

**KNOWLEDGE AND PRACTICES
REGARDING DENGUE
PREVENTION OF PEOPLE**

**IN HANOI
IN THE OUTBREAK 2017**

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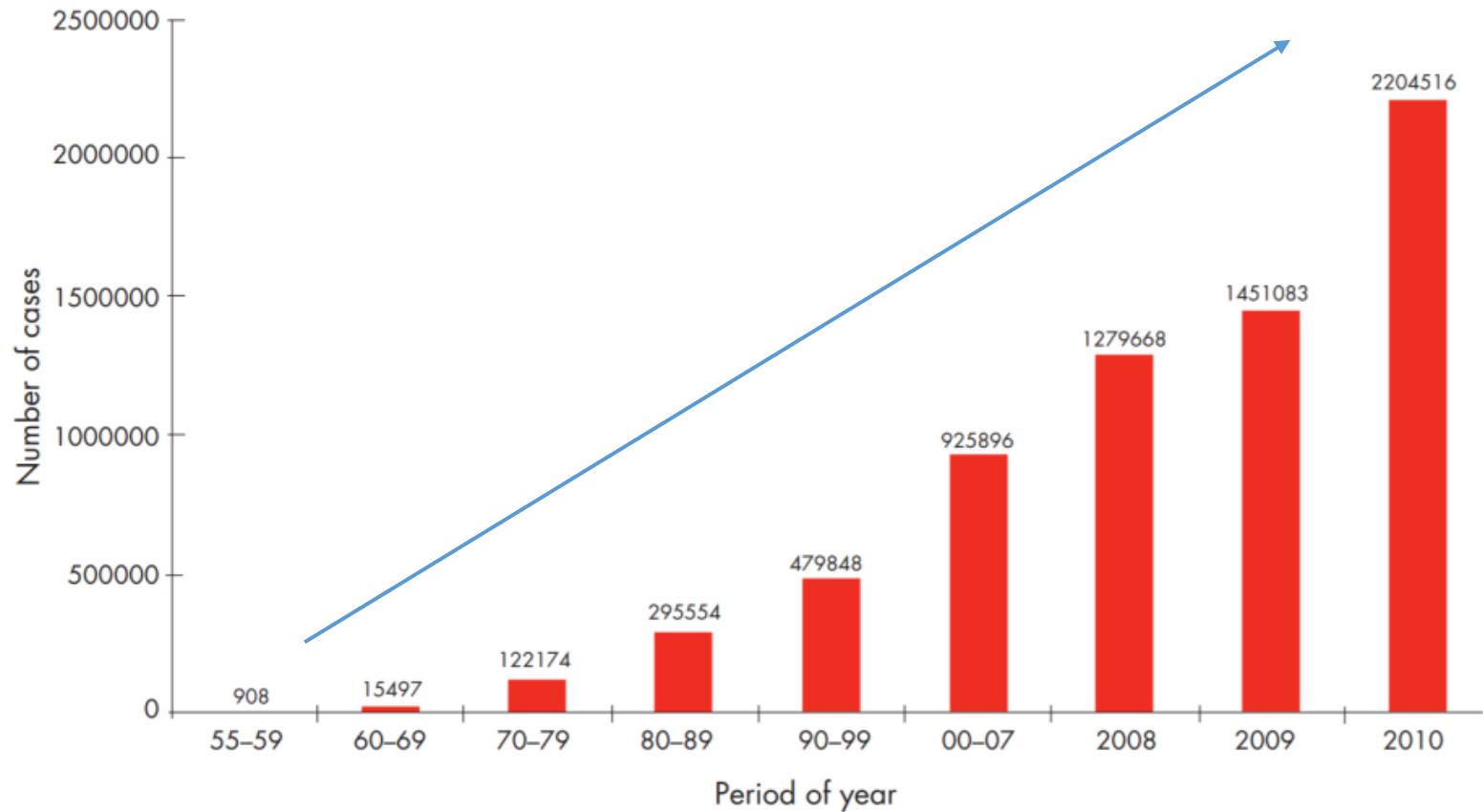
MAIN CONTENTS

