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Knowledge Regarding Typhoid Fever among Mothers of Under 5 Children in Selected Community of Bhaktapur, 2019

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Ms. Sima Das

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ABSTRACT

BACKGROUND: **Typhoid fever is one of the most common diseases caused by salmonella typhi. The illness is characterized by prolonged typical continuous fever for 3-4 weeks with tested heart rate and involvement of spleen and lymph nodes, rose-colored spots on the chest or abdomen, abdominal pain, and occasionally intestinal bleeding, constipation and headaches also commonly occur. This is a disease of concern in endemic to low and middle income countries where poor sanitation and poor hygiene favors the transmission of the disease.**

METHODS AND MATERIALS: **Non probability purposive sampling technique was adopted for choosing setting as well as sample of the study. Semi structured questionnaire with two distinct parts was used as a tool where part I consisted of socio demographic data and part II consisted questions related to knowledge on typhoid fever. Obtained data was analyzed by using appropriate descriptive and inferential statistics and was carried out in SPSS version 20.**

RESULT / FINDINGS: **Based on the conducted study it is concluded that the total participants were 52 where the study findings revealed that more than one third (80.75% (42)) stated that they know about typhoid fever whereas minority of the participants i.e. 19.25% (10) had not heard about typhoid fever, one third (75% (39)) thinks typhoid fever means acute illness caused by salmonella, 75% of participants said that typhoid fever is caused by drinking contaminated water, 38.46% (20) said that typhoid fever is air born disease, 46.15% (24) said that typhoid fever is more prone on age group of elderly people, 73.07% (38) told that most affected system in typhoid fever, 57.69% (30) said that typhoid fever is non-communicable, 67.30% (35) participants said that typhoid fever were transmitted by exposure to contaminated environment, 80.75% (42) all participants were said that animal can spread typhoid fever, 51.92% (27) said that main sign of typhoid fever were high fever and rose sport, 67.30% (35) participant were said that typhoid fever is diagnosed by stool and blood test, 80.75% (42) all the participants were said that typhoid fever is curable disease, 53.86% (28) of participant were said that typhoid fever is best treated by appropriate antibiotics, 38.46% (20) of participant were said that maximum occurrence of typhoid fever is in winter season, 69.23% (36) said they were heard about typhoid vaccine, 17.30% (9) participant were said that typhoid vaccine used to prevent from typhoid fever infection, 21.15% (11) all of the participants were said that typhoid vaccine can be given to the children under 5 years of age, 21.15% (11) all of the participants were said that typhoid vaccine were given to the children at more that equal to 5 years age of children. Whereas overall more than half i.e. 59.3% (30) of them had got moderate knowledge and few participants got adequate knowledge i.e. 22.2% (12) and very few participants got inadequate knowledge score i.e. 18.5% (10).**

CONCLUSION: **The result showed that participants needed health education regarding typhoid fever as they were not much aware about its causes, symptoms, treatment and prevention.**

KEYWORDS: *Knowledge, Typhoid Fever, Mother, Rural Areas.*

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LIST OF ABBREVIATIONS

WHO	World Health Organization
OPD	Out Patients Department
GV	Glen View
IEC	Effective Information, Education and Communication
BZH	Bheri Zonal Hospital
NGMCTH	Nepalgunj Medical College Teaching Hospital
KS	Knowledge Score
NINE	Norvic Institute of Nursing Educations
SPSS	Statistical Product and Service Solutions

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I. INTRODUCTION

Typhoid fever is an acute bacterial infection caused by salmonella typhi. The illness is characterized by prolonged typical continuous fever for 3-4 weeks with prostration relative bradycardia and involvement of spleen and lymph nodes, rose-colored spots on the chest or abdomen, abdominal pain, and occasionally intestinal bleeding, constipation and headaches also commonly occur. (1)

Salmonella typhi persists mostly in developing nations where sanitation is generally poor.(2)

This disease is endemic to low- and middle-income countries. It is more common in the continents of Asia and Africa due to inadequate hygiene and the lack of safe drinking water. It is transmitted through the oral/fecal route. (3)

The sign and symptoms vary from mild to severe that begins from 6- 30 days after exposure. Often there is a gradual onset of a high fever over several days. Weakness, abdominal pain, constipation and headaches also commonly occur. Diarrhea is uncommon and vomiting is not usually severe.(4)
In Europe in 2014 the highest incidence rates of typhoid fever were reported by France (0.65 cases per 100,000 population), the United Kingdom (0.55 per 100,000) and Denmark (0.48 cases per 100,000). The majority (85%) of cases were acquired while travelling, almost exclusively in countries outside the Europe. Seven countries did not report any cases of typhoid fever. (5)

In Nepal, the high incidence of disease starts with monsoon where typhoid and diarrhea are the most common.(23)

Typhoid fever occurs worldwide, primarily in developing nations whose sanitary conditions are poor. It is endemic in Asia, Africa, Latin America, the Caribbean and Oceania. Typhoid fever has virtually disappeared in the developed world, but is still endemic in developing countries.

