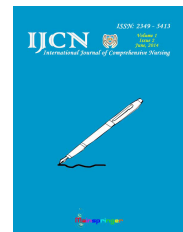




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Pilot Study on Prevalence of cervical premalignant lesions and associated risk factors among married fisher women residing at Tondiarpet, Chennai - a Cross Sectional Study

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ABSTRACT

Background: Cervical cancer is the second highest reported in India with Incidence of 22.9% and mortality rate of 20.7%. It increases in the areas prone for most known risk factor of cervical cancer. There is a slight increase in the incidence of cervical cancer among the coastal areas especially among the married fisher women. The reasons being most of them are illiterate and they follow poor life style practices and lack of proper sanitation facilities which makes them more prone for the getting cervical cancer. The fisher women community is one of the most vulnerable groups for reproductive tract infections and sexually transmitted infections because of their socio cultural practices like early marriage, sexually active life style, low socio economic status, lack of education, lack of hygienic practices etc which makes them prone for cervical cancer incidence.

Aim: This study aimed at identifying the feasibility of the study to assess the prevalence of cervical premalignant lesions and associated risk factors among the married fisher women at selected communities in Chennai as part of the pilot study.

Objectives:

1. To determine the prevalence of the cervical premalignant lesions among married fisher women residing at Tondiarpet.
2. To identify the risk factors of cervical cancer among married fisher women residing at Tondiarpet.

Setting: Tondiarpet area which has fisher communities, Under the area a coastal community named Pudumanaikuppam was selected for conduction of the pilot study.

Participants: 34 married fisher women residing at the area were selected for the study.

Methodology: Quantitative descriptive approach with cross sectional study design was used to collect the data. Data was collected by using structured interview schedule for identifying the risk factors and VIA & VILI and Pap Smear test was done for identifying the premalignant cervical lesions among the married fisher women residing at selected setting. About 34 women participated in the study after fulfilling the inclusive criteria. Data was analyzed using descriptive and inferential statistics.

Results: Among the 34 fisher women 3(8.9%) were found to be VIA/VILI positive and 1(2.9%) was found to have pre cancerous lesion under pap smear test with a reported prevalence rate of 2.94%. The screening method was found feasible and effective. The study findings also showed the significant association of risk factors with the abnormal findings.

Conclusion: The study findings clearly showed that the fisher women community is more vulnerable for acquiring cervical cancer as evidenced by their high risk behavior. The participation rate was very low and investigator had difficulty in mobilizing the women for conducting the screening. The area was not found feasible for conducting the main study due to lack of support and participation from the women residing in the communities and hence the change of area for conducting the main study was done by the investigator.

Introduction

Cervical cancer is the fourth most common cancer in women, and the seventh overall, with an estimated 528,000 new cases in 2012. There was an estimated 266,000 deaths from cervical cancer worldwide in 2012, accounting for 7.5% of all female cancer deaths. Almost nine out of ten (87%) cervical cancer deaths occur in the less developed regions. Mortality varies 18-fold between the different regions of the world, with rates ranging from less than 2 per 100,000 in Western Asia, Western Europe and Australia/New Zealand to more than 20 per 100,000 in Melanesia (20.6), Middle (22.2) and Eastern (27.6) Africa (GLOBOCAN, 2012)².

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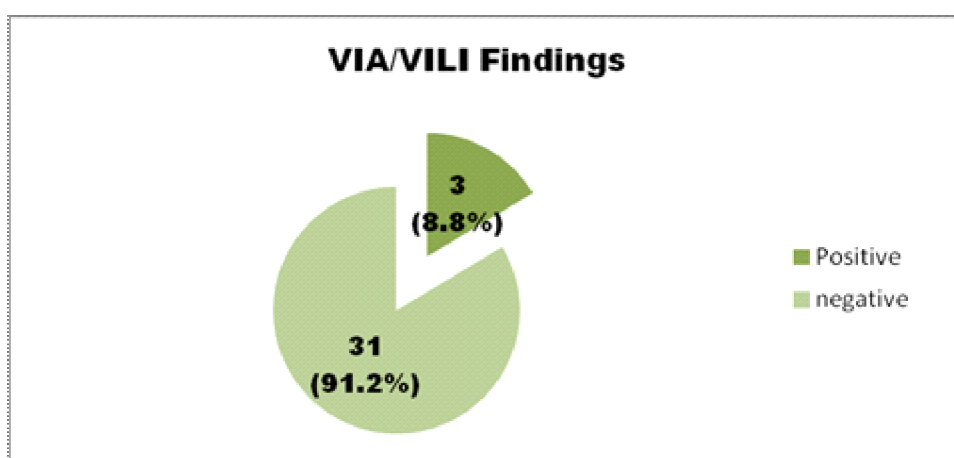
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Table 1: frequency and percentage distribution of the demographic characteristics of the participants (N=34)