1. Statement of Problem
2. Objectives
3. Methodology
4. Key findings
5. Conclusions and Recommendations

1. STATEMENT OF PROBLEM

1.1. Global burden of dengue fever

Figure 1. Average number of dengue and severe dengue cases reported to WHO annually in 1955–2007 and number of cases reported in recent years, 2008–2010



Source: WHO (2012). Global strategy for dengue prevention and control 2012-2020



Since 1970, dengue has spread from
9 to 120+ countries.¹

Approximately
400 million

dengue infections occur globally on an annual basis,¹ and there are more than 20,000 dengue-related deaths each year around the world.²

¹ World Health Organization. Dengue and Severe Dengue. 2017. Retrieved August 2017.
<http://www.who.int/mediacentre/factsheets/fs117/en>

² Murray NE, et. al. Epidemiology of dengue: past, present and future prospects. 2013. Retrieved August 2017.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3753061/>

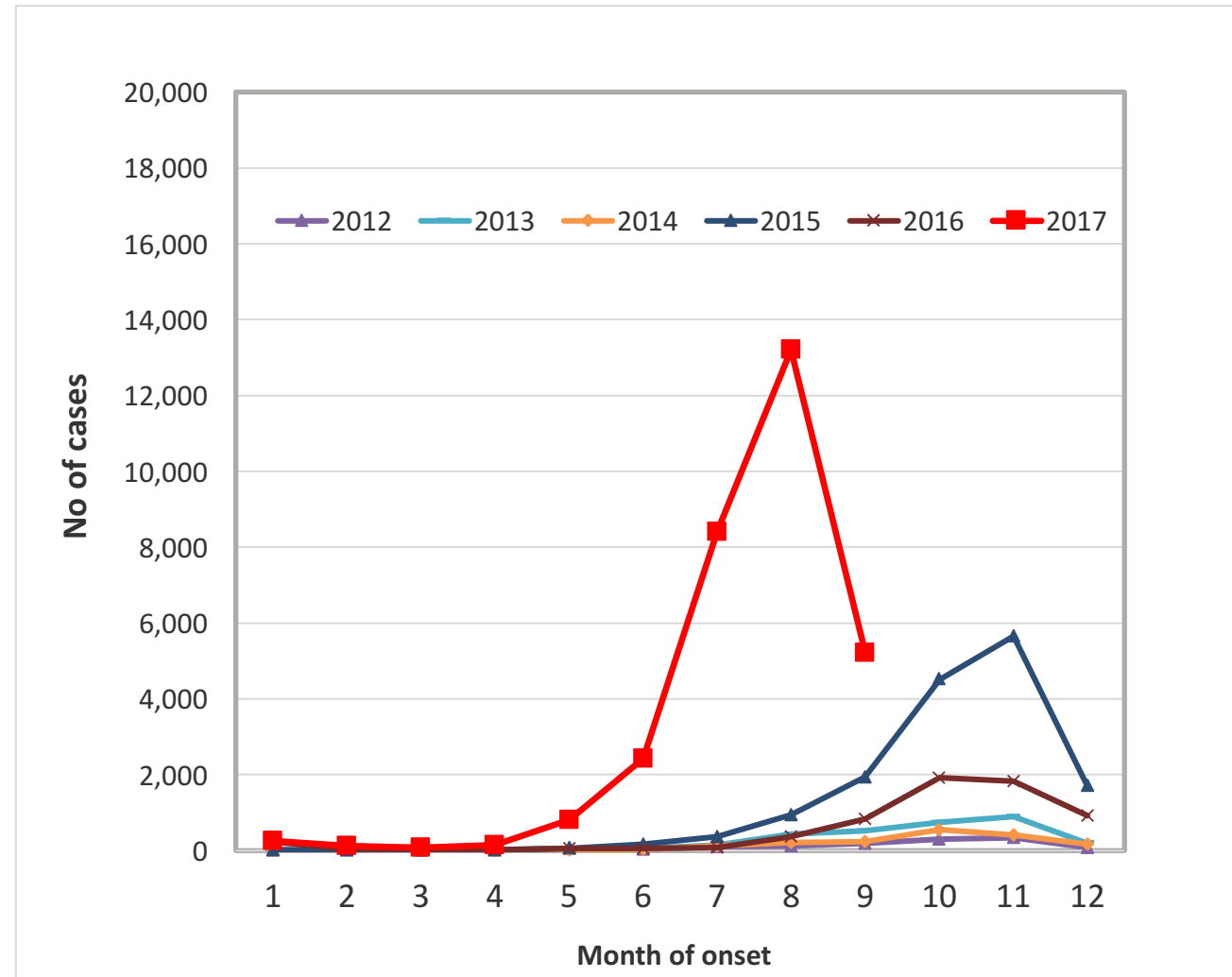
1.2. Dengue Fever in Viet Nam



- Incidence increases during June to October each year
- 25,000 to 100,000 cases annually
- Major epidemics occur in ***three to five year cycles***
- Dengue morbidity per 100,000 population increased steadily from **32.5** in the year 2000 (24,434 cases) to **120.0** in 2009 (105,370 cases), and was **78.0** in 2011 (69,680 cases).
- Over 85% of all dengue cases and 90% of all deaths due to dengue occur in the ***southern provinces*** of Viet Nam.
