission and their motivation to engage in health-protective behaviours. The HBM used to understand how individuals' beliefs about the 5F's of disease transmission can influence their health-protective behaviours and informed that the development of interventions is to promote these behaviours.

REVIEW OF LITERATURE

The review of literature is divided into following parts:

1 Review of literature related to incidence and prevalence of disease transmission.

2 Review of literature based on knowledge regarding disease transmission.

3 Review of literature related to effectiveness of video-assisted teaching program/STP.

Literature Review related to incidence and prevalence of disease transmission.

Uprety S, Ngo I, Maggos M, Dangol B et al (2024) According to this article, Water, Sanitation, and Hygiene (WaSH) interventions are known for their effectiveness in reducing the severity and prevalence of diarrheal diseases, yet their impact on pathogen presence and concentration has been less explored. In a study conducted in rural households of Nepal, a microfluidic PCR approach was used to quantify twenty bacterial pathogens in samples from water (n = 360), hands (n = 180), and fomites (n = 540) to assess pathogen exposures and the effect of WaSH interventions on contamination and exposure rates. Pathogen load and exposure pathways were compared between intervention and control villages. The results showed higher pathogen frequencies and concentrations on fomites, such as toilet handles (21.42%; mean log10 of 4.69-5.96), utensils (23.5%; mean log10 of 4.77-6.77), and water vessels (22.42%; mean log10 of 4.79-6.60), compared to cleaning water (14.36%; mean log10 of 4.36-5.89), drinking water (14.26%; mean log10 of 4.37-5.87), and hand rinse samples (16.92%; mean log10 of 4.77-6.39). The study did not find clear evidence that WaSH interventions significantly reduced overall pathogen contamination in any tested pathway. However, a significant reduction ($p < 0.05$) in the prevalence, but not concentration, of some target pathogens, including Enterococcus spp., was observed in the intervention village compared to the control village for water and hand rinse samples. In contrast, these samples did not show a notable decrease in pathogen concentration. In swab samples, a reduction in pathogen concentration rather than prevalence was observed, indicating that reduced prevalence did not always accompany reduced concentration. This study highlights the importance of both prevalence and concentration data in understanding the effects of Wash interventions on microbial contamination and aids in better planning of future intervention activities.

Kurt G, Serdaroğlu HU (2024) Preschool education institutions, where young children engage in close contact and social interactions, are critical environments for the transmission of infectious diseases, posing significant public health concerns. Research reveals that children aged 4.7 ± 0.5 years' experience an average of 3.5 ± 2.0 illness episodes within five months of starting preschool, with 91.5% using antibiotics. The prevalence of these diseases is linked to factors such as the child's birth status, maternal education level, and whether the preschool is public or private. The presence of a sick child in the classroom elicits negative emotions among both parents and teachers, with nearly half of the teachers admitting sick children due to various pressures, which can disrupt the educational process. Parents often request that teachers manage their sick children's medications and monitor their conditions, further straining the classroom environment. To mitigate these risks, recommendations include enhancing education, safety, hygiene, and health screening practices, alongside strengthening legal regulations and school exclusion policies. The complex interplay of these factors underscores the need for a comprehensive approach to address the impact of infectious diseases on health, emotional well-being, and the overall atmosphere in preschool settings.

Literature Review based on knowledge regarding disease transmission.

Vargheese Nisha, Noushad Nishana et al (2023) The research project titled "A study to assess the knowledge and attitude regarding preventive measures of 5F's disease transmission among mothers of under five children in Pallithottam coastal community area, Kollam" focused on evaluating the knowledge and attitude of mothers in this community regarding the prevention of 5F's disease transmission. The objectives included assessing the knowledge and attitude among mothers and determining any associations with demographic variables such as maternal age, child's age, maternal education, occupation, and family type. Utilizing a non-experimental research design, the study involved 60 mothers of under five children from the Pallithottam coastal community area, Kollam, selected through non-probability convenient sampling. Data collection tools included a demographic proforma, a structured knowledge questionnaire, and an attitude scale. The data analysis employed descriptive and inferential statistics to fulfill the study objectives. Results indicated an association between maternal education and knowledge of preventive measures for 5F's disease transmission, while maternal age was associated with maternal attitudes toward preventive measures. These findings underscore the importance of education and age in shaping maternal knowledge and attitudes toward disease prevention among children in coastal communities like Pallithottam, Kollam.

