

Article

Occupational hazards and health care seeking behavior of fishermen

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Abstract: About millions of households depend on fishing for livelihood though it is associated with different types of hazards. Working time does not allow fishermen to get health care for hazards from facilities. Data on occupational hazards and health care seeking is inconclusive in Bangladesh. This study was undertaken to assess the occupational hazards, associated factors and health seeking of fisherman. A cross sectional study involving 300 fishermen conducted from some selected communities of Patuakhali and Vhola districts from January to June, 2018. A pretested questionnaire used to collect information on socio-demography, occupational detail, types of hazards and health seeking behavior of fishermen. The results revealed that 69 faced different occupational problems during last 6 months. Participants suffered mainly from skin disease (31.7%), musculoskeletal pain (29.7%) and fever (24.3%). Age and duration of profession identified were associated ($P < .001$) with occupational hazards. Only 7.3% respondents went to facilities to get health care. Nearly one-third of fishermen (31%) took medicine by their own idea. Fishermen who seek care from facilities are low than affected with health hazards. Establishing facilities near major fish landings may improve health care seeking in this study area.

Keywords: occupational hazards; health-seeking; fishermen; Bangladesh

1. Introduction

Globally, fisheries support the livelihoods of over half billion peoples (Mandal *et al.*, 2017). It provides nutrition, employment, export and food security (Rahman and Schmidlin 2014; Choo *et al.*, 2015). But, fishing is with the high risk of hazards especially traumatic injury (El- Saadawy *et al.*, 2014). Its global fatality is 80 per 100,000 (Mandal *et al.*, 2017). Its rate is increased for the unsafe working environment (Jelevska *et al.*, 2012). In coastal Bangladesh, about 484,000 households depend on fishing. Near about 12 billion people directly or indirectly depend on fisheries for their income (Mandal *et al.*, 2017). But data on hazards of the fisherman is still unclear in Bangladesh. Fisherman suffers from different physical and psychological stress (Jelevska *et al.*, 2012).

Previous study shown 75% fisherman feel musculoskeletal problem and 80% fisherman exposed to accidents during fishing in Bangladesh (Mandel *et al.*, 2017). Fishing is one of the most important economic activities in

the coastal area of Bangladesh. But it is hypothesized that fisherman in this area might suffer from a high prevalence of health problem but not reported until fatal. Also, some draw backing factors might be associated to get the hazards.

Health or care seeking behavior has been defined as any action undertaken by individuals who perceive them to have a health problem or to be ill for the purpose of finding an appropriate remedy (Oberoi *et al.*, 2016). In Bangladesh, 47% of the seek people in a rural community sought treatment and rest did not go to health facilities. Since fishermen stay in water for long time the rate of health seeking behavior may be lower than others. We need a clear understanding of occupational hazards and predicting factors of fisherman. The baseline data may contribute to design and implement interventions against future hazards in the study area. The main objective of this study is to explore the health problems and care seeking behavior of fishermen.

2. Materials and Methods

2.1. Study areas

We conducted this study in Dumki and Golachipa, sub-districts of Patuakhali and Dualatkhan sub-district of Bhola. These three areas were faced river erosion due to vicinity or rivers. Many people of those three sub-districts depend on fishing. Those sub-districts has total population are 70,655, 361518 and 168537 (Dumki, Golachipa and Dualatkhan) where 447, 37000 and 19716 peoples are fishermen respectively (BBS, 2010-11).

2.2. Study procedure

This cross-sectional study investigated the occupational hazards and health care seeking activities of fisherman from July to December, 2018. Investigators visited at the household level and randomly selected 300 respondents for this study. Data was collected by face to face interview using pre-structured questionnaire. Respondents not present at survey time or unwilling to response not included in this study. We only considered those who spend up to five days in river for single trip.

2.3. Data and variables

We collected demographic (age, sex, ethnicity, educational qualification, marital status, family size, family income etc.), occupational (secondary occupation, reason to join fishing, types of boat, location, time of fishing and occupational accident), behavior like smoking history and types of hazards (disease or symptoms faced within last 6 months) for this study. Health seeking behavior of the respondent was also collected.