According to Annual Epidemiological Report for 2015 Typhoid and paratyphoid fever which is based on data for 2015 retrieved from The European Surveillance System (TESSV) on 30 June 2017. 91% of typhoid fever occurs in children aged 3-19 years, in whom it is a common cause of death. The highest risk of complications and death occurs in children. (4)

In Europe (2014) the highest incidence rates of typhoid fever were reported by France (0.65 cases per 100,000 population), the United Kingdom (0.55 per 100,000) and Denmark (0.48 cases per 100,000). The majority (85%) of cases were acquired while travelling, almost exclusively in countries outside the Europe. Seven countries did not report any cases of typhoid fever.(6)Typhoid fever is one of the leading causes of morbidity and mortality across the world.

Globally, typhoid fever disease burden at 11-20million cases annually, resulting in about 128000-161000 death per year (WHO).Global estimates suggested 21 million illnesses and >210 000 deaths due to typhoid fever, plus 5.4 million cases of paratyphoid fever, with similar estimates for 2010.(7)

In united states, about 400 cases occur each years, and 75% of these are acquired while travelling.(8)
Every year 120 in every 10,000 Nepalese get typhoid. In 1997, about 300 typhoid patients were treated at Patan Hospital (Aryal, 2006).

Similarly, a prospective study was conducted in peri-urban and rural Nepal to assess the High Rates of Enteric Fever Diagnosis and Lower and Burden of Culture-Confirmed Disease through used national reports to estimate enteric fever diagnosis rates over 20 years (1994-2014) and the findings was obtained as

National rates of enteric fever diagnosis were high, reaching 18.8 cases per 1000 during 2009–2014. We enrolled 4309 participants with acute febrile illness. Among those with a provisional clinical diagnosis, 55% (1334 of 2412) received a diagnosis of enteric fever; however, only 4.1% of these had culture-confirmed typhoidal *Salmonella* infection. Culture positivity was highest among young adults and was strongly associated with higher population density ($P < .001$).[9]

According to community-based longitudinal studies which was conducted in 1995. Between Nov 1, 1995, and Oct 31, 1996 Kalkaji, Delhi to find out the prevalence of typhoid fever in children aged less than 5 years and result was obtained as 63 culture-positive typhoid fever cases were detected. Of these, 28 (44%) were in children aged under 5 years. The incidence rate of typhoid per 1000 person-years was 27·3 at age under 5 years, 11·7 at 5–19 years, and 1·1 between 19 and 40 years. The difference in the incidence of typhoid fever between those under 5 years and those aged 5–19 years.[10]

These all reported incidences shows that typhoid is one of the leading health issues in developing countries like ours and knowing about this condition is the necessity. And, as children are the vulnerable group who are at the risk where their mothers are the one to take care of them So the researcher felt need to assess the level of knowledge regarding typhoid fever among mothers of under 5 children in selected area of Bhaktapur.

II. CONCEPTUAL AND THEORETICAL REVIEW

A study was conducted using descriptive design in Knowledge regarding prevention and management of typhoid fever among patients and caregivers attending OPD in government area hospital at Bhdrachalam, Telangana.. 1. To assess the level of knowledge on prevention and management of Typhoid fever among patients and care givers. 2. To associate the selected demographic variables with the knowledge regarding the prevention and management of typhoid fever among patients and caregivers and the result was obtained as Out of 100 samples 41(41%) had Inadequate knowledge, and 51(51%) had moderate knowledge, and 8(8%) had adequate knowledge. The study concluded that, significant percentage of the patients and care givers (41%) had moderate knowledge regarding prevention and management of Typhoid fever.[11]

A cross sectional study was conducted at Al-Kadhimiya Pediatrics Hospital. To assess the mothers' knowledge, attitude and practice on typhoid fever and the result was obtained as Sample size was 267 (N=267). Only 1 (0.4%) of the mothers had low score, 54 (20.2%) of the mothers had average score, 147 (55.1%) of the mothers had good score, 65 (24.3%) of the mothers had very good score. There was a weak, positive correlation between age of mothers in years and overall knowledge, attitude and practice score, a weak, negative correlation between number of children and overall knowledge, attitude and practice score. Also, there was statistically significant association between mothers' educational levels and their knowledge, attitude and practice category. A statistically significant association between mothers' occupational status and their knowledge, attitude and practice category was found. There are wide spread wrong beliefs about typhoid fever in relation to exposure to sunlight.[12]

A study was conducted using Community based cross-sectional study design in Mendida town Ethiopia, to Assess knowledge and risk perception towards typhoid fever among communities Systematic Radom sampling technique was used. Data was collecting through face to face interview using structured questioners and also analyzed, using SPSS version 16. And the result was obtained as from a total of 423 respondents 260 (61.5%) were female and the remaining 163 (38.5%) were male. Concerning knowledge towards typhoid fever majority 270 (63.8%) have good knowledge towards typhoid fever. Concerning risk perception status 216 (51%) of the respondents have poor risk perception towards typhoid fever.[13]