Annamreddi Leelavathi, Binu Mathew et.al (2022) A descriptive study was conducted to assess the level of knowledge on the prevention of 5F's (Finger, Food, Fluid, Flies, and Faeces) disease transmission among 50 mothers of children under the age of five. The study found that 5 out of 50 mothers (10%) had inadequate knowledge, 11 out of 50 mothers (22%) had moderate knowledge, and 34 out of 50 mothers (68%) had adequate knowledge. The mean score of the test was 24.58 with a standard deviation of 2.99. This study highlights the need for increasing awareness among mothers on the prevention of 5F's disease transmission. With most mothers having adequate knowledge, it is important to focus on providing targeted education to the remaining 32% of mothers who have either inadequate or moderate knowledge. This can help to reduce the incidence of diseases caused by poor hygiene practices and improve the health of children under the age of five.

Literature Review related to effectiveness of video-assisted teaching programme/STP's.

Mrs P. Umalakshmi (2024) This study evaluated the effectiveness of a Video Teaching Program on knowledge regarding the 5Fs of disease transmission—food, fingers, fluids, fomites, and faeces—among children in Chennai. Utilizing a quantitative, descriptive research design, 30 participants were selected through nonprobability convenient sampling. Data were collected using a tool that included demographic variables and a knowledge assessment. The results showed a significant increase in knowledge from a pre-test mean score of 11.3% (SD = 66) to a post-test mean score of 18.3% (SD = 97). The findings indicated a significant improvement in knowledge following the intervention, with a notable association between post-test knowledge levels and variables such as the mothers' age, educational status, and at a 5% level of significance.

Dr. S. Vijayalakshmi, Mrs.S.Mahalakshmi et al(2023) This study assessed the effectiveness of a video-assisted teaching program on dengue fever knowledge among adults in Natham village. A pre-experimental one-group pre-test post-test design was used, involving 30 participants who completed a structured questionnaire on dengue fever before and after the intervention. The video-assisted teaching program was conducted over one week. Results indicated that post-intervention, 80% of participants had adequate knowledge, 16.67% had moderately adequate knowledge, and 3.33% had inadequate knowledge. The mean score increased to 40.77 with a standard deviation of 6.73, and the t-value was 8.51, with a highly significant p-value of <0.001. The study concluded that the video-assisted teaching program was highly effective in increasing knowledge about dengue fever among the participants.

MATERIALS AND METHODS

In this study, A Quantitative Research Approach was adopted to assess the effectiveness of video-assisted teaching programme on knowledge regarding 5f's (i.e., food, finger, fluid, fomite, and faeces) of disease transmission among students age (10-16 yrs) of government senior secondary schools of Bhangrotu, Nerchowk, Mandi, (H.P) 2023. In order to meet the aim and objective of the study an appropriate research design was selected that was Peri Experimental Research Design. Three types of research variables were identified in this study. They are independent variables, Dependent variables & Extraneous variables. In the present study independent variable was vedio-assisted teaching, Dependent variable was knowledge of students regarding 5f's (i.e., food, finger, fluid, fomite, and faeces) of disease transmission and Extraneous variable were age, education, father's education, mother's education, family income types of residence, type of family, type of toilet etc, The research setting for the present study was secondary schools of Bhangrotu, Nerchowk, Mandi, (H.P).The students who were available at the time of data collection were selected as the research population. A total of 60 students were selected as the sample using a non-probability convenient sampling technique. To assess the knowledge regarding 5f's (i.e., food, finger, fluid, fomite, and faeces) of disease transmission, the tool was divided into two sections: Section A and Section B. Section A included 13 items related to socio-demographic information such as age, education, type of family, monthly income, type of toilet, type of residence and prior knowledge etc. about 5f's (i.e., food, finger, fluid, fomite, and faeces) of disease transmission. Section B was divided into two parts; Part A consisted of a self-structured knowledge questionnaire with 35 multiple-choice questions related to 5f's (i.e., food, finger, fluid, fomite, and faeces) of disease transmission. Each question had four options, and participants were instructed to choose one correct answer. Each correct response was given a score of 1, while incorrect answers or "not marked any option" responses were scored 0. The total possible score ranged from 0 to 35. Part B included a Video-assisted teaching to provide knowledge and awareness about proper 5f's (i.e., food, finger, fluid, fomite, and faeces) of disease transmission.

