

# Cross-sectional survey on the knowledge, attitude, and practices of male Filipino seafarers regarding sexual health

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## ABSTRACT

The Philippines is currently the world's leading supplier of seafarers aboard foreign vessels, accounting for nearly a quarter of the world's maritime industry. Seafarers, being mobile, have a significant contribution impact on the worldwide spread of infectious diseases such as sexually transmitted infections (STIs). This study aims to determine the level of knowledge, as well as the attitudes and practices (KAP) of male Filipino seafarers regarding sexual health.

A cross-sectional survey was administered through convenience sampling of male Filipino seafarers. The respondents showed the least knowledge about prevention, followed by transmission of STIs. The respondents showed adequate knowledge about risk factors such as multiple sex partners, and about transmission such as vertical spread. In addition, the respondents indicated their attitude and level of responsibility in informing their sexual partners in case they contract STIs and avoidance of high-risk partners. They also showed attitudes that predispose them to high-risk behaviour such as decreased sexual sensation caused by use of condoms and added pleasure in having intercourse with strangers. The majority of respondents were sexually active. Most have STI/HIV screening as part of their pre-employment medical exam. Positive practices include use of condoms, voluntary medical evaluation for STI's, and avoidance of high-risk partners. Negative practices include going to bars closely linked with prostitution, and most of the respondents had had sexual intercourse with sex workers overseas. Male seafarers appear to have double standards regarding women as sexual partners – about half had intercourse outside their stable relationships. They perceive protection as their sole discretion.

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**Key words:** seafarers, Filipino, sexual health, male Filipino seafarers, OFW

## INTRODUCTION

Sexually transmitted infections (STIs) are a major global cause of infertility, acute illness, long term disability, and death, with severe medical and psychological consequences for men, women, and children. Each year, an estimated 340 million new cases of curable STIs, including about 5 million new

HIV infections, are reported globally [1]. The World Health Organization reported that since the extensive spread of HIV began at the end of the 1980s, more than 7 million people in Asia have become infected. In the year 2003 alone, it is estimated that more than 500,000 died of AIDS in Asia – about 1500 a day [2].

Recently there has been a resurgence of STIs in the Western Pacific Region. In most developing countries, these infections and their complications are among the top five reasons for health care visits [3]. The WHO reported that since the Philippines' first case of AIDS in 1984 and subsequent case reports until September 2008, the Department of Health National AIDS registry has recorded a cumulative total of 3456 HIV and AIDS cases. Most cases were males (69%) with a M:F sex ration of 6:1. Most were in the age groups 25–29 (21%) and 30–34 (21%) years old [1].

According to the Consensus Report on STIs, HIV, and AIDS Epidemiology of the Philippines, the occupational distribution of positive HIV cases included: 33% Overseas Filipino Workers (OFW), 17% unemployed, 17% entertainment related occupation, and 31% others [4].

In 2005–2006, there were 1,571,950 land based OFWs and 508,720 sea based OFWs, about 25% of whom were seafarers. Of the total cases among OFWS, seafarers accounted for 35%. In the past, OFW made up a significant proportion of HIV cases. In 2000, more than half of the reported cases were OFWs while in 2001, more than 38% were OFWs. This shows that sexually transmitted infections, HIV, and AIDS are among the biggest health vulnerability issues for seafarers [5].

Filipino seafarers continue to practice risky behaviour, despite on-going efforts to inform and prepare them for their overseas deployment through POEA and other pre-employment orientations [6]. With this in mind, there is a growing incidence of HIV and STI in the OFW and seafarer population [7]. Seafarers, being mobile, have a significant contribution in the spread of infectious diseases such as STIs around the globe. Moreover, cultural expectations of their gender predispose men to have certain protection and risk factors. Factors such as emptiness, loneliness, and boredom may predispose such a population to engage in risky social behaviour. While the phenomenon could be due to the bias brought on by the routine HIV testing of seafarers during Pre-Employment Medical Examinations (PEME), which is often required by their principals or manning agencies, the fact remains that there are a large number of OFWs in the HIV registry list.

The research objective is to determine the levels of knowledge as well as the attitude and practice of male Filipino seafarers relating to sexual health. Specifically, it is designed (1) to relate certain demographic data such as age, sex, religion, and number of years of service to knowledge, attitude, and practices relating to sexual health; (2) to map out the baseline knowledge of seafarers on the epidemiology, risk

factors, transmission, prevention, and treatment of STD/HIV; (3) to determine the attitude of seafarers on constructs relating to sexual health, such as fidelity, use of barrier methods, and perceived vulnerability, and (4) to discover current sexual practices of seafarers that affect their vulnerability to STD/HIV.

