Knowledge regarding selected infectious diseases, their prevention and management among adults in selected rural community, Gurugram, Haryana

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Abstract
Infectious disease is an illness caused by infectious agents or toxic products and is transmitted by direct or indirect contact between the reservoir host and the susceptible individual. The transmission can occur from man to man, animal to animal or animal. Much of the ill health in India is due to poor environmental health in terms of water pollution, air pollution, soil pollution, poor housing, vectors around us, high death and morbidity rate are due to poor environmental sanitation, which needs improvement in the battle of prevention of diseases and promotion of community health. A descriptive study was done to assess the knowledge regarding infectious diseases their prevention and management among the adults in a selected rural community in gurugram, Haryana. Objectives of the study were to assess the knowledge regarding prevention and management about selected infectious diseases and to find out association between knowledge score regarding prevention and management of infectious diseases and selected socio- demographic variables. A descriptive research approach was adopted with convenient sampling method. A total of 100 sample were selected for the present study and data was collected through a structured questionnaire. Findings of the present study showed that 76% adults were having good knowledge while 65.4% were having moderate knowledge regarding selected infectious disease their prevention and management. Chi square test revealed that none of the socio-demographic variable was associated with the level of knowledge regarding selected infectious diseases.

Keywords: knowledge, infectious diseases, prevention and management, adults

Introduction

An Infectious disease is one that is spread from one person to another through a variety of ways that include: contact with blood and bodily fluids; breathing in an airborne virus; or by being bitten by an insect. Health education at primary level of prevention is aim to prevent the infectious disease. It helps in reducing the morbidity and mortality of infectious disease. It also helps in improving the knowledge of the community people related to infectious disease community health nurse plays a major role in preventing the various diseases in the community by delivering health education [1]. Hosts can fight infections using their immune system. Mammalian hosts react to infections with an innate response, often involving inflammation, followed by an adaptive response. Specific medications used to treat infections include antibiotics, antivirals, antifungals, antiprotozoal, and anthelminthic. Infectious diseases resulted in 9.2 million deaths in 2013 (about 17% of all deaths). The branch of medicine that focuses on infections is referred to as infectious disease [2]. It is estimated that around nine percent of the population in the United States has been diagnosed with an infectious disease. Infectious diseases are caused by bacteria, viruses and other organisms and can be spread from person to person, through insect or animal bites, or through contaminated food or water. Some of the most common infectious diseases include HIV/AIDS, influenza, malaria, tuberculosis and hepatitis [3]. Around 2.79 million individuals were diagnosed with TB in India according to data from 2016. There are many examples of infectious diseases, some of which require reporting to appropriate health departments or government agencies in the locality of the outbreak. Some examples of the infectious disease include HIV, hepatitis A, B and C, measles, salmonella and blood- borne illnesses. Most common forms of spread include faecal-oral, food, sexual intercourse, insect bites, contact with contaminated fomites, droplets, or skin contact. Insects play an important role in the transmission of diseases. Bites from anopheles mosquitoes transmits malaria parasites that can wreck [4].

According to World Health Organization during 2018, 11 countries reported cases in America, Antiqua, and Barbuda (1) Argentina (6) United States (107), Canada (19), Colombia (104) cases. At 2010, 46% fall death occur due to infectious diseases: - Diarrhoea- 46%, Respiratory infection-29%, Tuberculosis- 12%, Hepatitis B – 5% [6]. Control of diseases is the reduction of diseases incidence, prevalence, morbidity, or mortality to acceptable level as a result of deliberate efforts, continued intervention measures are required to maintain the reduction. Control is to be contrasted with elimination of reduction to zero of the incidences of a specified diseases in a defined geographical area, continue interventions measures, eradication (permanent reduction to zero of the world wide incidence of infection caused by a specific agent, intervention are no longer and extinction. Aseptic technique was introduced in medicine and surgery in the late 19th century and greatly reduced the incidence of infection caused by surgery. Frequent handwashing remains the most important defence against the spread of unwanted organisms [5]. Much of the ill health in India is due to poor environmental health in terms