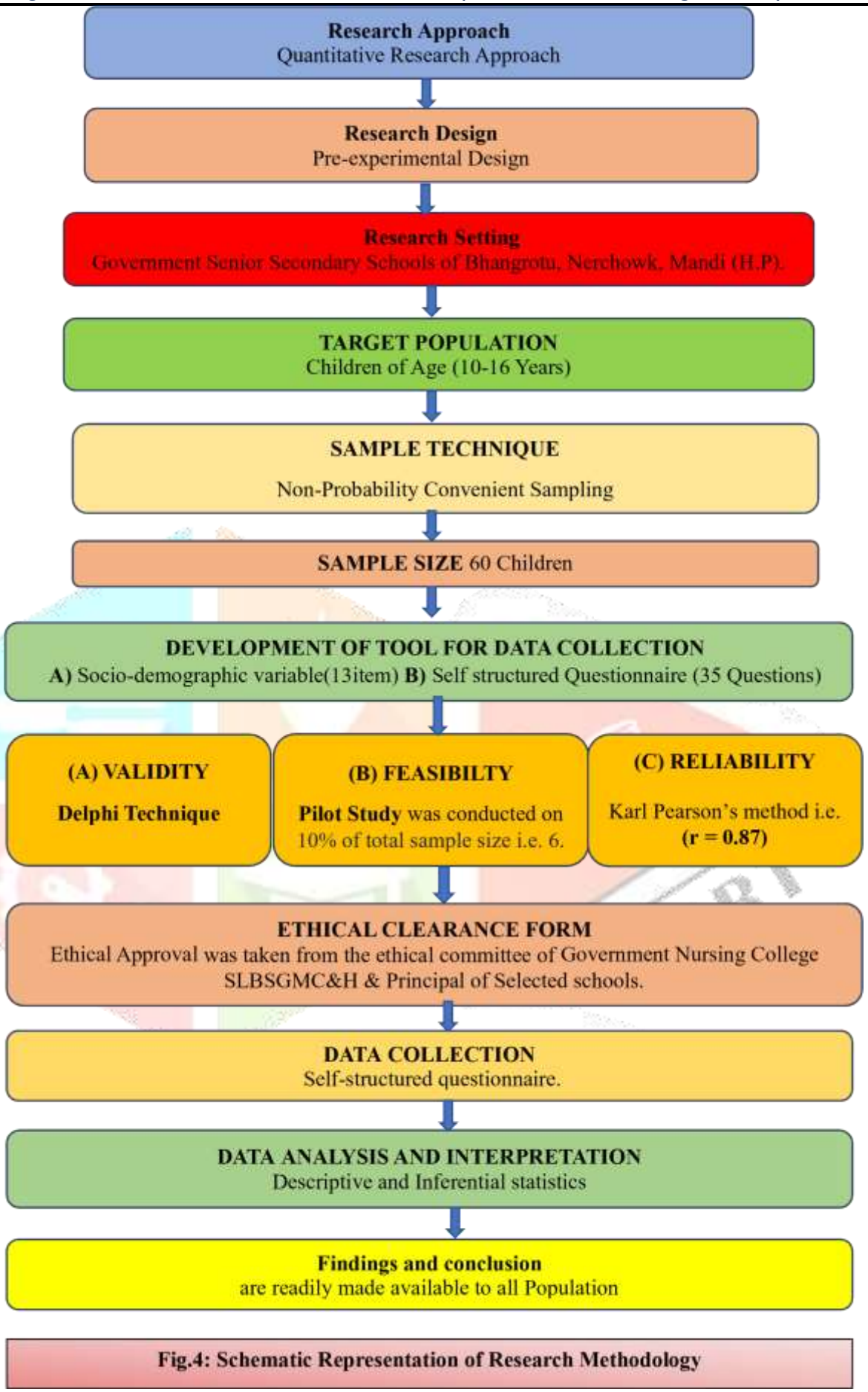

Fig.4: Schematic Representation of Research Methodology

ANALYSIS AND INTERPRETATION OF DATA

Analysis and interpretation of data was done according to the objectives using descriptive and inferential statistics. The level of significance chosen was at $p \leq 0.05$.

Organization of Analysed Data

The analysed data was organized according to the objectives and presented under the following sections:

Section-A: Sociodemographic profile of the subject.

Section-B: Main analysis and interpretation of data.

Section-C: Comparison of frequency & percentage distribution of pre-test and post-test level of knowledge.

Section D: Association of level of knowledge with selected socio-demographic variables.

SECTION-A

DESCRIPTION OF SOCIO-DEMOGRAPHIC PROFILE

This section describes the demographic characteristics of the sample under study. The data obtained describes the characteristics pertaining age, sex, education, education of father and mother, occupation of both parents, family, income, residence area, type of dietary pattern, type of toilet etc.

Tab. 4.1.A: frequency & percentage distribution of socio-demographic variables.