S. No	Demographic Characteristics	N	%
1.	Age of Women		
	(i) 20-25 years	5	14.7
	(ii) 26-30 years	4	11.8
	(iii) 31-35 years	8	23.5
	(iv) 36-40 years	10	29.4
	(v) 41-45 years	7	20.6
2.	Age at Menarche		
	(i) 10-13	13	38.2
	(ii) 14-16	21	61.8
	(iii) 17-19	0	0
3.	Age at Marriage		
	(i) 9-17	12	35.3
	(ii) 18-27	20	58.8
	(iii) 28-36	2	5.9
4.	Years after Marriage		
	(i) 1-10	11	32.4
	(ii) 11-20	10	29.4
	(iii) 21-30	13	38.2
	(iv) 31-40	0	0
5.	Marital Status		
	(i) Living with Spouse	30	88.2
	(ii) Widow	4	11.8
	(iii) Seperated	0	0
6.	Number of Birth Given(Parity)		
	(i) Nil	0	0
	(ii) 1-2	19	55.9
	(iii) 3 and above	15	44.1
7.	Religion		
	(i) Hindu	32	94.1
	(ii) Muslim	1	2.9
	(iii) Christian	1	2.9
	(iv) Others		
8.	Living Source		
	Own House	20	58.8
	Rented house	14	41.2
9.	Family Income		
	(i) Rs 1000-2000	16	47.1
	(ii) Rs 2001-4000	9	26.5
	(iii) Rs 4001-6000	9	26.5
	(iv) Above Rs 6000	0	0
10.	Education of Women		
	(i) Non formal	11	32.4
	(ii) Primary School	17	50.0
	(iii) Secondary	5	14.7
	(iv) College	1	2.9
	(v) Professional	0	0
11.	Education of Husband		
	(i) Non formal	6	17.6
	(ii) Primary School	22	64.7
	(iii) Secondary	5	14.7
	(iv) College	1	2.9
	(v) Professional	0	0
12.	Occupation Women		
	(i) Fish exporting	3	8.8
	(ii) Garments	1	2.9
	(iii) Vendors	3	8.8
	(iv) House hold work	1	2.9
	(v) Preserving Fish	24	70.6
	(vi) Selling Fish	2	5.9
	(vii) Others	0	0
13.	Occupation Husband		
	(i) Catching Fish	31	91.2
	(ii) Selling Fish	2	5.9
	(iii) Fish Export	0	0
	(iv) Not working	0	0
	(v) Others	1	2.9

Table 2: Frequency and percentage distribution of prevalence of precancerous lesions among the study participants by Pap Smear test (N=34)

S.No	Cervix(Pap Smear Result)	N	%
1.	Normal Cervix	1	2.9
2.	Pre Cancerous Lesion		
	(i) ASCUS(Atypical Squamous Cell of Undifferentiated Significance)	0	0
	(ii) Mild Dysplasia	1	2.9
3.	Abnormal Cervix		
	(i) Inflammatory	31	91.2
4.	Unsatisfactory Smear	1	2.9

Figure 1 : Frequency and percentage distribution of VIA/VILI test finding among the study participants (N=34)**Table 3: Frequency and percentage distribution of the observation of vaginal examination of the study participants (N=34)**

S. No	Vaginal Examination Findings	N	%
1.	External Genitalia Appearance		
	Growths	0	0
	Polyps	0	0
	Cysts	0	0
	Normal	34	100
2.	Vaginal appearance		
	Redness	2	5.9
	Inflamed	2	5.9
	Growths, polyps, cysts	0	0
	Normal	30	88.2
3.	III. Cervix appearance		
	Redness	6	17.6
	Erosion	21	61.8
	(Polyps/tears/surgery)- Polyps	0	0
	Hypertrophied	5	14.7
	Normal	2	5.9