of water pollution, air pollution, soil pollution, poor housing, vectors around us, high death and morbidity rate are due to poor environmental sanitation, which needs improvement in the battle of prevention of diseases and promotion of community health [6]. In January 2000, The National Intelligence Council stated that infectious diseases were a leading cause of death, accounting for a quarter to a third of the estimated 54 million deaths worldwide in India. Of the seven biggest killers worldwide, TB, malaria, hepatitis, and in particular HIV/AIDS and TB likely to account for the overwhelming majority of deaths from infectious diseases in developing countries by 2020. Housing condition represents a major part of environment, where the people live. According to family survey (2001) carried out by Indian Government, found that only 19% of rural population live in pukka house, while remaining are living in semi-pukka, kacha house with mud walls and thatched roofs, unhygienic conditions of housing and rugs in open space of houses act as reservoir of collection of water which can cause breeding mosquitoes causing life threatening diseases such as chikungunya, dengue, filarial and malaria [7]. According to World Health Organization (2017) India is one of 15 countries in the world to have the highest cases and deaths of malaria. India along Sub Saharan African region, with 80% of the world cases and deaths Diarrhoea is the condition of having a three or more loose or liquids movements per day. The WHO estimates that between 90,000 and 153,00 children die from rotavirus infection in India each year. According to WHO more than 2.3 million children below five years of age die in India annually. Diarrhoea is third leading cause of childhood mortality in India, is responsible for 13% of death of all year [8].

Tuberculosis is one of the world deadliest diseases. One-fourth of the world's populations is infected with TB. In 2016, 10.4 million people around the worlds become sick with TB diseases there were 1.7 million TB- related deaths worldwide. Measles is caused by virus in the paramyxovirus family and it is normally passed through direct contact. The virus infects the respiratory tract spreads throughout the body. Approximately 89,780 people died from measles in 2016. Hepatitis B is a viral infection that affects the liver and caused both acute and chronic diseases the virus is transmitted through contact with body fluids of an infected person. In 2015 hepatitis B resulted in 887,000 deaths. The WHO western Pacific and the WHO African region, when 6.2% and 6.1% of adult's population [9].

Objectives of the study
1. To assess the knowledge regarding prevention and management of selected infectious diseases
2. To find out association between knowledge score regarding prevention and management of infectious diseases and selected socio- demographic variables.

Hypothesis
H1: - There will be significant difference in knowledge regarding selected infectious disease their prevention and management among adults.
H2: - There will be significant associations between knowledge level regarding selected infectious disease their prevention and management among adults and socio-demographic variables.

Material & Methods
Research approach: Quantitative research approach was used in the present study.
Research design: Descriptive research design was used for the present study.
Research setting: Rural community of Budhera, Gurugram, Haryana.
Sampling technique: Convenient sampling technique was adopted for the present study.
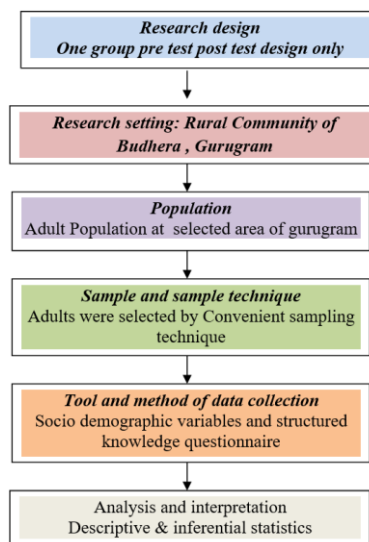**Sample size**: A total of 100 samples were selected for the present study.
Population: In present study, the population consists of adults in Rural Community, Budhera, Gurugram, Haryana.
Sample: The sample for present study comprised of adults of Rural Community, Gurugram.

Research Design
Schematic representation of Research Design

Fig 1: Diagram showing the schematic representation of Research Design

Criteria of Selection
Inclusion criteria
The participants full filing the inclusion criteria were included in study.
1. adults of age 18Years and above
2. willing to participant in study

Exclusion criteria
Participants were excluded from study
1. not willing to participant in study.
2. not fulfilling the inclusion criteria

Data collection tool and techniques
Tools were developing after doing extensive reviews of literature from book journals and taking opinion and suggestion from guide and experts.