## PARTICIPANTS

Inclusion criteria for the participants included Filipino seafarers/sea-based Overseas Filipino Workers (OFW), ages 18–65 years old, with experience on overseas employment. An OFW is a person who has been engaged in compensated activity in a place on which he/she is not a legal resident. There are two kinds of OFW: land based OFWs and sea-based OFW, who renew their contract every three to nine months [8]. Male seafarers were specifically aimed at since, of the deployed seafarers, 97% were males [9]. Respondents who did not sign the consent forms were excluded.

A pilot study was administered on October 2009 at Rizal Park, Manila – one of the most frequented areas by seafarers in the Philippines. The actual survey was administered at the Philippine Nautical Training Centre in Intramuros, Manila during November–December 2009. Through a convenience sampling method, the primary sampling units were male, Filipino seafarers. Letters of consent were distributed to the chosen respondents for completion with the questionnaires.

## MATERIAL AND METHODS

### QUESTIONNAIRE DESIGN

The questionnaire included two sections. The first section consisted of socio-demographic variables like age, marital status, and work information. The second section comprised questions about knowledge, attitudes, and practices of male Filipino seafarers regarding sexual health. The knowledge section included general knowledge on sexual health and other items clustered into domains (Table 1). Items in the attitude and practices sections were identified from thorough examinations of KAP questionnaires from research projects of various countries (Tables 2 and 3, respectively).

### NUMERICAL WEIGHT

Knowledge questions were assigned numerical weights based on the number of respondent's answers. Each question incorporated a true or false response. Each response had a corresponding numerical weight as shown in Table 4. The total num-

**Table 1.** Domains for knowledge with corresponding items

Domains	Item numbers
Transmission	1, 4, 10, 14, 17
Diagnosis	3, 5, 6, 13, 15
Risk factors	2, 9, 11, 16, 18
Prevention and treatment	7, 8, 12, 19, 20

**Table 2.** Domains for attitude with corresponding items

Domains	Item numbers
Condom use	4, 2, 5
Informing the partner in case of STI	1, 7
Attitude on risky behaviour	3, 11
Sexual relations	6, 8, 14, 15, 16
General attitude to people with STIs	9, 10, 12, 13

**Table 3.** Domains for practices with corresponding items

Domains	Item numbers
<b>Situational practices</b>	1, 2, 3
<b>Protective practices</b>	4, 5, 11, 13
– Actual condom use	
– Antibiotic prophylaxis	
– Includes STI in medical check-ups	
<b>Risky practices</b>	6, 7, 8, 8, 10, 12
– Sexual contact with sex workers	
– Goes to red light districts	

ber of questions answered correctly was taken as the total score. Attitude questions were also assigned numerical weights based on a 5-point Likert-type rating scale including strongly disagree, disagree, neutral, agree, and strongly agree responses. Questions of practice were divided into three subsections. The following responses were permissible: yes or no for direct questions; never, seldom, sometimes, frequen-

tly, and always; and never, once, twice, or more than three times. Weights were corresponded to each question as portrayed in Table 5.

## EVALUATION AND CONTENT VALIDATION

The questionnaires were processed by sociologists from the University of the Philippines, the University of Santo Thomas, and West Visayas State University. A pilot study was launched at Rizal Park, Manila including 38 respondents for further evaluation of the validity and reliability of the questions. Evaluation of the questions' usefulness in association with the objectives of the study was assessed through SPSS and MS Excel. Revisions were made in line with the results of the analysis. The final questionnaire was translated and back-translated to Tagalog and English. The study was evaluated by an Ethics Committee from West Visayas State University – College of Medicine. The respondents were asked to sign a Consent Form prior to answering the questionnaire. All the information gathered was kept highly confidential and will not be used against the respondents at any cost. Their refusal to participate had no corresponding penalty.

For the knowledge questions, the response for all questions with corresponding numerical weights served as the individual's raw score. Zero is considered the lowest score while twenty is the highest score. The raw scores are categorized into four categories: poor, fair, good, and excellent knowledge, as shown in Table 6.

For the questions on attitudes and practices, the Likert scale responses served as the raw score. Zero is considered as the lowest while four is the highest in both sections. The scores were classified into four categories: poor, fair, good, and excellent, as portrayed Table 7.

Pre-coded questionnaires were processed using Statistical Package for Social Sciences (SPSS Version 17). Descriptive statistical tools such as means, percentages, and frequencies were used in determining the levels of knowledge as well as the attitudes and practices of the respondents.