N=60

Variables	Options	Frequency (%)
Age	10 years	13 (21.7%)
	11 years	5 (8.3%)
	12 years	11 (18.3%)
	13 years	13 (21.7%)
	14 years	8 (13.3%)
	15 years	5 (8.3%)
	16 years	5 (8.3%)
Sex	Male	23 (38.3%)
	Female	37 (61.7%)
	Transgender	-
Education	$<7^{th}$	12 (20.0%)
	7th -8^{th}	21 (35.0%)
	9th -10^{th}	27 (45.0%)
Father Education	Matric	7 (11.7%)
	12^{th}	33 (55.0%)
	Graduate	16 (26.7%)
	Post-graduate	4 (6.7%)
	Matric	9 (15.0%)

Mother's Education	12th	36 (60.0%)
	Graduate	6 (10.0%)
	Post-graduate	9 (15.0%)
Occupation of Father	Labourer	8 (13.3%)
	Private sector	40 (66.7%)
	Government sector	9 (15.0%)
	None	3 (5.0%)
Occupation of Mother	Home-maker	47 (78.3%)
	Labourer	3 (5.0%)
	Private sector	6 (10.0%)
	Government sector	4 (6.7%)

Tab. 4.1.B: frequency & percentage distribution of socio-demographic variables.

N=60

Variables	**options**	**Frequency (%)**
Type of Family	Nuclear	35 (58.3%)
	Joint	21 (35.0%)
	Extended	4 (6.7%)
Family income	<10,000 /-	21 (35.0%)
	10,001 -20,000 /-	23 (38.3%)
	20,001-30,000 /-	7 (11.7%)
	> 30,001 /-	9 (15.0%)
Dietary pattern	Vegetarian	46 (76.7%)
	Non- vegetarian	10 (16.7%)
	Eggetarian	4 (6.7%)
Residence	Rural	35 (58.3%)
	Urban	25 (41.7%)
Type of Toilet	Indian	30 (50.0%)
	Western	30 (50.0%)
	None of above	0 (0.0%)
Previous knowledge	Yes	1 (1.7%)
	No	59 (98.3%)

SECTION – B

FINDINGS RELATED TO COMPARISON OF FREQUENCY & PERCENTAGE DISTRIBUTION OF PRE-TEST AND POST-TEST KNOWLEDGE SCORE OF STUDENTS REGARDING 5F'S OF DISEASE TRANSMISSION

Tab. 4.2: Comparison of frequency & percentage distribution of pre-test and post-test knowledge score of students regarding 5f's of disease transmission

N= 60

LEVEL OF KNOWLEDGE (SCORE)	PRE-TEST f (%)	POST-TEST f (%)
Inadequate knowledge (0-12)	28(46.7%)	0(0%)
Moderate knowledge (13-24)	30(50%)	11(18.3%)
Adequate knowledge (25-35)	2(3.3%)	49(81.7%)
Maximum Score=35		**Minimum Score=0**

Table 4.3: Comparison of pre-test and post-test knowledge score of students regarding 5f's of disease transmission

N=60

Level of knowledge	Mean ± S.D.	Mean%	Range	Mean Diff.	Paired T Test	P value	Table Value at 0.05
Pre-test knowledge	14.83±5.983	42.40	3-28	13.120	25.811 **	<0.001	2.00
Post-test knowledge	27.95±3.972	79.90	17-35				
****Significant**							
Maximum=35					**Minimum=0**		

Tab. 4.4: Comparison of pre-test and post-test knowledge scores of students regarding 5F's of disease transmission

Mean%	Pre-Test Knowledge	Post-Test Knowledge	Difference	Pre-Test Knowledge Score %	Post-test Knowledge Score %	Difference%
Average	14.83	27.95	13.12	42.38	79.86	37.48

SECTION-C

Table No 4.5: Chi-square table showing Association of level of knowledge with their Socio-demographic Variables.

Variables	Pre-test knowledge		Post-test knowledge		df	Table Value
	Chi Test	P Value	Chi Test	P Value		
Age	26.17	0.010**	2.741	0.997	12	21.026
Sex	10.23	0.006**	0.022	0.989	2	5.991
Education	8.76	0.067**	2.751	0.600	4	9.488
Father Education	12.65	0.049**	3.127	0.793	6	12.592
Mother's Education	14.27	0.027**	6.197	0.402	6	12.592
Occupation of Father	3.121	0.794	1.020	0.985	6	12.592
Occupation of Mother	16.198	0.013**	4.531	0.605	6	12.592
Type of Family	8.234	0.083	1.686	0.793	4	9.488
Family income	4.899	0.557	2.945	0.816	6	12.592
Dietary pattern	5.303	0.258	1.326	0.857	4	9.488
Residence	3.125	0.210	1.148	0.563	2	5.991
Type of Toilet	9.943	0.007**	2.783	0.249	2	5.991
Previous knowledge	1.017	0.601	0.228	0.892	2	5.991