A study was a true experimental design in nature to assess the effectiveness of the planned teaching program in Effectiveness of Planned Teaching Programmed on Knowledge of Mothers of School-Aged Children on Prevention of Typhoid Fever in Selected Hospitals of Hassan, Karnataka and the was obtained aKs that Pre-Test findings were 34.6% and 33.4% in experimental and control group respectively. While post-test score were 80.9% and 35.3% in experimental and control group respectively. Hence the post-test Mean knowledge score of the experimental group was significantly higher than the post-test knowledge score of control group. The paired student's' test value was 53.52 which is highly significant and p=0.001 level. [(2)]

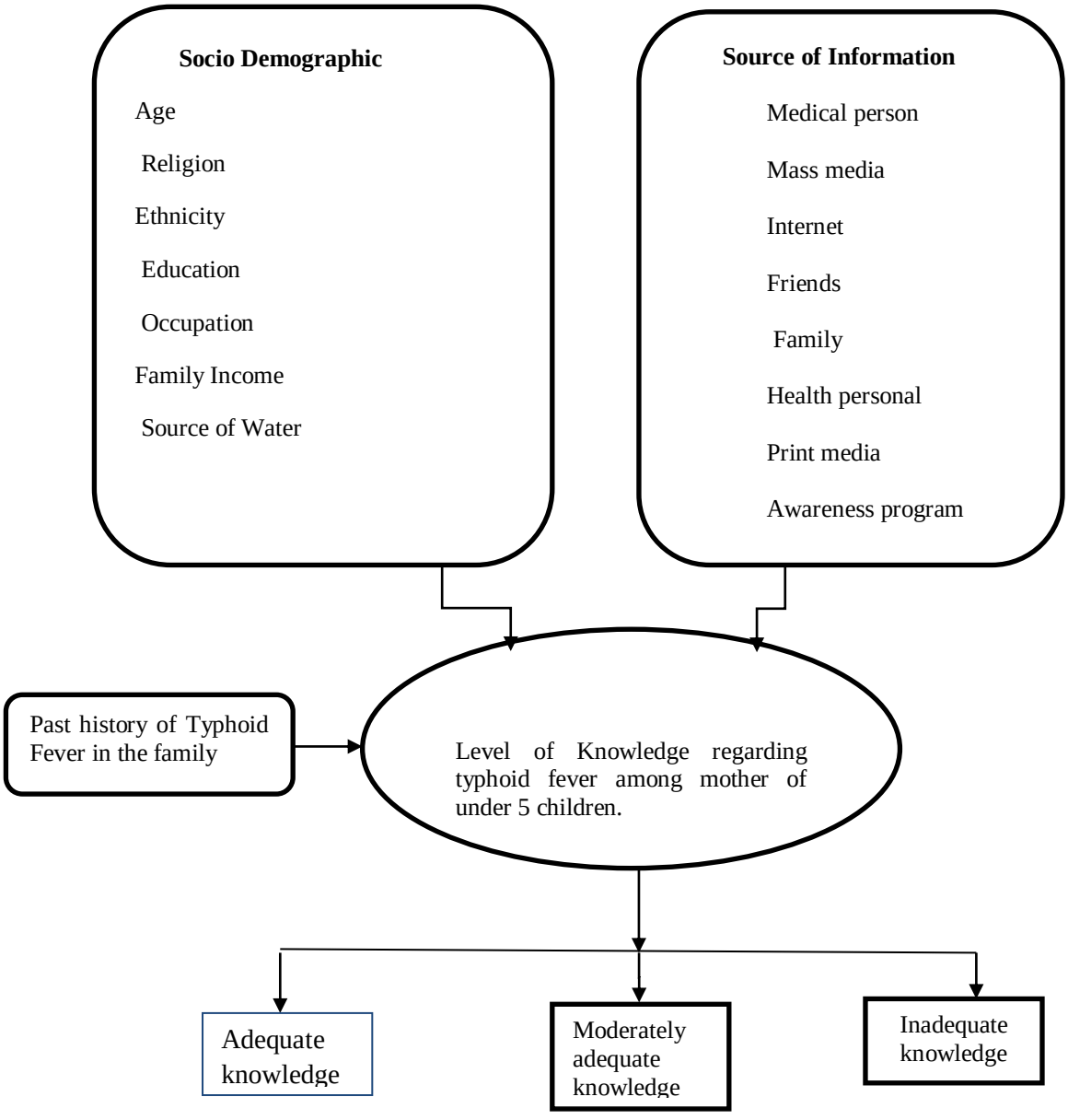

Fig: 1: Conceptual framework for the study of knowledge regarding Typhoid fever among mothers of under 5 Children.

