

technique was used to select 80 samples and collect data from them by using structured and validated knowledge and practice questionnaire on safety measures related to fishing. The adults were between the age group of 20-50 years, available in fishing harbour of Malpe and willing to participate and given consent for and present during the time data collection. An adult who could not read Kannada (local language) was excluded from the study.

4. Data Collection Instruments and Procedure

The demographic proforma included items to collect data on the background. The items included were age, religion education, marital status, income, work experience, source of information, training attended. Multiple Choice Questions (MCQ) were developed to assess the knowledge on safety measures. Self-reported Likert scale was developed to assess practice. Tools were validated by experts in the area.

The reliability of the tool was determined by split half method for knowledge questionnaire and Chronbach's alpha method computed for Practice scale. The reliability coefficient was $r=0.82$ and $\alpha=0.87$ for knowledge and practice questionnaire respectively. Administrative permissions were obtained from Dean, Manipal College of Nursing Manipal. Ethical clearance obtained from Institutional Ethics Committee of Kasturba Hospital, Manipal University, and President of Fishermen Association. A written consent was obtained after explaining the purpose of the study. Data were collected from 80 fishermen in Malpe harbor through interview technique and were analyzed using descriptive and inferential statistics.

5. Results

Table 1: Frequency and percentage distribution of sample characteristics n=80

Sample characteristics	f	%
Age in years		
20 – 30	42	52.5
31 – 40	32	40
41 – 50	6	7.5
Education		
Illiterate	2	2.5
Primary	12	15
Higher primary	24	30
Higher Secondary	9	11.2
PUC	24	30
Graduate and above	9	11.2
Monthly income in rupees		
< 5000	25	31.2
5001 to 10,000	38	47.5
10001 to 15000	9	11.2
> 15000	8	10
Religion		
Hindu	48	97.5
Muslim	2	2.5
Christian	0	0
Marital status:		
Single	43	53.8
Married	37	46.2

Years of work experience		
< 2	8	10
2 – 5	22	27.5
> 5	50	62.5
Source of information		
No information	52	65
Employer	2	2.5
Driver	7	8.8
Senior	5	6.2
Relatives	8	10
Any other (fire service, union, self-experience)	6	7.5
Any other (fire service, , union, self-experience)		
Training attended on safety measures		
Yes	2	2.5
No	78	97.5

Majority of the fishermen were between the age group of 20-30 years (48%). Majority (30%) fishermen educated higher primary school and 30% are completed PUC, 11% are graduated and only 11% fishermen are illiterate. Majority of the subjects expressed their monthly income is 5000 -10,000 and 10% are expressed more than 15,000. So it indicates they are quite good in economically. Most of samples are belong to Hindu religion and very few are in other religion. Most of them (43% are unmarried and having more than 5 years of experience in fishing. It indicates they start their profession as fishermen in young age. Majority, 65% are expressed did not get information about safety measures to be adopted before starting and during fishing. Remaining fishermen got information from their relatives, seniors and boat drivers. 97.5% fishermen not attended training regarding safety measures. So it shows that need for awareness programme or training on safety measures to be given for fishermen. (Table 1).

Table 2: Frequency and percentage distribution of knowledge scores n=80

Knowledge Scores	f	%
Poor	8	10
Average	63	78.8
Good	9	11.2

Majority of fishermen had average knowledge (78.8%), good knowledge (16%) and 10% of subjects had poor knowledge on safety measures.

Table 3: Frequency and percentage distribution of practice scores

Practice	F	%
Favourable	39	48.8
Unfavorable	41	51.2

Practice of safety measures were assessed by using practice scale. Practice was categorized as favourable and unfavourable practice and depicted in table 3. n=80. Out of 80 fishermen, 48.8% are had favourable practice and 51.2% are had unfavourable practice. It indicates almost 50% are practicing safety measures during fishing and 50% are not practicing safety measures. It means their life is dangerous during their work. If some accidents happens their life will be in danger and death also can happens.