The tools consist of 2 selection
Tool 1 Personal profile
Tool 2 Structure knowledge questionnaires to assess the knowledge regarding selected infectious disease their prevention and management among adults structured questionnaire was formulated. The knowledge questionnaire consists of 30 MCQ question with one correct answer.

Results

Table 1: Frequency and percentage distribution of socio demographic variables: N =100

S. No.	Sample characteristic	No of sample (f)	Percentage (%)
	Age (Year)		
1.	▪ 18 -22 years	23	23 %
	▪ 23 -27 years	24	24 %
	▪ 28-32 years	26	26%
	▪ 33 and above	27	27%
	Gender		
2.	▪ Male	62	62%
	▪ Female	38	38%
	Education qualification		
4.	▪ Graduate	46	46%
	▪ Undergraduate	24	24%
	▪ metric	20	20%
	▪ Illiterate	10	10%
	Occupation status.		
5.	▪ Government	24	24%
	▪ Private	46	46%
	▪ Business	10	10%
	▪ Homemaker	20	20%
	Source of information		
6.	▪ TV	27	27%
	▪ Radio	23	23%
	▪ Newspaper	31	31%
	▪ Friends / colleagues	19	19%

Data presented in table No. 1 in Table 1depicts that almost half 23% of the participants of the total samples were in the age group between 18 – 22 years of age, 24% of the participants were in the age group between 23– 27 years of age. 26% of the participants were in the age group between 28-32 years of age and 27% of participants were in the age group between 33 and above 62% of the participants were male and 38% participants were female. Out of 10% of the participants were illiterate, 46% of the participants were having graduate education, 24% of the participants were having high undergraduate and 20% of the participants were metric. Out of total 10% of the participants were having self-business, 20% of the participants were homemaker, 46% of the participants were private employee and 24% of the participants were government employee.
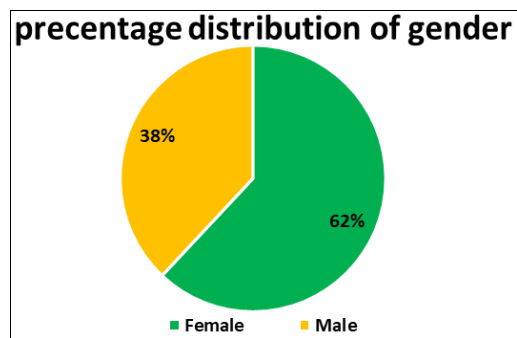
Age Distribution
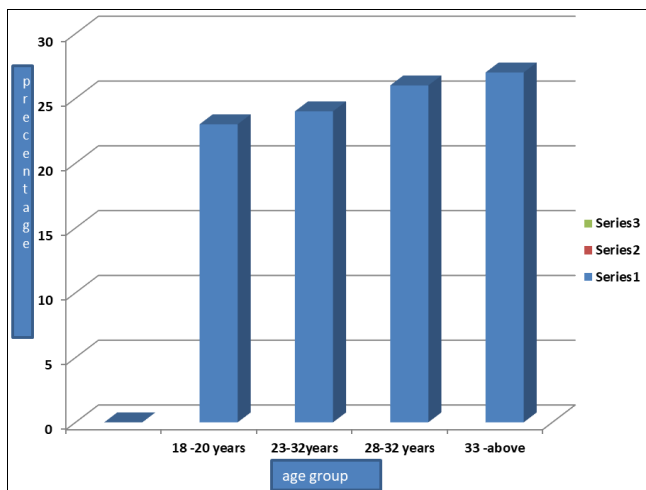
**Fig 2:** Bar graph showing the age distribution of sample.

Figure 2: The above diagram shows that 23% of the

participants of the total samples were in the age group between 18 – 22 years of age, 24% of the participants were in the age group between 23– 27 years of age. 26% of the participants were in the age group between 28-32 years of age and 27% of participants were in the age group between 33 and above.

Fig 3: pie graph showing the precentage distribution of sample according to gender.

