

# Risk perception towards tobacco use in pregnancy among married men and women of rural areas in Myanmar



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# Background

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- Tobacco use - the major public health concern, and during pregnancy, it is recognized as the **most important modifiable risk factor** to prevent pregnancy complications and fetal outcomes.
- World Health Organization reported that **1.1 billion** of people smoked tobacco in 2015 and **200 million were females**.
- South East Asia Region is the home for **250 million smokers** and the same number of people is using **smokeless tobacco**.

# Background (Continued)

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- There are evidences on the **adverse effects** of smoking on the pregnancy.
- Moreover, the harms of tobacco use in pregnancy is not limited to smoked tobacco only.
- Literatures also stated that **smokeless tobacco in pregnancy** have higher **risk** of pregnancy complications of unfavorable fetal outcomes.

# Background (Continued)

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Smoking, second-hand smoke exposure and smokeless tobacco in pregnancy can lead to

1. Abortion
2. Pre-term labor
3. Low birth weight baby
4. Still birth
5. Congenital anomalies, etc.



# Background (Continued)

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- In Myanmar, there were **26.1 %** of people (43.8 % of men and 8.4 % of women) are currently smoking and about **43.2 %** of people (62.2 % of men and 24.1 % of women) are currently using smokeless tobacco.
- According to the research done in 2009, the national prevalence of current daily smoking and current daily smokeless tobacco use was **higher** in rural area compared to urban setting.
- A study done in 2014 reported that the prevalence of tobacco use is estimated as 27% in rural areas of Yangon Region.

# Background (Continued)

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- Ayeyawady Region was one of the regions with high prevalence on tobacco use and the regional prevalence of current daily smoking and smokeless tobacco use was **19.6 %** and **30.3 %** respectively.
- Ayeyawady Region was also ranked **second highest region of Infant Mortality Rate (IMR)** in Myanmar (87/1000 live births).



# Background (Continued)

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- In Myanmar, dangers imposed by tobacco on pregnancy complications and unfavorable fetal outcomes appear in health information, education and communication materials as advocated by Ministry of Health and Sports.
- However, there still a paucity of evidence-based information regarding to the knowledge and perceived risks of tobacco use of tobacco among married men and women of rural areas of Myanmar.

# Objectives

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1. To find out **reported prevalence** of smoking and smokeless tobacco use among married men and women
2. To identify **knowledge** on the risk of pregnancy complications and unfavorable fetal outcomes due to tobacco use among married men and women
3. To explore **perceived risk** of tobacco use on pregnancy complications and unfavorable fetal outcomes among married men and women

# Methodology

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**Study design** – Community-based cross-sectional study

**Study site** – 32 villages of Kyaunggon and Lemyethna Townships in Ayeyawady Region, Myanmar

**Study population** – Married women of reproductive age (18-49 years) and married male of reproductive age women

**Sample size** – We calculated a sample size of 320 respondents for married men and women respectively

**Data collection** – We trained interviewers to use a pre-tested structured questionnaire for face-to-face interviews

Ayeyarwaddy Region

Kyaunggon  
Township

Lemyethna  
Township

RHC

RHC

RHC

RHC

4 villages with  
RHC/Sub-RHC

4 villages  
without  
RHC/Sub-RHC

# Ethical Consideration

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- We obtained written informed consent from the study participants in each household and kept all information confidential.
- Privacy, confidentiality and anonymity issues were taken into account according to Helsinki Declaration.
- This study was approved by Ethics Review Committee, Department of Medical Research, Ministry of Health and Sports, Myanmar.

# Findings

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- Six hundred and seventeen respondents participated in the household survey (96.4%).
- The non-response rate in this study only referred to refusals to participate in the survey.
- The reasons for high response rate included thorough arrangements with ward/village authorities before the survey and tobacco usage as a less sensitive topic for the general public compared to other individual risk behavior surveys.

# Table (1): General Characteristics

Socio-demographic characteristics	Total (n=617) Number (%)	Male (n=301) Number (%)	Female (n=316) Number (%)
<b>Age Group</b>			
18-35 years	303 (49.1)	140 (46.5)	163 (51.6)
>35 years	314 (50.9)	161 (53.5)	153 (48.4)
<b>Education</b>			
High formal education	144 (23.3)	69 (22.9)	75 (23.7)
Low formal education	473 (76.7)	232 (77.1)	241 (76.3)
<b>Occupation</b>			
Employed	510 (82.7)	298 (99.0)	212 (67.1)
Dependent	107 (17.3)	3 (1.00)	104 (32.9)