- 90% deaths occur ***among children <15 years old***
- Viet Nam's National Dengue Control Programme (NDCP)
 - Established 1999
 - Government funds from \$1-5 million per year

1.3. Context of the 2017 Dengue epidemic, Hanoi

- Largest outbreak in history of Hanoi
- Peak of incidence much earlier than usual seasonal epidemics
- Nearly 14,000 cases during peak weeks





Bộ Y tế

Cục Y tế dự phòng
Chương trình phòng chống sốt xuất huyết

Trung tâm Truyền thông
Giáo dục sức khỏe trung ương

Sổ tay

HƯỚNG DẪN CỘNG TÁC VIÊN PHÒNG CHỐNG
SỐT XUẤT HUYẾT DENGUE TẠI CỘNG ĐỒNG



Nhà xuất bản.....

Năm 2012



**KHÔNG CÓ BỌ GÂY, LĂNG QUĂNG,
MUỐI, KHÔNG CÓ SỐT XUẤT HUYẾT**



2. OBJECTIVES

- To describe knowledge and practices regarding dengue fever prevention of Households in Hanoi
- To describe the differences in knowledge and practices of households in three areas in Ha Noi



3. METHODOLOGY

❑ **Study design:** cross-sectional

❑ **Sampling method and Data collection**

○ 2 stage- sampling method:

- Stage 1: chose investigation sites

- Selected 2 urban, 2 suburban, 2 rural districts, and 5 communes within each district:
30 communes in total

- Stage 2: Select households for each commune:

- Obtained household list in communes health station, randomly select 25 households:
626 households in total

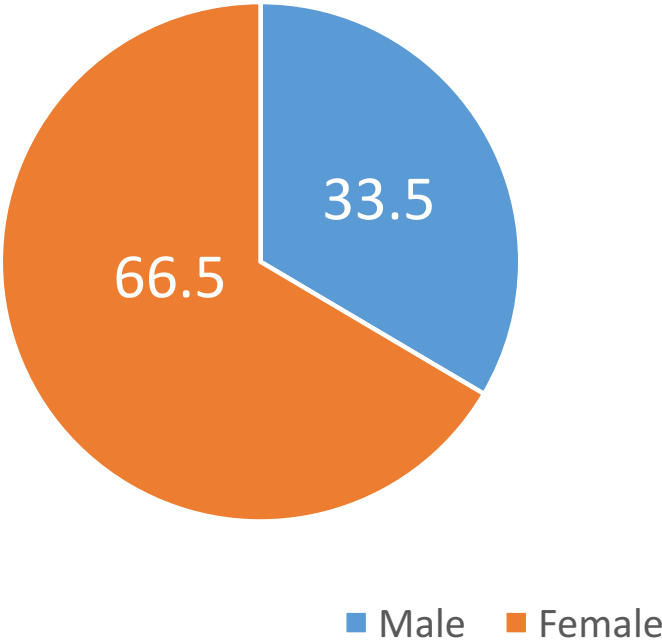
○ Data collection: face-to-face interview using questionnaire.