The data presented in the figure3 shows that majority 62% of the study participants were male and 38% participants were female.
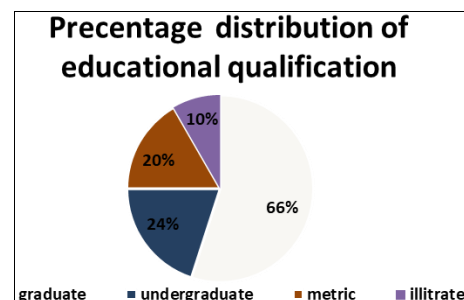
Fig 4: Pie graph shows the percentage of distribution of educational qualification.

The above figure 4 depicted that 10% of the participants were illiterate, 46% of the participants were having graduate education, 24% of the participants were having high undergraduate and 20% of the participants were metric.

Distribution of the participants according to their occupation status
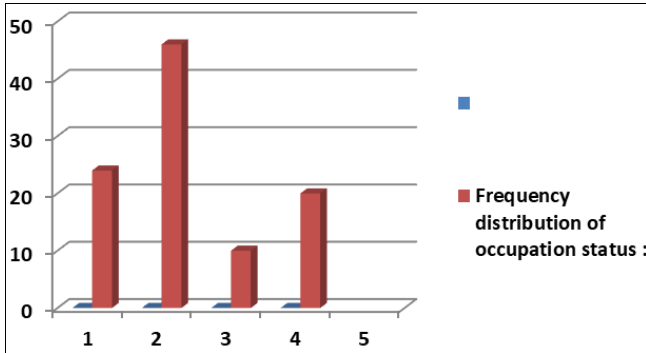
Fig 5: Bar graph showing the percentage distribution of occupation status.

Figure 5: - 10% of the participants were having self-business, 20% of the participants were homemaker, 46% of the participants were private employee and 24% of the participants were government employee
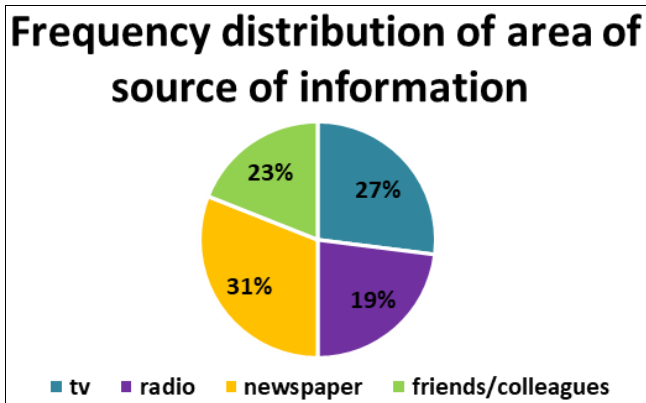
Fig 6: Bar graph showing the percentage distribution of area of source of information.

Figure 6 depicted that source of information through TV was 27%, via radio 23%, newspaper 31% and friends /others 19%.

Section-2

Table 2: Frequency and percentage distribution of level of knowledge

S. No	Level of knowledge	Frequency	percentage
1	Poor knowledge	31	31%
2	Average knowledge	51	51%
3	Good knowledge	18	18%

Table no 2 shows that distribution of level of knowledge Poor knowledge having Frequency 31 percentage 31%, Average knowledge having 51and Frequency percentage 51%, good knowledge having Frequency 18 and Frequency percentage 18%.
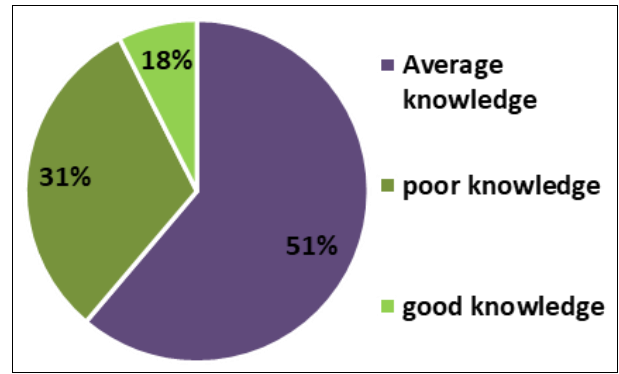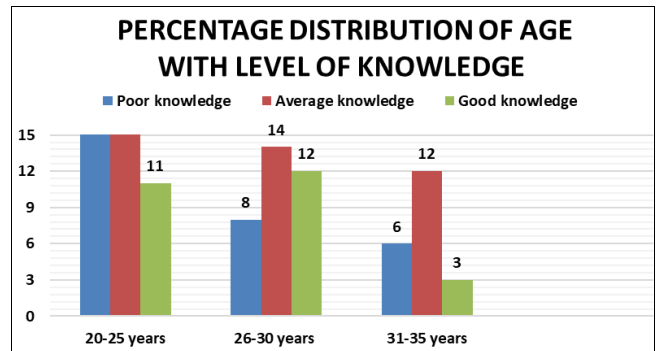