# Table (1): General Characteristics (Continued)

<b>Socio-demographic characteristics</b>	<b>Total (n=617)</b> <b>Number (%)</b>	<b>Male (n=301)</b> <b>Number (%)</b>	<b>Female (n=316)</b> <b>Number (%)</b>
<b>Family income</b>			
<b>0-100000</b>	278 (45.1)	139 (46.2)	139 (44.0)
<b>&gt;100000</b>	339 (54.9)	162 (53.8)	177 (56.0)
<b>Current smokers</b>			
<b>Yes</b>	128 (20.7)	116 (38.5)	12 (3.8)
<b>No</b>	489 (79.3)	185 (61.5)	304 (96.2)
<b>Currently using smokeless tobacco</b>			
<b>Yes</b>	294 (47.6)	220 (73.1)	74 (23.4)
<b>No</b>	323 (52.4)	81 (26.9)	242 (76.6)

# Table 2. Knowledge on the risks of tobacco use on pregnancy outcomes

Questions	Total (n=617)	Male (n=301)	Female (n=316)	p value
	Yes Number (%)	Yes Number (%)	Yes Number (%)	
<b>Knowledge on the risk of smoking on pregnancy outcomes</b>				
<b>Abortion</b>	88 (14.3)	33 (11.0)	55 (17.4)	<b>0.022</b>
<b>Pre-term</b>	124 (20.1)	41 (13.6)	83 (26.3)	<b>&lt;0.001</b>
<b>LBW baby</b>	145 (23.5)	46 (15.3)	99 (31.3)	<b>&lt;0.001</b>
<b>Stillbirth</b>	24 (3.9)	8 (2.7)	16 (5.1)	0.122
<b>Congenital anomalies</b>	50 (8.1)	20 (6.6)	30 (9.5)	0.195

# Table 2. Knowledge on the risks of tobacco use on pregnancy outcomes (Continued)

Questions	Total (n=617)	Male (n=301)	Female (n=316)	p value
	Yes Number (%)	Yes Number (%)	Yes Number (%)	
<b>Knowledge on the risk of passive smoking on pregnancy outcomes</b>				
<b>Abortion</b>	63 (10.2)	23 (7.6)	40 (12.7)	<b>0.040</b>
<b>Pre-term</b>	124 (20.1)	46 (15.3)	78 (24.7)	<b>0.004</b>
<b>LBW baby</b>	135 (21.9)	43 (14.3)	92 (29.1)	<b>&lt;0.001</b>
<b>Stillbirth</b>	12 (1.9)	5 (1.7)	7 (2.2)	0.618
<b>Congenital anomalies</b>	37 (6.0)	15 (5.0)	22 (7.0)	0.301

# Table 2. Knowledge on the risks of tobacco use on pregnancy outcomes (Continued)

Questions	Total (n=617)	Male (n=301)	Female (n=316)	p value
	Yes Number (%)	Yes Number (%)	Yes Number (%)	
<b>Knowledge on the risk of smokeless tobacco on pregnancy outcomes</b>				
<b>Abortion</b>	49 (7.9)	18 (6.0)	31 (9.8)	0.079
<b>Pre-term</b>	116 (18.8)	37 (12.3)	79 (25.0)	<b>&lt;0.001</b>
<b>LBW baby</b>	139 (22.5)	42 (14.0)	97 (30.7)	<b>&lt;0.001</b>
<b>Stillbirth</b>	15 (2.4)	5 (1.7)	10 (3.2)	0.226
<b>Congenital anomalies</b>	28 (4.5)	11 (3.7)	17 (5.4)	0.303

# Table 3. Perceptions on the risks of tobacco use on pregnancy

Questions	Total (n=617)	Male (n=301)	Female (n=316)	p value
	Yes Number (%)	Yes Number (%)	Yes Number (%)	
<b>Perception on the risk of smoking on pregnancy outcomes</b>				
<b>Abortion</b>	428 (69.4)	197 (65.4)	231 (73.1)	<b>0.039</b>
<b>Pre-term</b>	494 (80.1)	229 (76.1)	265 (83.9)	<b>0.016</b>
<b>LBW baby</b>	526 (86.9)	252 (83.7)	284 (89.9)	<b>0.024</b>
<b>Stillbirth</b>	429 (69.5)	206 (68.4)	223 (70.6)	0.565
<b>Congenital anomalies</b>	532 (86.2)	259 (86.0)	273 (86.4)	0.901

# Table 3. Perceptions on the risks of tobacco use on pregnancy (Continued)

Questions	Total (n=617)	Male (n=301)	Female (n=316)	p value
	Yes Number (%)	Yes Number (%)	Yes Number (%)	
<b>Perception on the risk of passive smoking on pregnancy outcomes</b>				
<b>Abortion</b>	392 (63.5)	195 (64.8)	197 (62.3)	0.529
<b>Pre-term</b>	454 (73.6)	224 (74.4)	230 (72.8)	0.645
<b>LBW baby</b>	492 (79.7)	237 (78.7)	255 (80.7)	0.545
<b>Stillbirth</b>	375 (60.8)	187 (62.1)	188 (59.5)	0.503
<b>Congenital anomalies</b>	488 (79.1)	244 (81.1)	244 (77.2)	0.240