4. KEY FINDINGS

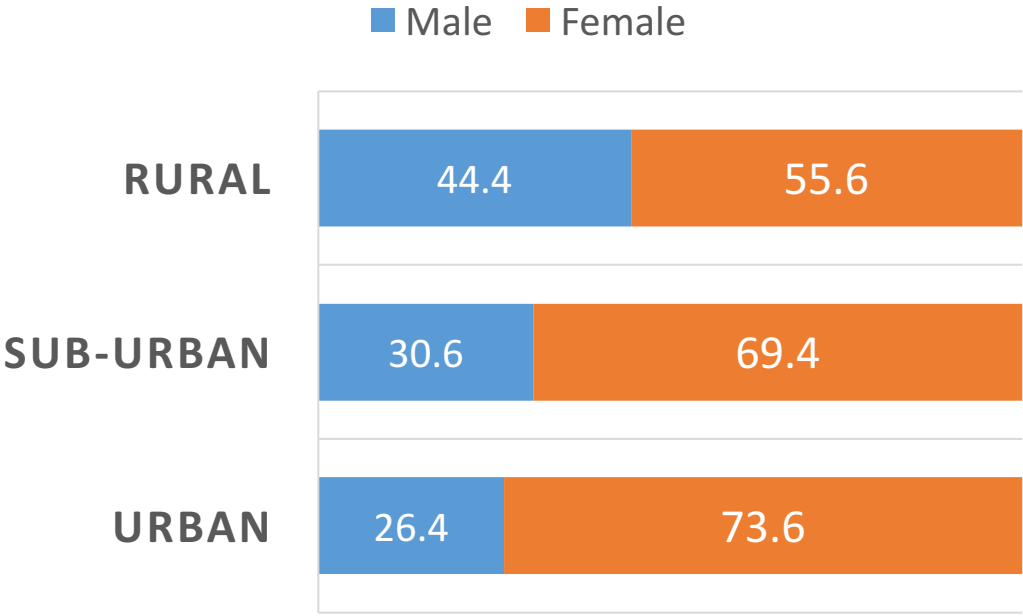
KNOWLEDGE AND PRACTICES REGARDING DENGUE FEVER PREVENTION OF HOUSEHOLD MEMBERS IN HANOI