**Fig 7:** Percentage distribution of Age with level of knowledge

Table 3: Frequency distribution of Age with level of knowledge

S. No	Age	20-25 years	26-30 years	31-35 years
1	Poor knowledge	18	8	6
2	Average knowledge	16	14	12
3	Good knowledge	11	11	4

Table no 3 shows the distribution of level of age of Poor knowledge (20-25 years) 18, (26-30 years) 8, (31-35 years) 6 and Average knowledge (20-25 years) 16, (26-30 years) 14, (31-35 years) 12 and Good knowledge (20-25 years) 11, (26-30 years) 11, (31-35 years) 4.

Fig 8: Percentage distribution of level of knowledge with age.
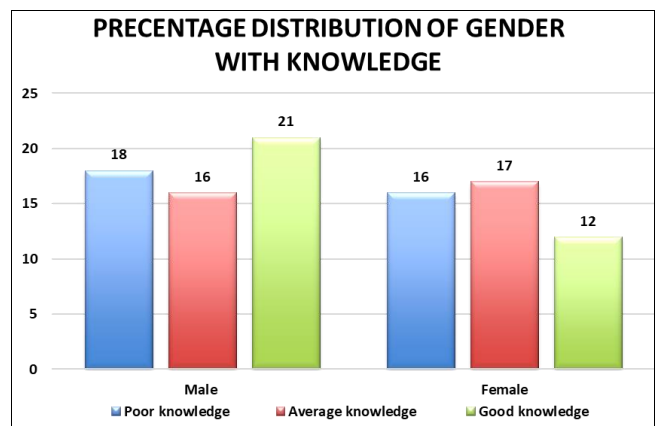
Fig 9: Frequency distribution of Gender with level of knowledge

Figure 9 shows the Frequency distribution of Gender with level of knowledge shows that Poor knowledge shows that male 18 and female 16, Average knowledge male 16 and female 17, Good knowledge male 21 and female 12.
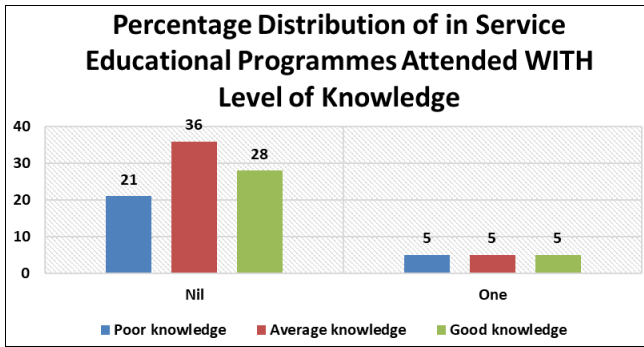
Fig 10: Frequency distribution of in-service educational programmers attended with level of knowledge

Figure 10: Frequency distribution of in-service educational programmers attended with level of knowledge shows that Poor knowledge nil 21 and one 5, Average knowledge nil 36 and one 5, Good knowledge nil 28 and one 5

Section B:

Table 4: Association Between the Mean Knowledge Score and Selected Socio Demographic Variables

Socio demographic variable	Chi – square value	Significant
Age 18 -20 years 23 -27 years 28-32 years 33 and above	0 .789	NS
Gender Male Female	0 .340	NS
Occupation status Government Private Business Homemaker	0 .529	NS
Source of information TV Radio Newspaper Friends / colleagues	0 .012	NS

NS: Not significant *at *p*< 0.05 level of significance

Nursing Implications
Nursing education
The study has an important implication in nursing education and other fields. One of the leading functions of nursing is to impart education with newer knowledge on infectious diseases**.** But this present study emphasized on adults, they had not very good knowledge regarding infectious diseases. Nurses should engage community adults to equip them in preventing and managing skills of infectious disease.