# Table 3. Perceptions on the risks of tobacco use on pregnancy (Continued)

Questions	Total (n=617)	Male (n=301)	Female (n=316)	p value
	Yes Number (%)	Yes Number (%)	Yes Number (%)	
<b>Perception on the risk of smokeless tobacco on pregnancy outcomes</b>				
<b>Abortion</b>	-	-	169 (53.5)	-
<b>Pre-term</b>	-	-	208 (65.8)	-
<b>LBW baby</b>	-	-	220 (69.6)	-
<b>Stillbirth</b>	-	-	170 (53.8)	-
<b>Congenital anomalies</b>	-	-	231 (73.1)	-

# Table 4. Perceptions towards tobacco use and its associated factors

	Smoking		Second-hand smoke exposure		Smokeless tobacco	
	Good perception		Good perception		Good perception	
	Number (%)	p value	Number (%)	p value	Number (%)	p value
<b>Gender</b>						
Married Men (n=301)	204 (67.8)		192 (63.8)			
Married Women (n=316)	232 (73.4)	0.124	194 (61.4)	0.539	NA	NA
<b>Age Group</b>						
18-35 years (n=303)	221 (72.9)		187 (61.7)		87 (53.4)	
>35 years (n=314)	215 (68.5)	0.223	199 (63.4)	0.670	82 (53.6)	0.969
<b>Education</b>						
Middle school and below (n=473)	330 (69.8)		300 (63.4)		132 (54.8)	
High school and above (n=144)	106 (73.6)	0.375	86 (59.7)	0.421	37 (49.3)	0.410

# Table 4. Perceptions towards tobacco use and its associated factors (Continued)

	Smoking		Second-hand smoke exposure		Smokeless tobacco	
	Good perception		Good perception		Good perception	
	Number (%)	p value	Number (%)	p value	Number (%)	p value
<b>Occupation</b>						
Dependent (n=107)	81 (75.7)		69 (64.5)		60 (57.7)	
Employed (n=510)	355 (69.6)	0.208	317 (62.2)	0.651	109 (51.4)	0.293
<b>Family income</b>						
0-100000 (n=278)	207 (74.5)		189 (68.0)		80 (57.6)	
>100000 (n=339)	229 (67.6)	0.061	197 (58.1)	<b>0.012</b>	89 (50.3)	0.198
<b>Knowledge on the risk of tobacco on pregnancy outcomes</b>						
None (n=341)	206 (60.4)		207 (54.2)		72 (43.4)	
At least one (n=276)	230 (83.3)	<b>&lt;0.001</b>	179 (76.2)	<b>&lt;0.001</b>	97 (64.7)	<b>&lt;0.001</b>

# Discussion

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- Results of present study revealed the reported prevalence of using tobacco (both smoked and smokeless forms) among married men and women of rural area.
- The overall reported prevalence in this study was more or less **similar** with nationwide STEPS survey report (2014) i.e. 20.7% vs. 26.1% current smokers and 47.6% vs. 43.2% currently using smokeless tobacco.
- However, a meta-analysis study done by Kyaing NN et al., in 2012 has reported a **lower prevalence** of 20.8%.



## Discussion (Continued)

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- Further, the results clearly point out that tobacco use is the predominant practice among **males** in all above mentioned studies.
- WHO estimated 30% of males and 5% of females were current smokers in South-East Asia Region and 36% of men and 8% of women globally respectively.
- Even though smokeless tobacco practice was most popular among males in most South-East Asia countries, women are more likely to use smokeless tobacco in some countries like Bangladesh, Indonesia and Thailand.

## Discussion (Continued)

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- In this study, lowest of **1.7%** to highest of **31.3%** of respondents could answer negative impact of tobacco use on pregnancy outcomes.
- The results from this study was apparent that **married women** had significant higher knowledge on the negative impact of tobacco use on pregnancy outcomes.
- This finding suggests the necessity to convey health information more effectively to married people from rural areas on risks of tobacco on miscarriages and fetal outcomes although it was distributed IEC materials.

## Discussion (Continued)

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- In this study, married women expressed significantly more perceived risks than males on smoking on miscarriages and fetal outcomes.
- However, gender did not provoke significant statistical differences to perceived risks due to second-hand smoke exposure.
- Smokeless tobacco was the least popular factor to the perceived risks among females.
- And males, predominant smokers, had poor knowledge and perception on the risks of both smoking and second-hand smoke exposure on unfavorable pregnancy outcomes, this issue needs to mark attention to the authorities and policy makers.

# Conclusion

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- Knowledge translation and strengthening knowledge transfer mechanisms of correct information to reach the general population required attention.
- Conversely, concerted efforts to engage stakeholders are essential to introduce cost-effective prevention strategies to mitigate the negative impact of tobacco on pregnancy outcomes in a developing country like Myanmar.

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# Thank You

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