**Table 4.** Numerical weights of knowledge questions with corresponding items

Responses	Numerical weight	Item numbers
A. Positive questions	1 if correct answer, 0 if incorrect	2, 4, 5, 6, 7, 11, 12, 13, 14, 15, 17, 18
B. Negative questions	1 if correct answer, 0 if incorrect	1, 3, 8, 9, 10, 16, 19, 20

**Table 5.** Numerical weights of attitude and practices questions with corresponding items

Responses	Numerical weight	Item numbers
<b>Attitude questions</b>		
Strongly agree	1	1, 2, 3, 4, 5, 6, 7,
Agree	2	8, 9, 10, 11, 12,
Uncertain	3	13, 14, 15, 16
Disagree	4	
Strongly disagree	5	
<b>Practices questions</b>		
Never	1	4, 5, 11, 13
Seldom	2	6, 7, 8, 9, 10, 12
Sometimes	3	
Frequent	4	
Always	5	

**Table 6.** Scale of raw score, description, and interpretation for questions on knowledge

Raw score	Description	Interpretation
0-5	Poor	Respondents have ≤ 25% knowledge
6-10	Fair	Respondents have > 25% but ≤ 50% knowledge
11-15	Good	Respondents have > 50% but ≤ 75% knowledge
16-20	Excellent	Respondents have > 75% but ≤ 100% knowledge

**Table 7.** Likert Scale with description and interpretation for answers on attitudes and practices

Likert score	Description	Interpretation
0-1.0	Poor	Respondents do not have favourable attitudes; Respondents choose unacceptable actions in showing their knowledge and attitudes
1.1-2.0	Fair	Respondents have less than favourable attitudes; Respondents choose the least acceptable actions in showing their knowledge and attitudes
2.1-3.0	Good	Respondents have favourable attitudes; Respondents choose acceptable actions in showing their knowledge and attitudes
3.1-4.0	Excellent	Respondents have most favourable attitudes; Respondents choose the most acceptable actions in showing their knowledge and attitudes

## RESULTS

There were 100 respondents. Their ages ranged from 19 to 60 years old with a median of 31 years. About half (49%) were married and 43% had children. Most (89%) of the seafarers finished a four-year college degree. The median duration of job contracts was seven months. Pertinent demographic data of the participants are summarized in Table 8.

## KNOWLEDGE

Respondents had good knowledge about sexual health. In order to gather baseline knowledge of seafarers about diseases considered to be sexually transmitted, the respondents were asked to indicate which diseases they thought were sexually transmitted infections. Table 9 provides a list of diseases and the percentage of respondents who indicated a given disease as be-

**Table 8.** Summary of participants (n = 100)

	Percentage
<b>Age</b>	
> 20	5
21-30	44
31-40	29
41-50	14
51-60	7
No answer	1
<b>Marital Status</b>	
Single	47
Married	49
Separated	0
Divorced	0
Widowed	2
Cohabiting	2
<b>Children</b>	
None	55
1	12
2 or more	31
No answer	2
<b>Educational Attainment</b>	
High school	4
Vocational	7
College	89
<b>Duration of contract</b>	
1-3 months	6
4-6 months	10
7-9 months	34
10-12 months	28
More than 1 year	6
No answer	16

ing a sexually transmitted infection. Note, however, that 47% of the participants did not answer this specific part of the questionnaire. The majority of participants correctly identified HIV/AIDS (96.23%), gonorrhoea (75.47%), and syphilis (73.58%) as STIs, but only 69% considered herpes to be an STI. Also, diseases regarded as not STI related were kidney stones (0%), diabetes (1.8%), hernia (5.67%), and prostate cancer (5.66%).

Table 10 summarizes the percentage of items answered correctly by all respondents. Various groups divided by age, marital status, and educational attainment were also compared. Overall, the questions on prevention and treatment were answered incorrectly.

Differences in age groups and civil status exhibited no pattern of response. Of note, however, were the 21-30 age group's score of 49.1% regarding

**Table 9.** Diseases classified as Sexually Transmitted (n = 53)

Disease	% of participants who considered the disease as an STI
HIV/AIDS	96.23%
Gonorrhoea	75.47%
Syphilis	73.58%
Herpes	69.81%
TB	24.53%
Malaria	9.13%
Hernia	5.67%
Prostate Cancer	5.66%
Diabetes	1.8%
Kidney Stones	0%

prevention/treatment questions compared to the 31-40 age group's score of 60%. Both the married and single groups had similar scores with singles being slightly higher. With the small sample size of widowers and those cohabiting with a partner (n = 4).