Nursing practice
Nurses are the backbone of health care set up of any country. The nursing knowledge has gone many evolutions in recent past. The expanded role of professional nurse emphasizes the implication which involves promotive, preventive, curative and rehabilitative aspects. A nurse should involve themselves in regular teaching and counselling sessions for adults and also consider adult people as health care provider for themselves.

Nursing Research
A very few interventional studies have been conducted regarding infectious disease.
- Knowledge and practice study can be conducted on infectious disease their prevention and management.
- Comparative study can be conducted in community for infectious disease their prevention and management.

New evidenced based information becomes available every level on this subject. It is vital that student research update the knowledge constantly and is always willing to examine and alter their practice in the light of new published evidences.

Nursing administration
Nursing administration may use the study findings to improve the quality of knowledge. The concept of extended role of nurse offer many opportunities for a nurse administrator to improve the knowledge regarding infectious disease their prevention and management among adults in rural community, Gurugram.

Discussion
Health problem do exists with a variety of reasons. The inadequate practices, lack of knowledge about infectious diseases and their prevention, poor socio-economic conditions and poor nutrition are source of factors. In the present study the investigators intended to determine the level of knowledge about infectious diseases and their prevention and management among adults at rural community Gurugram and seek its associations with selected variables. The aim of the study was to assess the knowledge regarding selected infectious disease their prevention and management among adults. Results were consistent with the study conducted by J Ojulong, KH Mitonga and SN Iipinge to evaluate the Knowledge and attitudes of infection prevention and control among health sciences students at University of Namibia. One hundred sixty-two students participated in this study of which 31 were medical, 17 were radiography and 114 were nursing students. Medical students had better overall scores (73%) compared to nursing students (66%) and radiology students (61%). There was no significant difference in scores between sexes or location of the high school being either in rural or urban setting [10].
Results were consistent with CS Gopal, Kaur Harpreet 2008, conducted a cross-sectional descriptive survey to assess the knowledge regarding infectious disease management in community Punjab. This study was conducted at 30 adults in comunity. Study sample were 30 adults who were recruited through convenience sampling technique who had fulfill inclusion and exclusion criteria. Ethical clearance was taken from the research and ethical committee of the SGL nursing college, Jalandhar. Result of study has shown that knowledge level regarding management of infectious diseases. They had 39 (35.5%) average knowledge, 32(29.1%) had below average, 30(27.3%) had well and very few of them had 9(8.2%) excellent knowledge. This study showed that attitude of adults regarding management of infectious diseases on various level of five point of likert scale. Study found that highly significant association between level of knowledge and socio-demographic variables i.e. age, qualification, teaching experience, marital status, areas of residence, religion and source of information p-value <0.001.44.

Conclusion

As the prevention of dengue fever lacks proper vaccine, the main preventive strategy is the awareness building in the community regarding the source reduction process by emptying the man-made containers or dispose those in a systematic or in a proper way. Much efforts to be taken to promote the participation of the community in the action program for eliminating vector-breeding sites As the prevention of dengue fever lacks proper vaccine, the main preventive strategy is the awareness building in the community regarding the source reduction process by emptying the man made containers or dispose those in a systematic or in a proper way. Much efforts to be taken to promote the participation of the community in the action program for eliminating vector-breeding sites The present study attempted to assess the knowledge regarding selected infectious disease their prevention and management among adults in selected Rural Community, Gurugram, Haryana. Out of total study participants 23% of the participants of the total samples were in the age group between 18 – 22 years of age, 24% of the participants were in the age group between 23– 27 years of age. 26% of the participants were in the age group between 28-32 years of age and 27% of participants were in the age group between 33 and above. 62% of the participants were male and 38% participants were female.10% of the participants were illiterate, 46% of the participants were having graduate education, 24% of the participants were having high undergraduate and 20% of the participants were metric.10% of the participants were having self-business, 20% of the participants were homemaker,46% of the participants were private employee and 24% of the participants were government employee. Source of information through TV 27%, radio 23%, newspaper 31% and friends /others 19 have some knowledge about the infectious disease [11].

Conflict of interest: Nil

Source of Funding: Self

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