A non-experimental descriptive design with purposive sampling technique was used to collect the data from high school students 1.To assess the knowledge regarding typhoid fever and its prevention among high school students and selected demographic variables. 2. To find the association between knowledge regarding

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typhoid fever and its prevention among high school students and selected demographic variables. And the result was obtained as Out of 100 respondents, majority 49% had showed inadequate knowledge level regarding the typhoid fever and its prevention, 35% of the samples had adequate knowledge and only 16% of them had moderate knowledge. Overall Mean knowledge score obtained by the respondents was 15.38 and standard deviation was 4.271. In the present study, the most of the subject (16%) had moderate knowledge, 49% had inadequate knowledge and 35% had adequate knowledge. The mean percentage of knowledge on the prevention of typhoid fever 51.266.There is a significant association between the knowledge and demographic variables i.e, family income (x2= 94.91, p=.02). There is no significant association with other demographic variables.(14)

A non-parametric prospective non-interventional research work carried out in five places in Bihar and West Bengal, viz, Kishanganj, Raiganj, Bardhaman, Siliguri, and Kolkata. The study was performed for a period of 6-month from January 2015 to July 2015 to assess the knowledge, attitude and practice of general practitioners regarding typhoid fever and the result was obtained as about 81% of the general practitioners diagnose typhoid most of the time by clinical examination alone, without taking any support from any laboratory investigation. 83% of our general practitioners give supportive care most of the time. 65% of the general practitioners most of the time and 26% always, that is 91% highly prefer to apply empirical antibiotic. 93% of general practitioners always 5% most of the time order for Widal test. Again only 3% of general practitioners order for blood culture and that also occasionally, while 97% never do so. Some often noteworthy findings in our study include 92% of general practitioners do not kuse thermometer, 69% do not count pulse rate, 88% do not even think of brady/tachycardia, 86% do not inspect tongue, 98% do not inspect rose spots, 77% do not palpate abdomen and 65% do not look for hepatosplenomegaly. (15)

A cross-sectional survey was conducted in Mahama Refugee Camp of Kirehe District, Rwanda from January to February 2016 to assess the Knowledge, attitude and practice of hygiene and sanitation in a Burundian refugee camp: implications for control of a Salmonella typhi outbreak and the result was obtained as A total of 671 respondents comprising 264 (39.3%) males and 407 (60.7%) females were enrolled in the study. A comkparison of hand washing practices before and after institution of prevention and control measures showed a 37% increase in the proportion of respondents who washed their hands before eating and after using the toilet ($p < 0.001$). About 52.8% of participants reported having heard about typhoid fever; however 25.9% had received health education. Only 34.6% and 38.6% of the respondents respectively knew how typhoid fever spreads and is prevented. Most respondents (98.2%) used pit latrines for disposal of feces. Long duration of stay in the camp, age over 35 years and being unemployed were statistically associated with poor hand washing practices.(16)

A quasi- experimental design was used. Study was carried out at Benha Fever Hospital and Toukh fever Hospital affiliated to ministry of health and population. to assess the effect of integrated clinical pathway regarding care of children with typhoid fever through, assessing nurses' knowledge regarding integrated clinical pathway, designing and implementing integrated clinical pathway regarding care of children with typhoid fever and evaluating the effect of integrated clinical pathway on nurses' regarding care of children with typhoid fever and the result was obtained as the total scores of nurses' knowledge were unsatisfactory before intervention. Whereas, their knowledge were satisfactory post intervention. Also, there were highly statistical significance differences before and after intervention and there are correlation between studied nurses' knowledge regarding integrated pathway and implementation of integrated pathway regarding care of children with typhoid fever pre and post intervention, it was revealed that there were a highly statistical significance correlation between them pre and post intervention.(17)

Descriptive cross sectional study in GV was conducted to assess the Knowledge, Attitudes and Practices Related to Typhoid - the Case of Glen View Suburb, City of Harare, 2016 and the result was obtained as Two thirds (2/3) of the respondents had received health education on typhoid Source of health education are as health workers (29%) , Friends/ church/ IEC material (25%), health promoters (22%) , newspapers and

radio / television (18%) and the Knowledge about Transmission of Typhoid, GV, 2016 Reported modes of transmission were Bad hygiene (51%), Drinking unsafe water (37%) , Not washing hands (32%), Eating cooked food from vendors (15%) Almost a quarter (24%) did not know how typhoid is transmitted• focus group discuss participants cited the following are Public toilets with no running water, Drinking tap (municipal) water , Inhaling smell from burst sewer pipes • Proportion kwho could mention >3 ways of typhoid transmission = 33% and the Knowledge about Prevention of Typhoid, GV, 2016 was obtained as Washing hands with soap and water (54%), Drinking water from safe sources (54%) , Washing fruits before eating them (30%), Proper disposal of waste (30%) , Avoiding eating cooked food from vendors (9%) total About 44% mentioned at least 3 correct ways of preventing typhoid and Knowledge about Safe Water Sources, Glen View, 2016 was obtained as Boreholes (83%) , Well (11%), Municipal water (6%), None (4%) Reported methods of making water safe for drinking Boiling water (63%) , Water guard (59%) , Aqua tabs (51%) , Bleach (49%) Overall: 33% of respondents had good knowledge on typhoid.[18]