4.1. DEMOGRAPHIC CHARACTERISTICS OF HOUSEHOLD MEMBERS

GENDER



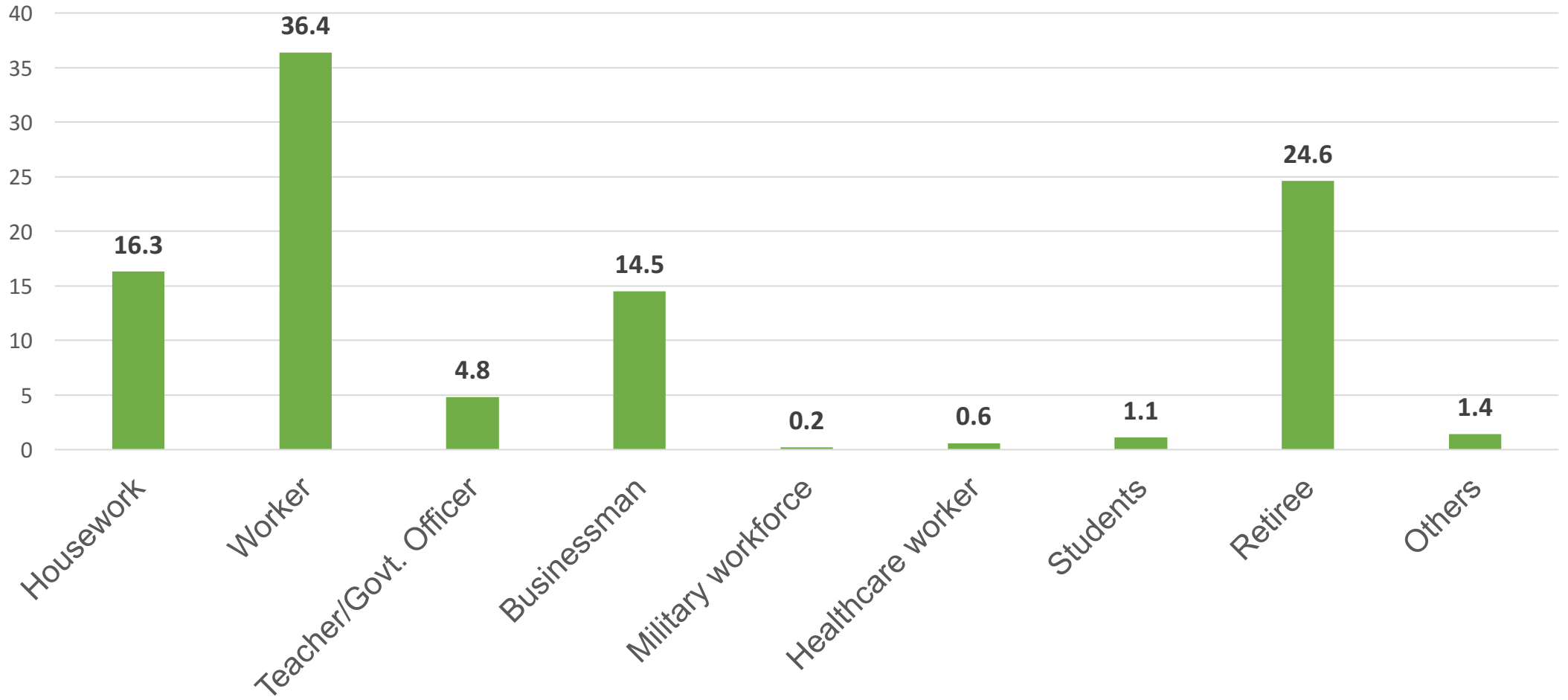
GENDER BY AREA



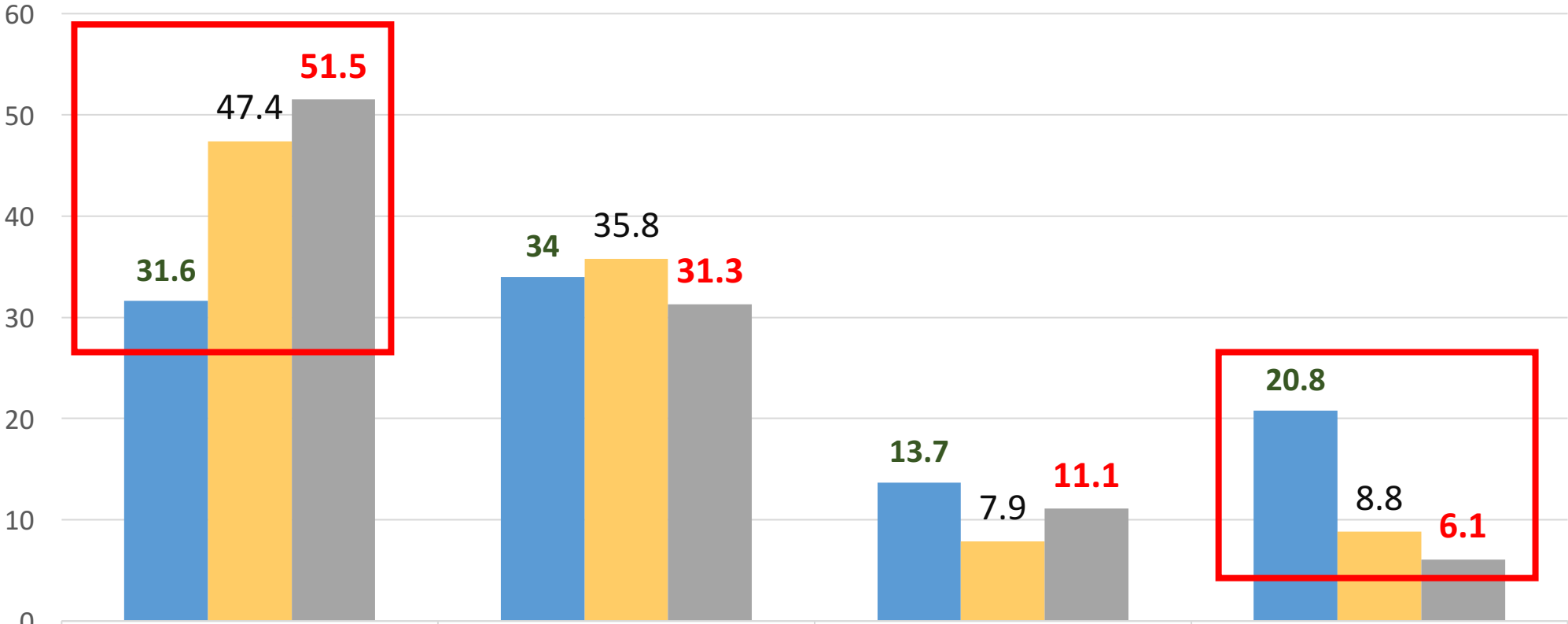
Age Mean

URBAN	SUB-URBAN	RURAL
57.6	52.4	48.5
Mean = 52.9		

OCCUPATION (%)



EDUCATION (%)



	Less than a high school diploma	Highschool diploma	Vocation/College diploma	Bachelor/post-grad degree
Urban	31.6	34	13.7	20.8
Sub-urban	47.4	35.8	7.9	8.8
Rural	51.5	31.3	11.1	6.1

4. 2. KNOWLEDGE OF HOUSEHOLD MEMBERS REGARDING DENGUE FEVER

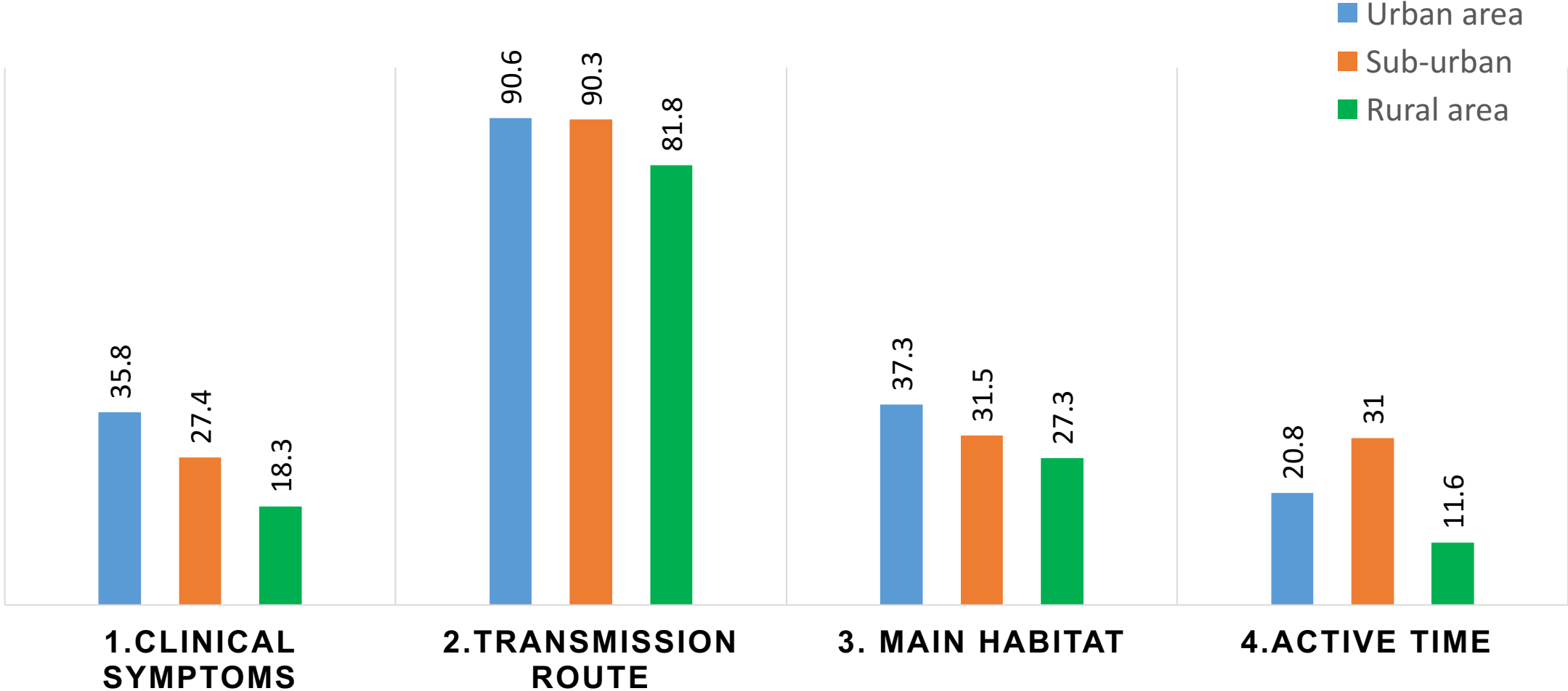
	Urban	Sub-ur	Rural	Total
	n=212%	n=216%	n=198%	N=626%
<u>1. Clinical symptoms</u>				
• High fever	89.2%	83.8%	82.3%	85.1%
• Body ache	59.4%	61.1%	28.8%	50.3%
• Tooth bleeding, nosebleed	19.8%	16.7%	11.6%	16.1%
• Bleeding into the skin	47.2%	35.6%	39.4%	40.7%
• Sneezing, running nose	6.6%	3.2%	3.0%	4.3%
<u>2. Transmission route</u>	90.6%	90.3%	81.8%	87.7%
<u>3. Mosquito habitat</u>	37.3%	31.5%	27.3%	32.1%
<u>4. Mosquito active time</u>	20.8%	31.0%	11.6%	21.4%
<u>5. Egg laying place</u>	28.8%	33.8%	17.7%	27.0%