Table 4: Frequency and percentage distribution of Risky Personal Habits of the Participants (N= 34)

S. No	Habit	N	%
1.	Tobacco Usage		
	(i) Yes	34	100
	(ii) No	0	0
1.a	If yes Tobacco(N= 34)		
	(i) Smokeless(oral Chewing)	5	14.7
	(ii) Smoking	29	85.3
2.	Alcohol		
	(i) Nil	23	67.6
	(ii) Daily	0	0
	(iii) Weekly twice	1	2.9
	(iv) Occasionally	10	29.4
3.	Shellfish eating		
	(i) Frequently	2	5.9
	(ii) Occasionally	14	41.2
	(iii) Nil	18	52.9

Table 5: Frequency and percentage distribution of factors related to Perineal Hygiene of the participants (N=34)

S. No	Perineal Hygiene Factor	N	%
1.	Type of Sanitary Napkin		
	(i) Commercial pad	17	50.0
	(ii) Cloth	17	50.0
2.	Change of Sanitary Napkin		
	(i) Once in a day	7	20.6
	(ii) twice a day	18	52.9
	(iii) thrice a day	8	23.5
	(iv) More than three times	1	2.9
3.	Drying of Napkin		
	(i) Under the sun	5	14.7
	(ii) Inside the Bath room	4	11.8
	(iii) Throw in Dust Bin	25	73.5
4.	Washing of Perineum		
	(i) After urination	6	17.6
	(ii) After defecation	5	14.7
	(iii) Both one & two	23	67.6

Table 6: Frequency and percentage distribution of factors related to Sexual behavior and Sexual Hygiene of the participants (N=34)

S. No	Sexual behavior and Sexual Hygiene Factor	N	%
1.	Vaginal Douching after Coitus		
	(i) Yes	1	2.9
	(ii) No	29	85.3
	(iii) Not Applicable	4	11.8
2.	Frequency of Coitus		
	(i) Daily	2	5.9
	(ii) weekly thrice	5	14.7
	(iii) Weekly twice	10	29.4
	(iv) Weekly once	16	47.1
	(v) Once in while	1	2.9
	(vi) Not applicable	2	5.9
3.	Extra Marital Relationship		
	(i) Yes	8	23.5
	(ii) No	26	76.5
3.a	If yes, No of partners (N=12)		
	(i) Only one person	7	20.6
	(ii) Multiple partner	1	2.9
4.	Pre Marital Sex		
	(i) Yes	2	5.9
	(ii) No	32	94.1
5.	Age of first sexual Debut		
	(i) Before 10years	0	0
	(ii) 10-14 years	1	2.9
	(iii) 15-30 Years	33	97.1
	(iv) After 30years	0	0

Table 7: Frequency and percentage distribution of factors related to family welfare practices and gynecological problems of the participants (N=34)

S. No	Family welfare practices and gynecological problems	N	%
1.	Temporary Methods of family Planning		
	Birth Pills	19	55.9
	Copper T	2	5.9
	Calendar Method	0	0
	Condom	0	0
	None	13	38.2
2.	If Copper T duration of usage(N=2)		
	Less than 3 months	0	0
	6-12 months	0	0
	1-2 years	0	0
	more than 3 years	2	5.9
3.	Problems in Uterus		
	Erosion of cervix	1	2.9
	Vaginal discharge	21	61.8
	Utero vaginal prolapsed, Erosion of cervix and Vaginal discharge	2	5.9
	Normal	10	29.4
4.	Painful Bleeding after coitus		
	(i) Yes	1	2.9
	(ii) No	30	88.2
	(iii) Not applicable	3	8.8
5.	Husband having problem		
	(i) Ulcer in penis	0	0
	(ii) discharge in penis	1	2.9
	(iii) Ulcer in and discharge in penis	0	0
	(iv) Normal	33	97.1

Table 8: Association of the variables with the VIA/VILI findings (N=34)