2.4. Statistical analysis

Frequency distributions and descriptive statistics for major demographic variables were computed. We used SPSS version 16.0 to analyze the data where P-values were (≤ 0.05) considered statistically significant.

3. Results

According to field survey, the demographic data of this study reveals that among 300 respondents most peoples (63.3%) are middle aged (>25). About 43.3% of the total respondents are from Dumki, 33.3% and 23.3% from Golachipa and Doulatkhan respectively. According to the view of religion and marital status, respondents are mostly muslim (67.7%) and married (82.3%). The educational qualification of the study areas people are; primary passed (55.7%), secondary (12.3%), higher secondary (0.3%) and the rest are illiterate (31.7%). Among all of the respondents about 26.3% are exist in monogamy family (1-4 members) and 73.7% are polygamy family (more than 4 members). The mean family income was 14340 tk. (median, 15040 tk.).

The following Table 1 shows that maximum fishermen are associated with fishing to survive their livelihood (78.3%) and people involved in another occupation are 21.7%. About half of the respondents are used large boat to catch fish. Two-third people of the fisherman use their own net. Almost all of the fisherman catch fish on river (72.3%). The maximum fisherman catches fish both day and night. There are large numbers of people (78.0%) faces occupational accident due to fishing. A few numbers of fishermen have fishing license and have no technical training about fishing. Rainy season is the most favorable time for fishing as per 97.7% respondents. Maximum numbers of fisherman are addicted to smoking (88%).

Table 1. Occupational details of fisherman in some selected communities of Patuakhali and Vhola, Bangladesh, 2018 (N=300).

Parameter	Frequency	%
Another Occupation		
Yes	65	21.7
No	235	78.3
Reason of fishing		
Traditional	197	65.7
Poverty	64	21.3
Unemployment	39	13.0
Days of Joining Fishing		
0.6-10	200	66.7
>=11	100	33.3
Working member		
<=2	138	46
3<=	162	54
Types of Boat		
Dinggi (small boat)	101	33.7
Large boat	129	43.0
Taller	70	23.3
Net Owner		
Owned	188	62.7
Borrowed	112	37.3
Fishing Location		
Sea	83	27.7
River	217	72.3
Spend time in Fishing		
Daily	293	97.7
2-5 days	7	2.3
Fishing shift		
Day	83	27.7
Night	83	27.7
Both	134	44.7
Occupational Accident		
Yes	234	78.0
No	66	22.0
Have License		
Yes	29	9.7
No	271	90.3
Have Training		
Yes	9	3.0
No	291	97.0
Favorable Season		
Summer	4	1.3
Winter	3	1.0
Rainy Season	293	97.7
Seller		
Self	189	63.0
Holder	111	37.0
Leftover Food		
Yes	205	68.3
No	95	31.7
Type of Drinking Water		
River	119	39.7
Tube-well	180	60.0
Others	1	0.3
Dry Food		
Yes	242	80.7
No	58	19.3

The following Table 2 shows the disease related data of our selected areas fishermen. They are unconscious to take regular preventive visit and the percentage is 98.8%. During the survey we found that around 69.3% of the total fishermen were suffered from many diseases in last 3-6 months (mostly skin disease, fever, musculoskeletal problem and diarrhea etc.). The percentages of specific diseases that the respondents suffered are skin disease (31.7%), musculoskeletal problem (29.7%), fever (24.3%), diarrhea (17.7%) and injury (16.3%) respectively.

Table 2. Occupational hazards of the respondents.