Some items were answered homogeneously. The participants (92%) correctly acknowledged that STIs can cause infertility while 63% wrongly answered that the mouth cannot be infected by STIs. Only 59% of respondents correctly identified condom use as an effective method in reducing STI infection.

## ATTITUDES

The respondents had fair to good levels of attitudes regarding condom use and risky behaviour, informing partners of STI status, and general opinion on persons with STIs, as can be seen in Table 11.

Single and married participants were compared. Regarding condom use, all respondents agreed that condoms reduce sexual pleasure. They were neutral about the assertion that it is their decision as men. They disagreed that condom use is the decision of the sex workers alone. On informing their sexual partners of their STI status, single and married respondents had varying attitudes. Married respondents had a slightly more favourable attitude compared to single respondents.

Married and single men had very similar attitudes to risky behaviour. Both strongly disagreed with the idea of having sex with an STI-infected person. Yet, respondents were indifferent about the excitement of having sex with strangers. Both groups agreed that sex is a sacred activity between married couples only,

**Table 10.** Mean % of correct answers on knowledge questions: transmission, risk factors, symptoms, prevention, and treatment

	<b>Transmission (%)</b>	<b>Risk factors (%)</b>	<b>Symptoms (%)</b>	<b>Prevention/Treatment (%)</b>
<b>All</b>	62.8	75.75	76.56	57.37
<b>Age</b>				
10-20	60	88	72	76
21-30	66.8	75.5	74.1	49.1
31-40	61.4	71.7	81.4	64
41-50	52.9	75.7	74.3	60
51-60	65.7	85.7	80	62.9
<b>Civil status</b>				
Single	63.83	77.45	72.77	63.83
Married	61.63	73.88	80	61.22
Widower	60	80	80	60
Cohabiting	80	80	70	50
<b>Educational attainment</b>				
College	63.37079	75.05618	75.95506	61.57303
Vocational	75	90	85	60
High school	51.42857	77.14286	77.14286	85.71429

**Table 11.** Attitudes on condom use, informing partner of STI status, risky behaviour, and persons with STIs using Lickert scale (1 – Strongly disagree, 2 – Disagree, 3 – Neutral, 4 – Agree, 5 – Strongly agree)

	<b>Single</b>	<b>Married</b>
<b>Condom use</b>		
Decision of the man only	3.18	3.18
Reduces sexual pleasure	3.7	3.8
Decision of sex workers only	2.5	2.7
<b>Informing the partner in case of STI</b>		
1. Partner should be informed of STI status	1.9	3.7
2. Will keep STI status a secret from sexual partner	1.6	1.3
<b>Attitude to risky behaviour</b>		
1. Sex with strangers adds excitement	3.3	3.3
2. Will have sex with a person with an STI	1.3	1.2
<b>Sexual relations</b>		
1. Sex is sacred and should be performed by married couples	3.6	3.8
2. Safe to have sex with wife/girlfriend	4.0	4.1
<b>Attitude towards people with STIs</b>		
1. Persons with STIs should not be allowed to use the swimming pool	3.2	3.4
2. Belongings of persons with STIs should be separated	3.5	3.5
3. Seafarers with STIs should not be accepted for work	2	2.9

and both also reported that having sex with the women with whom they have a relationship was safe. In addition, respondents disagreed that seafarers should not be accepted for work because of having an STI. However, they agreed that the personal possessions of a person with an STI should be separated.

Some answers were homogeneously answered. The participants (83%) either agreed or strongly agreed that “All seafarers should be tested for STIs before they can be allowed onboard a ship” and 93% disagreed or strongly disagreed that they would have sex with persons with STIs.

**Table 12.** Practices of groups according to marital status using Lickert scale (1 – never, 2 – seldom, 3 – sometimes, 4 – often, 5 – always)

	Single	Married
Actual condom use	2.9	3.1
Antibiotic use for prophylaxis	1.3	1.4
Sexual contact with sex workers abroad	1.7	2.0
Goes to red light district	2.7	2.5
Includes STI tests in medical check-ups	2.8	3.6

**Table 13.** Practices of groups by job contract duration using Lickert scale (1 – never, 2 – seldom, 3 – sometimes, 4 – often, 5 – always)

	1-3 months	3-6 months	6-9 months	9-12 months	1 year
Actual condom use	3.0	2.9	3.0	3.1	3.2
Antibiotic use for prophylaxis	2	1	1.3	1.3	1.8
Sexual contact with sex workers abroad	1.7	1.6	1.7	2.0	1.4
Goes to red light district	2.7	2.3	2.6	2.8	2.4
Includes STI tests in medical check-ups	3	4.3	3.7	2.6	1.6

## PRACTICES

The majority of the respondents (91%) were sexually active, of which 59% engaged in sexual intercourse outside their current stable relationship. The respondents reported that most seafarers were routinely screened for STI/HIV (91%) before embarkation.