A observational studies conducted a systematic literature review and meta-analysis of that measured the risk of typhoid fever associated with drinking unimproved water as per WHO-UNICEF's definition or drinking microbiologically unsafe water. The mean value for the pooled odds ratio from case-control studies was calculated using a random effects model. In addition to unimproved water and unsafe water, we also listed kcategories of other risk factors from the selected studies and the result was obtained as the search of published 'studies from January 1, 1990, to December 31, 2013 in PubMed, Embase, and World Health Organization databases provided 779 publications, of which 12 case-control studies presented the odds of having typhoid fever for those exposed to unimproved or unsafe versus improved drinking water sources. The odds of typhoid fever among those exposed to unimproved or unsafe water ranged from 1.06 to 9.26 with case weighted mean of 2.44 (95% CI: 1.65–3.59). Besides water-related risk, the studies also identified other risk factors related to socioeconomic aspects, type of food consumption, knowledge and awareness about typhoid fever, and hygiene practices.[19]

A Cross-sectional survey was carried out between October 2003 and April 2004 in two urban squatter settlements of Islamabad, involving 200 households. Socio- demographic characteristics and awareness levels were assessed To explore the knowledge, attitude and practices of general community regarding relationship of typhoid fever with unhygienic food, water and un-hygienic practices at two urban slum areas of Islamabad and the result was obtained as 91.5% of the respondents were using un-boiled water mainly because of economic constraints. General community was well aware regarding relationship of typhoid fever with unhygienic food and unboiled water but the practices did not match the level of knowledge. Among adults, typhoid fever was most prevalent with 1.2±0.1 episodes per year. [20]

A cross sectional study was conducted to assess the mother's knowledge, attitude and practice on typhoid fever in AI-Kadhimiyia Pediatrics Hospital, Baghdad, Iraq in 2015 among 267 respondents by using questionnaire developed by the researchers based on literatures review. Statistical analysis was done using SPSS software version 20. Overall Knowledge, attitude and practice score were ranged from (0-18score) and categorized as (Less than 9=Low score),(9-11=Average score),(12-14=good score),(More than or equal to 15=Very good score). Mean age of mothers in years was (32.31±11.112) whereas mean number of children was (3.68±2.507).Result found that 55.1% of the mothers had good score, 24.3% of the mothers had very good score, 20.2% had average score and 0.4% of the mothers had low score. There was a weak, positive correlation between age of mothers in years and overall knowledge, attitude and practice score. Also, there was statically significant association between mother's educational levels and their knowledge, attitude and practice category. A statistically significant association between mother's occupational status and their knowledge, attitude and practice category was found.[12]

A cross-sectional study was conducted to determine the antibiogram pattern of salmonella serovars from the blood of clinically suspected enteric fever patients in a tertiary care hospital in Lalitpur, Nepal, between july 2011 to February 2012. Standard microbiological procedures were followed during collection and

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processing of blood samples, isolation and identification of salmonella serotypes. The antimicrobial sensitivity of ampicillin, chloramphenicol, cotrimoxazole, nalidixic acid, and ciprofloxacin was determined using a modified Kirby-Bauer disk diffuse method as per the guidance of the clinical and laboratory standards institute. Result found that, out of 86 salmonella isolates, 56(65.1%) were salmonella typhi and 30(34.9%) were salmonella paratyphi A. Salmonella typhi were 100% sensitive to chloramphenicol, cotrimoxazole, and ciprofloxacin and 98.2% sensitive to ampicillin. Similarly, salmonella paratyphi A isolates were 100% sensitive to ampicillin and cotrimoxazole acid resistance and none of the salmonella isolates were multi-drug resistant (MDR). this study revealed the incrising frequency of nalidixic acid-resistance salmonella isolates, indicating the possibility of fluoroquinolone resistance in near future.[21]

III. RESERARCH METHODOLOGY

A descriptive cross sectional research design based on quantitative approach was adopted for this study, the study was conducted at Sipadol, Wada no.5 rural municipality of Bhaktapur district, Sipadol is located at Suryabinayak, Bhaktapur, Nepal. At first it was a separate VDC which was merged into the newly formed Suryabinayak municipality by the Government of Nepal on 2014. According to recent Survey, the area has total population of 9676 in which 4862 are male and 5014 are female respectively with 2278 total houses. And, approximately 60 mothers having under 5 children are residing there and all the mothers of under-5 children residing in Bhaktapur, non probability purposive sampling technique was used for the setting as well as sample, Semi structured interview schedule based on research objective and literature review was used for the data collection, Validity and Reliability was maintained by extensive studying and reviewing related literature, Objectives and Instruments were passed through the concerned advisor, subject teacher, concerned body, linguistic experts and discussion with colleagues and the internal consistency was checked by using Cronbach's alpha test and the instrument was pretested in the 10% of population among similar characteristics of sample at different setting to ensure feasibility, accuracy and specificity of the instrument. Necessary modification was done according to feedback, the collected data was edited and analyzed using appropriate descriptive and inferential statistics using SPSS version 20 was used to analyze the data.