Parameter	Frequency	%
Disease within Last 3-6 Month		
Yes	208	69.3
No	92	30.7
Skin Disease		
Yes	95	31.7
No	205	68.3
Respiratory Problem		
Yes	26	8.7
No	274	91.3
Injury		
Yes	49	16.3
No	251	83.7
Fever		
Yes	73	24.3
No	227	75.7
Diarrhea		
Yes	53	17.7
No	247	82.3
Scares From Cuts or Injury		
Yes	14	4.7
No	286	95.3
Hepatitis		
Yes	5	1.7
No	295	98.3
Musculoskeletal Problem		
Yes	89	29.7
No	211	70.3
Other Diseases		
Allergy	11	3.7
Headache	11	3.7

After completion of taken field data, we have realized that maximum respondent's didn't take prescription from doctor until they face any severe diseases. The following Table 3 shows that the percentage of first time visits to doctor are higher (28.7%) than second time visit (3.3%). There are maximum fishermen like to visit local doctor (12%) and nearest pharmacy (10%) than registered doctor (0.3%) and govt. hospital (7%) for their diseases. About 5.7% fishermen visit doctor only for diarrheal cause.

Table 3. Health care seeking behavior of the respondents.

Parameter	Frequency	%
Visit Doctor		
Yes	88	29.3
No	111	37.0
No of visit		
1 st time visit	86	28.7
2 nd time visit	10	3.3
Doctor Type		
Govt. hospital	21	7
Registered doctor	1	0.3
Local Pharmacy	30	10
Village doctor	36	12
Causal disease to visit the doctor		
Diarrhea	17	5.7
Skin disease	13	4.3
Fever	12	4.0
Musculoskeletal problem	11	3.7
Taken Medicine		
Yes	132	44
No	58	19.3
Selecting Medicine From Own Idea		
Yes	93	31
No	81	27
Prescribed Medicine		
Yes	80	26.7
No	93	31
From whom advised medicine		
Doctor	4	1.3
Govt. hospital	5	1.7
Local doctor	17	5.7
Pharmacist	54	18.0

Most of the fishermen take medicines by their own choice (31%) and about 18% are taken medicines that are prescribed by a pharmacist. Correlation structure revealed that, age and duration of profession of fisherman inversely associate with the presence of diseases, skin diseases, respiratory problem and musculoskeletal pain. We can find from above this table the chance of having disease is inversely associated with age ($r = -.333$, $p = .001$) & duration of professions ($r = -.270$, $p = .001$). We can also find that age ($r = -.253$, $p = .001$), educational qualification ($r = -.236$, $p = -.001$) and duration of profession ($r = -.240$, $p = -.001$) these three variables are also inversely associated with respiratory problems.

4. Discussion

Generally the fishermen are faced many diseases due to most of the time they stay in hazy and aquatic environment (Chauvin *et al.*, 2017). We mainly conducted this study among the fisherman community who are live in the coastal area to identify occupational health hazards and their health seeking behavior. Fishing is a particularly dangerous profession with high risk of occupational and endemic diseases globally (Frantzeskou *et al.*, 2012).

We found about 69.3% fishermen are faced many diseases within last 3-6 months at the time of data collection. Among the respondents, 31.7% fishermen were suffered from skin disease which is less than the study done among Moroccan fishermen (Laraqui *et al.*, 2018). About 24.3% and 17.7% respondents suffered from fever and diarrhea which is less than the study was done in Boga fisherman (55% and 30% respectively) of Kachua upazila, Bagherhat district (Mandal *et al.*, 2017). Compared to other diseases (allergies and headache), musculoskeletal problem (29.7%) were crucial among the respondents but less severe than the previous study (El-Saadawy *et al.*, 2014).

Due to fisherman occupation, they have to stay in the sea water for a long time which is not so easy to survive as land part. In the time of fishing they fell various occupational injuries. In this study about 78% people reported that they have faced in occupational accident where 49% have injured by cutting in their hand palm and finger

as well as in feet, which is greater than the study done amongst Greece fishermen (Frantzeskou *et al.*, 2012). Most of the hazard was occurred because of their inability and less sincerity about the use of protective tools. The study also shows that about 88% fishermen are addicted to smoking which is similar to another survey that conducted in Alexandria city of Egypt (El-Saadawy *et al.*, 2014).