	Urban	Sub-urban	Rural	Total
	n=212%	n=216%	n=198%	N=626%
<u>6. Interventions for dengue fever prevention</u>				
• Quarantine, Treatment for patients	9.9%	8.8%	7.1%	8.6%
• Indoor Spraying	69.3%	61.6%	59.6%	63.6%
• Kill mosquito larvae	72.6%	73.1%	65.7%	70.6%
• Avoid skin exposure	59.9%	63.4%	42.9%	55.8%
• Use antibiotics	0.0%	1.9%	1.5%	1.1%
• Others	17.5%	18.5%	25.3%	20.3%
<u>7. Mosquito control</u>				
• Kill mosquito larvae	68.9%	68.1%	60.6%	66.0%
• Use electric racket	40.6%	48.6%	32.8%	40.9%
• Use chemical	75.0%	69.4%	63.1%	69.3%
• Use incense	7.1%	15.7%	9.6%	10.9%
• Other	9.9%	13.9%	14.1%	12.6%
• Do not know	1.4%	5.1%	2.5%	3.0%

	Urban	Sub-ur	Rural	Total
	n=212%	n=216%	n=198%	N=626%
<u>8. Mosquito bite avoidance</u>				
• Use window screen and bednet	85.4%	93.1%	81.8%	86.9%
• Use incense	14.2%	15.7%	20.2%	16.6%
• Use repellents	35.8%	20.4%	19.2%	25.2%
• Clothing	36.3%	33.3%	23.2%	31.2%
• Others	9.9%	12.0%	9.6%	10.5%
• Do not know	3.3%	0.9%	5.1%	3.0%
<u>9. Mosquito larva control</u>				
• Empty water from containers	88.2%	87.5%	74.7%	83.7%
• Add salt to and clean vases, pots,...	24.1%	8.8%	16.2%	16.3%
• Use chemical	30.2%	26.4%	26.8%	27.8%
• Use mosquitofish	44.3%	50.9%	37.4%	44.4%
• Others	3.3%	5.1%	6.6%	5.0%
• Do not know	4.2%	3.7%	8.6%	5.4%