S. No	Demographic Variable	Positive	Negative	Chisquare/Fisher Exact test
		N	N	
1.	Type of Sanitary Napkin			$\chi^2 = 4.450$ @ P<0.03 S**
	Commercial pad	0	17	
	Cloth	3	14	
2.	Washing of Perineum			$\chi^2 = 15.355$ @ P<0.001 S***
	After urination	3	3	
	After defecation	0	5	
	Both one & two	0	23	
3.	Pre Marital Sex			$\chi^2 = 21.958$ @ P<0.001 S***
	Yes	2	0	
	No	1	31	
4.	Age of first sexual Debut			$\chi^2 = 10.646$ @ P<0.001 S***
	10-14 years	1	0	
	15-30 Years	2	31	

Table 9: Association of the variables with the Pap Smear findings (N=34)

S. No	Demographic Variable	Normal	Pre Cancerous Lesion	Abnormal Cervix	Unsatisfactory Smear	Chi Square/Fisher Exact test
		N	N	N	N	
1.	Washing of Perineum					$\chi^2 = 41.791$ @ P<0.001 S***
	After urination	0	1	0	0	
	After defecation	1	0	28	0	
	Both one & two	0	0	3	1	

In India the incidence of cervical cancer is about 1,22,844 (22.9 %) while the mortality is 67,477(20.7%) in the overall mortality(Glbocan,2012). In TamilNadu it also accounts the second largest with incidence varying in different districts. In Chennai the incidence of cervical cancer is 15.1% (NCRP, 2011)⁵. There are lot of urban slums covering the coastal areas in and around Chennai were the risk for developing cervical cancer is more and no studies were done to screen the married women for cervical cancer hence this study was planned to screen for pre cancerous lesions and associated risk factors for cervical cancer.

Materials and Methods

Study Participants: The study used a cross sectional design where the participants were selected in one of the fishermen community named Pudumanaikuppam in Tondiarpet area of Chennai. The study participants were all married woman with the age between 20 – 45 years of age. 34 participants gave consent to participate in the study and complete explanation of the project.

Objectives: The primary objective was to determine the prevalence of precancerous lesions and associated risk factors of cervical cancer.

Tools & Techniques: The investigator used a structured questionnaire which consisted of Part I- Demographic data , Part II consisted of Section A- factors related to perineal Hygiene, Section B- Factors related to sexual behavior and hygiene, Section C – factors related to family welfare practices and gynecologic problems and Part III consisted of Observational tool for vaginal examination where External Genitalia, Vaginal and Cervix appearance was assessed by the investigator and part IV consisted of VIA/VILI and Pap smear test. The investigator performed the VIA/VILI and took the Pap smear with the assistance of the medical officer at the Primary health Centre of Kasimedu Health Post. The Pap smear test was investigated and reported by the pathologist of Govt.Chengalpattu Medical College Hospital, Chengalpattu.

Ethical Clearance: The study was approved by the Institutional Ethical committee of Chettinad Hospital and Research Institute, TamilNadu.

Statistical Methods: The investigator has used frequency and percentage distribution to show the overall findings. Chi Square test for association of factors with the findings and Logistic Regression was used to determine the Odds ratio. The statistical analysis was done by using SPSS Version 17.

Results

Table 1 shows the demographic characteristics of the participants, among the 34 participants 10(29.4%) of them were between the age of 36 – 40 years; 21(61.8%) of them attained menarche between 14-16 years; 12(35.3%) of them have got married between 9-17 years of age; 13(38.2%) of them were in between 21-30 years after marriage; 30(88.2%) of them were living with the spouse; 15(44.1%) of them have given birth to 3 and above children; 32(94.1%) of them were Hindu; 20(58.8%) of them were living in own house; 16(47.1%) of them were having family income between Rs.1001-2000; 17(50 %) of them have done primary schooling; 22(64.7%) of their husband have done primary schooling; 24(70.6%) of them were working in preserving fish and 31(91.2%) of their husband were having occupation of catching fish.

Table 2 shows the prevalence of the pre cancerous lesions among the study participants, among the 34 study participants 1(2.9%) of them had normal findings; 1(2.9 %) of them had precancerous lesions such as Mild dysplasia; 31(91.2%) had abnormal cervix findings as inflammatory and 1(2.9 %) was unsatisfactory smear.

The figure 1 shows the findings of the VIA/VILI test findings of the study participants, among the 34 participants 31(91.2%) were negative to VIA/VILI test and 3(8.8%) were positive for VIA/VILI test.