They had good levels of practices regarding sexual health. Factors such as marital status (Table 12) and duration of job contracts (Table 13) were compared in key practices important for sexual health (i.e. actual condom use, antibiotics use for prophylaxis, and risky sexual behaviour). No trend of difference among the groups was seen. Both single and married men had almost the same practices except that married seafarers tended to include STIs in their elective medical check-ups.

## DISCUSSION

Consistent with the results of other studies, such as PRIMEX, among the domains of STI knowledge, the present study revealed that prevention/treatment was a topic that challenged most respondents [10]. Symptoms, for example, may represent the most salient factor since it was the most apparent and meaningful for the respondents. In addition, the unequal knowledge of seafarers in each domain may be attributed to chance or it may be statistically significant if a random-

ly selected population was used. The variance can reflect a differential impact on domains of STI knowledge.

In an all male environment, it has been observed that seafarers talk about women they have encountered at different docking points in the world [10]. Over 40% of returning male seafarers reported having engaged in sexual activities abroad. Only 53% of those who were sexually active used condoms consistently and generally during vaginal sex with a casual partner [6]. Sunas et al. also reported that 34% of seafarers had sex with women in their last tour of duty, of which 30% were with female commercial sex partners, eight (8%) with regular non-commercial partners, and four (4%) with non-commercial and non-regular partners [6]. Higher risk of sexual encounters (36%) occurred in countries with high HIV prevalence among female sex workers, such as Brazil (18%), Vietnam (11%), and Thailand (7%). Also, seafarers admitting to on-going alcohol use were almost three times more likely not to use condoms during high-risk sexual encounters [10].

Unlike the results from the PRIMEX Study, our data showed that married men tend to have a favourable attitude in disclosing their STI status to their partner than single men. In addition, most married men believe that sexual intercourse is a sacred trust between married couples. They also have more res-

ervations in allowing seafarers with STIs onboard. However, married respondents often included STI evaluation in their elective medical check-ups [10].

It was noted that the respondents' practices were congruent with other studies exhibiting that male seafarers acknowledge extramarital relationships as an inevitable result of long-term separation [10, 11]. They justified this by saying that men need to satisfy their biological or sexual needs, and believe that liaisons are often regarded as temporary situations and are not a threat to their primary relationships and life back in the Philippines [11].

Furthermore, the results showed that both groups (single and married) had a neutral stance on risky behaviour and persons with STIs. In general, the respondents had a negative attitude and practices regarding condom use, maybe because it reduces sexual pleasure. No trend was found in risky behaviour (such as sex with strangers and persons with STIs). In practice, duration of stay onboard a ship did not predict any difference in sexual practice. Overall, knowledge, attitude, and practice (KAP) findings gave an insight to the seafarers psyche. However, KAP did not have absolute dependence.

"Timelessness, emptiness, and deprivation" are recurrent themes that illustrate the life of a seafarer. Lamvik described the seafarers ship as a "place without a place", as they leave their country of origin and do not settle in another [10]. Instead, they leave only to be at sea, "in a floating repetitive universe, which gives rise to a type of experience which has emptiness as one of its qualities". In addition, Morgan et al. described their circumstances as a "monolithic social experience", which created a dire need for some type of pastime and recreation [10]. During their tour of duty, seafarers spend 24 hours a day for weeks to months in the same place. The activities in which they engage for both work and leisure are done simultaneously with the same people. The monotony and length of their work lead to various pursuits and types of recreation while on land.

## CONCLUSIONS

Seafarers are a heterogeneous group of people with varying responses to knowledge, attitude, and practices questions. This study exhibited that male Filipino seafarers had good knowledge about sexual health. The respondents had excellent knowledge on risk factors and symptoms of STIs but poor to fair knowledge on transmission and prevention/treatment.

They also had especially favourable attitudes to condom use, sexual relations, and towards people

with STIs. In addition, they had acceptable knowledge and attitudes specifically about protective factors and avoidance of risky behaviour.

There are no reliable demographic factors among male Filipino seafarers that predict response patterns for KAP questions. Hence, no general assumptions can be made for certain subgroups of seafarers in designing health programs. Knowledge, attitude, and practices (KAP) influence each other. Therefore, measures to change KAPs must not attempt to change one domain only and assume to change the rest. Programs must target the modification of all three: knowledge, attitude, and practices.

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