Table 4: Area wise distribution of practice scores of fishermen, n=80

Areas	Always		Sometimes		Never	
	F	%	f	%	f	%
Basic sea survival						
Basic programmes organized	12	15	38	47.5	30	37.5
Keep yourself fit and alert	56	70	19	23.8	5	6.2
Avoiding to go to fishing during ill	36	45	29	36.2	15	18.7
Checking weather forecast	48	60	28	35	4	5
Wearing personal protective devices	39	48.8	32	40	9	11.2
Checking the equipments and machinery	58	72.5	21	26.2	1	1.2
Fire Fighting						
Fire extinguisher and life saving equipments in the boat are in working condition	41	51.2	17	21.2	22	27.5
Following the guidelines to operate fire extinguisher	28	35	25	31.2	27	33.8
Maintaining the fire extinguisher and fire detection alarm in working condition	21	26.2	21	26.2	38	47.5
Fire drills have organized	12	15.0	29	36.2	39	48.8
Inspecting and servicing the fire extinguishers of the boat	31	38.8	24	30	25	31.2
Reporting any damage/ faulty electrical equipment	42	52.5	28	35.0	10	12.5
Checking vessels for leak	56	70	15	18.8	9	11.2
First aid						
First aid sessions have organized	25	31.2	27	33.8	28	35.0
Keeping ready first aid equipments	58	72.5	8	10.0	14	17.5
Using basic first aid services in case of emergencies/ accidents	44	55	23	28.8	13	16.2
Health and Safety Awareness						
Flammable items are kept in a safer place in the boat	51	63.8	13	16.2	16	20
Awareness programmes organized on personal protective devices	23	28.8	29	36.2	28	35.0
Trained personnel are operating the safety equipments	24	30	24	30	32	40
Life jacket is used to jump into the water	47	58.8	23	28.8	10	12.5
Getting information about changes in the sea status	44	55	32	40	4	5
Maintaining proper body mechanism while fishing	48	60	16	20	16	20
Awareness programmes done about navigation safety	31	38.8	23	28.8	26	32.5
Not going for fishing when it is prohibited by district administration	12	15	17	21.2	51	63.8

Data presented in table 4 show that the practice of fishermen about safety measures.

Sea survival : Majority fishermen expressed always practice safety measures are, 56% keep themselves fit and alert, 36% avoiding to go to fishing during ill, 48% checking weather forecast, 39% wearing suitable personal protective devices before going to the sea, 58% checking the equipments and machinery for safety before leaving. Remaining are practice sometimes or not practicing. It is interpreted that majority fishermen are practicing safety measures and for remaining need to be encouraged to practice.

Fire Fighting: The fishermen reported the practice always are, majority 41% make sure that, the fire extinguisher and lifesaving equipments in the boat are in working condition, 31% Inspecting and servicing the fire extinguishers of the boat , 56% are checking vessels(boats) for leak in the joints and valves before lighting gas appliances, 42% reporting any damage/ faulty electrical equipment to the owner to get repair. It indicates safety practice regarding fire and its management is satisfactory.

First Aid : Majority fishermen reported that, always first aid equipments are keeping ready before going into the sea is 58%, , 44% are using basic first aid services in case of emergencies/ accidents and 28% are reported first aid sessions have not organized. It is interpreted that, fishermen are aware about importance of first aid service and its use.

And also there is a need for organizing first aid awareness programme to educate all fishermen.

Health and Safety Awareness: Fishermen reported the practice always about maintaining proper body mechanism while fishing and lifting heavy instruments/machines is 48%. Regarding safety practice it is reported always is 51% flammable items are kept in a safer place in the boat, 47% life jacket is used to jump into the water when need arises, 44% getting information about changes in the sea status. 12 % are told not going for fishing when it is prohibited by district administration, remaining have expressed that, they are going to fishing sometimes is 17% and 51% reported they never followed the order of district administrator regarding prohibition of fishing when it is restricted. It reveals that, prohibition of fishing during restricted schedule is not followed and it concludes fishermen should follow the rules and regulations given by higher authority to maintain the safety regarding life issues.