Table 3 shows the findings of the observation of the vagina of the study participants, among the 34 participants 34(100%) of them had normal appearance of external genitalia; 2(5.9%) of them were having redness in the vagina and 21(61.8%) of them were having erosions in the cervix.

Table 4 shows the risky personal habits contributing to illness among the study participants, among the 34 participants 34(100%) of them had the habit of using tobacco among them 29(85.3%) of them were smoking; 10(29.4%) of them had the habit of using alcohol occasionally and 14(41.2%) of them were having the habit of eating shellfish occasionally.

Table 5 shows the factors related to perineal hygiene practices of the participants, among the 34 participants 17(50%) of them were using cloth as sanitary napkin during menstrual cycle; 18(52.9%) of them change the sanitary napkin only twice in a day; 5(14.7%) of them dry the napkin under the sun; 23(67.6%) of them wash the perineum both after urination and defecation.

Table 6 shows the factors related to sexual behavior and hygiene of the study participants, among the 34 participants 29(85.3%) of them don't douche the vagina after coitus; 16(47.1%) of them have coitus with once in a week; 8(23.5%) of them have had extra marital relationship among them 7(20.6%) have relationship with only one partner; 2(5.9%) of them had pre marital sex and 33(97.1%) of them had first sexual debut between 15- 30 years of age

Table 7 shows the factors related to family welfare practices and gynecological problems of the study participants, among the 34 participants 19(55.9%) of them are taking birth pills as a family planning measure; 21(61.8%) had complaints of vaginal discharge; 1(2.9%) of them had complaints of post coital bleeding; 1(2.9%) of their husbands had problems of sexually transmitted infection.

Table 8 shows the variables which showed statistically significant association with the VIA/VILI findings, the factors which got statistically significant association are type of sanitary napkin at $p < 0.03$, Washing of perineum, Pre marital sex and age of first sexual debut at $p < 0.001$.

Table 9 shows the variables which showed statistically significant association with the Pap smear findings, the factor which got statistically significant association washing of perineum at $p < 0.001$.

Discussion

The prevalence of premalignant cervical lesions among 34 women was found to 2.9 % among them 1 women presented with precancerous lesions such as Mild dysplasia. Among the findings of the pap smear result majority of the women about 31(91.2%) had abnormal cervical findings such as Inflammatory changes.

The findings of the VIA/VILI showed that about 3(8.8%) of women were found positive and 31(91.2%) of them were found to be negative.

The findings clearly showed that though the prevalence of pre cancerous cervical lesions was low the prevalence of abnormal cervical findings was very high when compared to other findings so far presented among the other areas of the world which clearly makes the fisher women community more vulnerable for cervical cancer.

The study identified many risk factors which contributed to the abnormal cervical findings such as early marriage 12(35.3%) of them have got married between 9-17 years of age, High Parity 15(44.1%) of them have given birth to 3 and above children, lack of education 17(50 %) of them have done primary schooling; 22(64.7%) of their husband have done primary schooling, Low socio economic status 16(47.1%) of them were having family income between Rs.1001-2000, use of tobacco almost every one of them had habit of using tobacco, eating shellfish 14(41.2%), using alcohol 10(29.4%), using cloth as sanitary napkin 17(50%), douching of vagina after coitus 29(85.3%) of them don't douche the vagina after coitus, 8(23.5%) of them have had extra marital relationship, 2(5.9%) of them had pre marital sex, and taking birth pills 19(55.9%).

The present study has clearly showed the risk of exposure of the fisher woman community to cervical cancer and the association of the no of risk factors with the findings shows how vulnerable these groups of woman are. The current study findings were similar to the studies done by Bhagya Lakshmi et al¹ in vishakapattinam , AndhraPradesh, Ushadevi G et al⁷ among rural women of Kancheepuram district, Tamil Nadu and Ravikiran E et al⁶ in rural women of nalgonda, AndhraPradesh.

Conclusion

The study findings clearly showed that the fisher women community is more vulnerable for acquiring cervical cancer as evidenced by their high risk behavior. The participation rate was very low and investigator had difficulty in mobilizing the women for conducting the screening. The area was not found feasible for conducting the main study due to lack of support and participation from the women residing in the communities and hence the change of area for conducting the main study was done by the investigator.

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Conflict of interest: Nil

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