IV. RESULT AND DISCUSSION

4.1. RESULT

Part I: SOCIO-DEMOGRAPHIC CHARACTERISTICS

Table 1: Finding on socio demographic information

Variable	Frequency	Percent
Age		
16-25	28	51.9
26-35	26	48.1
K		
Christian	6	11.1
Education status		
Literate	52	100
Illiterate	00	00
Educational level		
lower secondary level	25	59.5
secondary level	10	23.8
higher secondary level	5	11.9
university level	2	4.8

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Family type		
Single	35	64.8
Joint	14	25.9
Extended	5	9.3
Family members		
3-5	33	61.2
6-9	16	29.7
10-14	5	9.4
Number of children		
One	11	20.4
Two	26	48.1
Three	14	25.9
Four	3	5.6
Occupation		
Housewife	7	13.0
Agriculture	18	33.3
Business	23	42.6
Others	6	11.1
Family income	48	88.9
10000-20000	26	48.4
21000-30000	21	39
31000-40000	7	13
Past history of typhoid		
Yes	20	37.0
No	34	63.0
If yes to whom		
Self	2	3.7
Son	8	14.8
Daughter	3	5.6
Husband	4	7.4
Brother	3	5.6
Drinking water		
jar(mineral) water	52	100.0
Source of information		
family members	31	63.0
radio/television	1	1.9
news/books	3	5.6
health personal	11	20.4
school/college	5	9.3
Types of drainage		
open drainage system	11	24.1
close drainage system	41	75.9

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Above table stated out of total 52 participants, most of them i.e. 51.9% were 16-25 years and least were 26-35 years. The study shows that majority participants were from Hindu religions i.e. 88.9% and least were from Christian.

Also among 52 participants, all most all of participants were literate i.e. 100% (52), majority were achieved lover secondary level education i.e. 59.5% (25) and minority were post graduated i.e. 4.2% (4), 64.8% (35) were belonged from single type family and 25.9% (14) were belonged from joint family and 9.3% (5) were belonged from extended family, majority of family have 3-5 members in family i.e. 61.2% (33) and minority have 10-14 members i.e. 9.4% (5), majority have 2 children i.e. 48.1%(26) and minority have 4 children i.e. 5.6% (3), occupation of participants were 42.6% (23) business and 33.3% (18) agriculture and 13% (7) housewife and 11.1% (6) were others.

And among 52 participants, majority of family income per month were 10-20 thousand i.e. 48.4% (26) and 39% (21) were earned 21-30 thousand and 13% (7) were earned 31-40 thousand, majority had no any history of occurrence of typhoid fever in past i.e. 63% (34) and some of them had past history 57% (20), majority of them were male suffers i.e. 27.8% (15) and female were 9.3% (5), all participants were drinking mineral waters i.e. 100% (52), majority of participants were got information from family members i.e. 63% (31) and 20.4% (11) from health personal and 9.3% (5) from school/college and 5.3% (3) from news/books and 1.9% (1) from radio/television, majority had closed drainage system i.e. 75.9% (41) and open drainage system 24.1% (11) .

PART II: KNOWLEDGE REGARDING TYPHOID FEVER

Table 2: knowledge regarding typhoid fever

Variables	Frequency	Percent
Heard about typhoid fever		
Yes	42	81.5
No	10	18.5
Typhoid fever mean		
acute illness caused by salmonella enteric serotype marked by high fever	39 3	74.1 7.4
Cause of typhoid fever		
drinking contaminated water	39	74.1
over exposure to sunlight	2	3.8
mosquito bite	1	1.9
Typhoid fever is a		
air born disease	20	45.5
soil born disease	15	34.1
More prone age group		
child under 5 years	20	45.5
elderly people	24	54.5
Most affected system		
respiratory system	38	87.6
cardiovascular system;	4	12.4
Is communicable		
Yes	12	29.4
No	30	70.6
Transmitted by		

exposure to contaminated environment	35	15.9
hereditary	5	84.1
Can animal spread typhoid fever		
Yes	42	100.0
Main sign of typhoid fever		
high fever and rose spot	27	61.4
Constipation	5	11.4
body ache	12	27.3
Diagnosed by		
stool and blood test	35	84.1
taking x-ray	5	15.9
Is curable disease		
Yes	42	100.0
Best treated by		
treatment by appropriate antibiotics	28	65.1
taking sufficient bed rest	15	34.9
Maximum occurs in season		
Winter	20	47.7
Spring	3	6.8
Rainy	4	9.1
Summer	15	36.4
Heard about typhoid vaccine		
Yes	7	17.8
No	36	82.2

Typhoid vaccine		
prevent from typhoid fever infection	9	81.8
prevent from sign and symptoms	1	9.1
treat typhoid fever	1	9.1
Can typhoid vaccine given to children under 2 years of age		
Yes	11	100.0
At what age typhoid vaccine is given to children		
more than equal to 5 years	11	100.0