Table 4: Association between knowledge and demographic variables

Chi-square was computed to find the association between knowledge and selected variables

n=80

Sample characteristics	Level of knowledge			df	χ^2	p value
	Poor	Average	Good			
Age in years						
20 – 30	7	32	3	4	13.693	0.08
31 – 40	1	28	3			
41 – 50	0	3	3			
Education						
Illiterate	0	2	0	10	5.545	0.85
Primary	3	7	2			
Higher primary	1	21	2			
Higher Secondary	1	7	1			
PUC	2	19	3			
Graduate and above	1	7	1			
Monthly income in rupees						
< 5000	3	18	4	6	6.252	0.396
5001 to 10,000	3	33	2			
10001 to 15000	2	5	2			
> 15000	0	7	1			
Religion						
Hindu	8	61	9	2	0.554	0.758
Muslim	0	2	0			
Christian	0	0	0			
Marital status:						
Single	5	34	4	2	1.425	0.84
Married	3	28	5			
Years of work experience						
< 2	1	5	2	4	4.72	0.358
2 – 5	4	16	2			
> 5	3	42	5			
Source of information						
No information	4	41	7	10	8.031	0.626
Employer	0	2	0			
Driver	2	4	1			
Senior	1	4	0			
Relatives	1	6	1			
Any other (fire service, self-experience, union)	0	6	0			
Training attended on safety measures						
Yes	0	2	0	2	0.554	0.758
No	8	61	9			

p<0.05 level of significance

The data presented in table 3 show that there is no statistical association between knowledge and demographic variables like age, education, income, religion, marital status, years of work experience source of information obtained and training attended.

6. Association between practice scores and demographic variables

Association between practice score and demographic variables such as age, work experience and training attended were tested by computing chi-square. There was no statistical association between practice and selected demographic variables.

Table 5: Correlation between knowledge and self-reported practice on safety practice

Variables	r	p value
Knowledge	0.20	0.04
Practice		

As the knowledge and practice scores did not satisfy the principle of normalcy. Spearman correlation coefficient was used to find the relationship knowledge and practice on safety measures. n=80

p<0.05

The data presented in the table 5 show that there is a weak positive significant (r=0.20, P<0.04) relationship between knowledge and practice on safety measures. It is inferred that as the knowledge increases practice on safety measures also increases.

7. Discussion

The present study revealed that, majority of fishermen had average/moderate knowledge (78.8%), good knowledge (16%) on safety measures and favourable practice was 49%. There is positive correlation between knowledge and practice (r=0.20, p<0.05). This findings are supported by a study conducted in Mangalore DK District, Karnataka by Rodrigues. DE, Kiran U, on knowledge and practice regarding prevention of occupational hazards and attitude towards utilization of safety measures among fishermen. It was found knowledge on prevention of occupation hazards was 55% and adequate practice was 55.29%. There was significant relationship between knowledge and practice score (r=0.366, df=38, p=0.304)⁵.

Study conducted by Rodrigues DE, Kiran U reported that, area wise practice score was poor concerning personal protecting devices (Mean % 40.13 with SD 1.99). The study conducted among Canada fishermen had specified that, fishermen do not wear personal floatation devices because they have accepted the risk, they also feel it interferes their movement while working on deck and there is fear of entanglement⁶. In the present study it was found wearing suitable personal protective devices before going to the sea is only 39%. So there is a need for encourage fishermen to wear personal protective devices always.

8. Conclusion

Knowledge and practice regarding safety measures in fishing occupation is inadequate. They need to be encouraged to have/purchase personal safety devices and follow the guidelines of safety measures. the present study recommends the need of awareness programmes and emergency drills regarding fire emergencies for the fishermen.

Reference

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