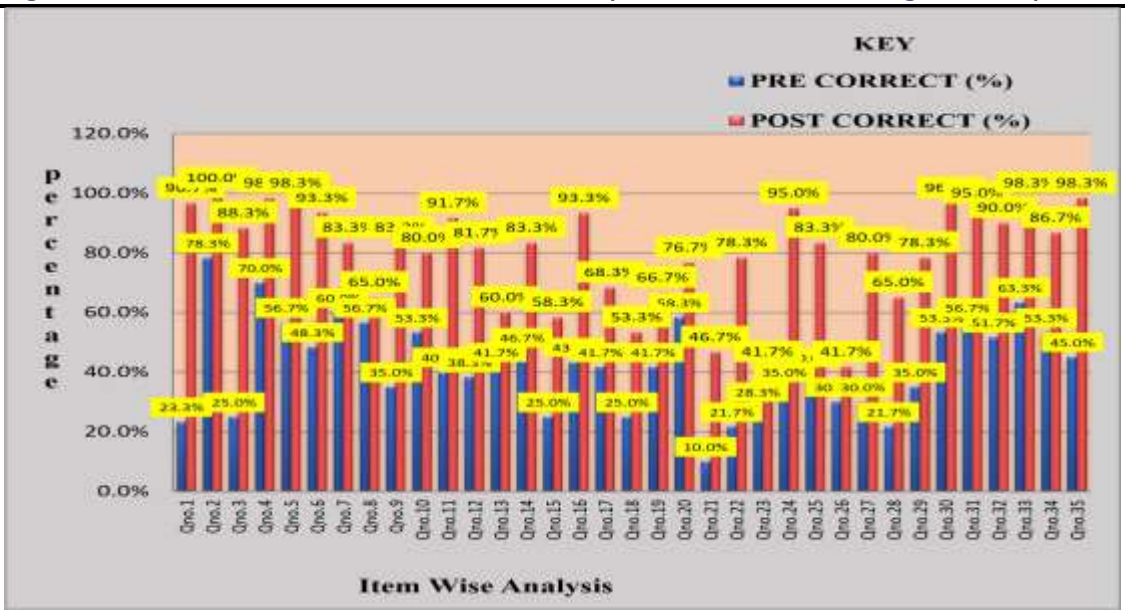

Fig: Bar diagram representing Item-wise analysis of Pre-test and Post-test correctness of questions

DISCUSSION

To assess the effectiveness of video assisted-teaching programme on knowledge regarding 5F's of disease transmission among students age(10-16yrs) of selected Government Senior Secondary Schools, Bhangrotu, Nerchowk, Mandi (H.P) 2023.

The present study**,** before the intervention, the mean score was 14.83 with a standard deviation (S.D.) of 5.89. The median score was 14, with a minimum score of 3 and a maximum score of 28, resulting in a range of 25. After the intervention, the mean score increased significantly to 27.95 with a reduced S.D. of 3.72. The median score improved to 28, with the minimum and maximum scores ranging from 17 to 35, respectively, yielding a range of 18. These results indicate a substantial improvement in students' knowledge following the intervention. Hence, research hypothesis Research hypothesis H_1 was accepted and Null hypothesis H_{01} was rejected.

These finding were consistent with the findings of Dixa (2019) in kangra (H.P), shows that video assisted teaching programme is effective in improving the level of knowledge of children. The study assessed the participants' knowledge levels before and after an intervention, revealing significant improvements. The pre-test knowledge had a mean score of 12.13 (SD = 3.275), corresponding to 40.40% of the total possible score, with a range of 6 to 24. Following the intervention, the post-test knowledge mean score increased to 25.6 (SD = 3.295), equating to 85.30%, with scores ranging from 17 to 30. The mean difference in knowledge scores was 13.470, which was statistically significant ($t = 25.15$, $p < 0.001$), highlighting the substantial impact of the intervention on enhancing participants' knowledge.

CONCLUSION

This study demonstrates that a well-structured educational intervention can significantly enhance knowledge about disease transmission and prevention. The findings highlight the importance of educational initiatives in public health efforts to control and prevent infectious diseases. By promoting awareness and understanding, such interventions can contribute to healthier behaviours and reduced disease transmission, ultimately improving public health outcomes.

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