The above table represents that among 52 participants, majority of participant's i.e. 80.75% (42) stated that they know about typhoid fever whereas minority of the participants i.e. 19.25% (10) had not heard about typhoid fever. Similarly, Majority of participants i.e. 75% (39) thinks typhoid fever means acute illness caused by salmonella, majority of participant's i.e. 75% (39) said that typhoid fever is caused by drinking contaminated water, majority of participant i.e. 38.46% (20) said that typhoid fever is air born disease, 46.15% (24) participant said that typhoid fever is more prone on age group of elderly people, 73.07% (38) participant said that most affected system in typhoid fever, 57.69% (30) participant were said that typhoid fever is non-communicable, 67.30% (35) participants said that typhoid fever were transmitted by exposure to contaminated environment, 80.75% (42) all participants were said that animal can spread typhoid fever, majority of participants i.e. 51.92% (27) said that main sign of typhoid fever were high fever and rose sport, 67.30% (35) participant were said that typhoid fever is diagnosed by stool and blood test, 80.75% (42) all the participants were said that typhoid fever is curable disease, 53.86% (28) majority of participant were said that typhoid fever is best treated by appropriate antibiotics, 38.46% (20) majority of participant were said

that maximum occurrence of typhoid fever is in winter season, 69.23% (36) majority of participant said they were heard about typhoid vaccine, 17.30% (9) participant were said that typhoid vaccine used to prevent from typhoid fever infection, 21.15% (11) all of the participants were said that typhoid vaccine can be given to the children under 5 years of age, 21.15% (11) all of the participants were said that typhoid vaccine were given to the children at more that equal to 5 years age of children.

Table 3: Overall knowledge score (KS) of participants

Variables	Frequency	Percent
Adequate knowledge		
Knowledge score above 75%	12	22.2
Moderate knowledge		
Knowledge score between 50-75%	30	59.3
Inadequate knowledge		
Knowledge score below 50%	10	18.5

Above table stated that out of 52 participants, majority of participant had got moderate Knowledge i.e. 59.3% (30) and few participants got adequate Knowledge i.e. 22.2% (12) and very few participants got inadequate Knowledge i.e. 18.5%

4.2. DISCUSSION

Socio-demographic findings and discussion

Among 52 participants, most of them i.e. 51.9% were 16-25 years and least were 26-35 years, Majority participants were from Hindu religions i.e. 88.9% and least were from Christian, all most all of participants were literate i.e. 100% (52), majority were achieved lover secondary level education i.e. 59.5% (25) and minority were post graduated i.e. 4.2% (4), 64.8% (35) were belonged from single type family and 25.9% (14) were belonged from joint family and 9.3% (5) were belonged from extended family, majority of family have 3-5 members in family i.e. 61.2% (33) and minority have 10-14 members i.e. 9.4% (5), majority have 2 children i.e. 48.1%(26) and minority have 4 children i.e. 5.6% (3), occupation of participants were 42.6% (23) business and 33.3% (18) agriculture and 13% (7) housewife and 11.1% (6) were others.

Among 52 participants, majority of family income per month were 10-20 thousand i.e. 48.4% (26) and 39% (21) were earned 21-30 thousand and 13% (7) were earned 31-40 thousand, majority had no any history of occurrence of typhoid fever in past i.e. 63% (34) and some of them had past history 57% (20), majority of them were male suffers i.e. 27.8% (15) and female were 9.3% (5), all participants were drinking mineral waters i.e. 100% (52), majority of participants were got information from family members i.e. 63% (31) and 20.4% (11) from health personal and 9.3% (5) from school/college and 5.3% (3) from news/books and 1.9% (1) from radio/television, majority had closed drainage system i.e. 75.9% (41) and open drainage system 24.1% (11).

Similarly, A cross sectional study was conducted at Al-Kadhimiya Pediatrics Hospital. A Sample size was 267 (N=267). Only 1 (0.4%) of the mothers had low score, 54 (20.2%) of the mothers had average score, 147 (55.1%) of the mothers had good score, 65 (24.3%) of the mothers had very good score. There was a weak, positive correlation between age of mothers in years and overall knowledge score, a weak, negative correlation between number of children and overall knowledge score. Also, there was statistically significant association between mothers' educational levels and their knowledge. A statistically significant association between mothers' occupational status and their knowledge. (12)

Descriptive cross sectional study in GV was conducted to assess the Knowledge Related to Typhoid - the Case of Glen View Suburb, City of Harare, 2016. Two thirds (2/3) of the respondents had received health education on typhoid Source of health education are as health workers (29%) , Friends/ church/ IEC material (25%), health promoters (22%) , newspapers and radio / television (18%).