In Bangladesh, people with good education and economical background have visited healthcare facilities than uneducated and poor financial background (Chowdhury *et al.*, 2007). According to the study result, most of the respondents were took primary education but they were less interested to take secondary and higher secondary education because of family responsibilities. That's why they were less sincere about their diseases and visit to healthcare facilities. Only 29.3% of total respondents took healthcare for their diseases where 7.3 % visited to the registered doctor & govt. hospital. There are about 10% and 12% respondents like to visit local pharmacy and village doctor respectively because of their easy accessibility.

Most of the fishermen (31%) were like to take medicines as per their own choice. About 3% were taken the medicines as per registered doctors' advice and Govt. hospitals prescription but a higher percentage of fishermen were taken medicines that are suggested by the local pharmacist. As for preventive measure about 44% fishermen carried medicine (saline, Napa, gastric tablet etc.) during sailing.

In our study, cases were determined by participants themselves according to the definition of diseases, without biological or even practitioner's confirmation. We collected disease data within last 3-6 months in our survey that is different from other study survey in where disease data are collected in generally.

The study was not free from limitations. We had faced various limitations such as communication barrier to taken information from respondents, time matching with the respondents for interview etc.

5. Conclusions

Fishermen have to stay long time in the river for fishing and faces lots of hazards. Due to lack of time they did not get scope for health care. This study found that a significant number of fishermen face occupational problems but very neglected proportion visited to the registered doctor. The maximum fishermen did not take any training on their occupation. Proper awareness and training may reduce the hazards among the fishermen. They did not get health care from facilities as busy for whole day. The authorities should established proper health care facilities near fish landing areas to make them access to health facilities.

Conflict of interest

None to declare.

References

- Bangladesh Bureau of Statistics (BBS), 2011. Statistical Yearbook of Bangladesh 31st Edition.
- Choo MKK, N El-Bassel, PCG Adam, L Gilbert, E Wu and BS West, 2015. Prevalence and correlates of HIV and Hepatitis C virus infections and risk behaviors among Malaysian fishermen. PLoS ONE, 10: e0118422.
- Chowdhury RI, MA Islam, J Gulshan and N Chakraborty, 2007. Delivery complications and healthcare-seeking behaviour: the Bangladesh demographic health survey, 1999-2000. Health Soc Care Community, 15: 254-264.
- Chauvin C, GL Bouar and S Lardjane , 2017. Analysis of occupational injuries in the sea fishing industry according to the type of fishery and the fishing activity. Int. Marit. Health, 68: 31-38.
- Frantzeskou E, AN Kastania, E Riza, OC Jensen and A Linos, 2012. Risk factors for fishermen's health and safety in Greece. Int. Marit. Health, 63: 155-161.
- ME El-Saadawy, NE Soliman, IMM El-Tayeb and MA Hammouda, 2014. Some occupational hazards among fisherman in Alexandria city. Gaziantep Med. J., 20: 71-78.
- Mandal S, I Hasan, NH Hawlader, I Sultana, MM Rahman and MSI Majumder, 2017. Occupational Health Hazard and Safety Assessment of Fishermen Community in Coastal Zone of Bangladesh. International Journal of Health Economics and Policy, 2: 63-71.
- Jelewska M, MG Nowak, I Leszczyńska and B Jaremin, 2012. Occupational hazards for fisherman in the workplace in Polish coastal and beach fishing. Int. Marit. Health, 63: 40-48 .
- Oberoi S, N Chaudhary, S Patnaik, and A Singh, 2016. Understanding health seeking behavior. J. Family Med. Prim. Care, 5: 463-464.
- Laraqui O, N Manar, S Laraqui, T Ghailan, F Deschamps, R Hammouda and CEH Laraqui, 2018. Prevalence of skin diseases amongst Moroccan fisherman. Int. Marit. Health, 69: 22-27.
- Rahman MK and TW Schmidlin, 2014. The perception and of natural hazards on fishing communities of Kutubdia island, Bangladesh, Geographical Review, 104: 71-86.