Findings of the knowledge regarding typhoid fever

Among 52 participant, majority of participant's i.e. 80.75% (42) heard about typhoid fever whereas minority of the participants i.e. 19.25% (10) had not heard about typhoid fever, majority of participants i.e. 80.75% (42) knew about typhoid fever. **Similarly, A cross-sectional survey was conducted in Mahama Refugee Camp of Kirehe District, Rwanda from January to February 2016 A total of 671 respondents comprising 264 (39.3%) males and 407 (60.7%) females were enrolled in the study. About 52.8% of participants reported having heard about typhoid fever; however 25.9% had received health education. Only 34.6% and 38.6% of the respondents respectively knew how typhoid fever spreads and is prevented. [(16)]**

Among 52 participants, 75% (39) said that typhoid fever caused by drinking contaminated water and whereas minority of participant i.e. 3.8% (2) said that it is causes by over exposure of sunlight and rest of participant i.e. 1.9% (1) said that it is caused by mosquito bite, majority of participant i.e. 38.4% (20) said that typhoid fever is air born disease whereas minority of participant i.e. 28.84% (15) said that it is soil born disease. **Similarly, A cross sectional study was conducted at Al-Kadhimiya Pediatrics Hospital. A Sample size was 267. Only 1 (0.4%) of the mothers had low score, 54 (20.2%) of the mothers had average score, 147 (55.1%) of the mothers had good score, 65 (24.3%) of the mothers had very good score. There are wide spread wrong belKiefs about typhoid fever in relation to exposure to sunlight.(12)**

Among 52 participants, 46.15% (24) knew typhoid fever is more prone on age group of elderly people whereas minority of participant i.e. 38.6% (20) knew more prone on age group of child under 5 years, 73.07% (38) knew most affected system in typhoid fever were respiratory whereas 7.69% (4) knew cardiovascular system is most affected, 57.6% (30) knew typhoid fever is non-communicable whereas 23.07% (12) knew communicable disease, 67.3% (35) knew transmitted by exposure to contaminated environment and 9.6% (5) knew transmitted by hereditary, 80.75% (42) all participants were said that animal can spread typhoid fever, majority of participants i.e. 51.961.4% (27) said that main sign of typhoid fever were high fever and rose sport and 23% (12) participant said that main sign of typhoid fever were body ache and 9.61% (5) participant were said that main sign of typhoid fever were constipation, 67.3% (35) participant were said that typhoid fever is diagnosed by stool and blood test and 9.61% (5) participant were said that tykphoid fever is diagnosed by taking X-ray. **Similarly, A cross-sectional survey was conducted in Mahama Refugee Camp of Kirehe District, Rwanda from January to February 2016 A total of 671 respondents comprising 264 (39.3%) males and 407 (60.7%) females were enrolled in the study. Only 34.6% and 38.6% of the respondents respectively knew how typhoid fever spreads and is prevented. [(16)]**

Among 52 participants, 80.75% (42) all participant knew typhoid curable disease, 53.8% (28) knew typhoid fever is best treated antibiotics and 28.84% (15) whereas minority knew that best treated by taking sufficient bed rest, 38.46% (20) majority of participant belief maximum occurrence of typhoid fever is in winter season and 28.84% (15) participant belief in summer season and 7.69% (4) belief in rainy season and 5.76% (3) belief in spring season. **Similarly**, **a cross-sectional study was conducted in southern Punjab, Pakistan, 2014 among 500 respondents by using semi-structured questionnaire. Where 44.6% of peoples were affected by typhoid at least once in their life. 57.0% of respondents said that typhoid problem is more during summer season as compared to other seasons.[(22)]**

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Among 52 participant, 69.2% (36) heard about typhoid vaccine whereas 13.46% (7) were not heard about typhoid vaccine, 17.30% (9) participant were said that typhoid vaccine used to prevent from typhoid fever infection and 1.9% (1) participant were said that typhoid vaccine is used to prevent from sign and symptoms of typhoid fever whereas 1.9% (1) participant were said that typhoid vaccine used to treat typhoid fever **similarly A study was conducted in a teaching hospital in a socioeconomically backward part of Bangalore, Karnataka where 143 mothers were enrolled in the study and most of the mothers had satisfactory knowledge, almost 25% children were identified as un-immunized or partially immunized.**

V. CONCLUSION

The terms typhoid fever refer to an acute bacterial infection caused by salmonella typhi. The illness is characterized by prolonged typical continuous fever for 3-4 weeks with prostration relative bradycardia and involvement of spleen and lymph nodes, rose-colored spots on the chest or abdomen, abdominal pain, and occasionally intestinal bleeding, constipation and headaches also commonly occur.

The study was conducted to know the knowledge about typhoid fever among mother of under 5 children. On the basis of the obtained data, the study was syntactically analyzed and interpreted. The conclusions are drawn from this, which are as follows;

Based on the conducted study it is concluded that the overall KC of the participants was majority of participant had got moderate KC i.e. 59.3% (30) and few participants got adequate KC i.e. 22.2% (12) and very few participants got inadequate KC i.e. 18.5% (10). This result stated that participants have need of health education regarding typhoid fever.

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