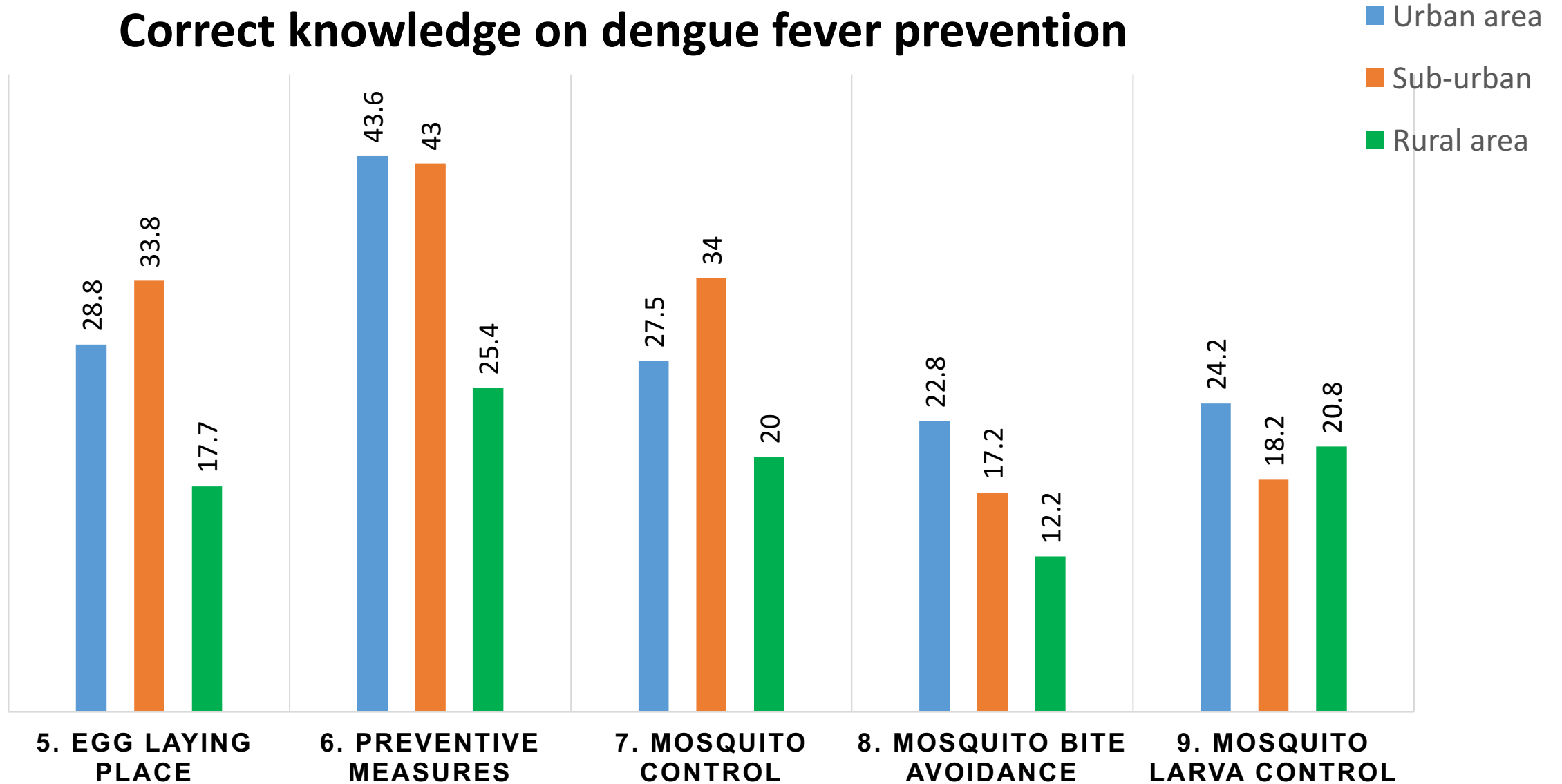
4.3. ASSESSMENT ON THE KNOWLEDGE OF HOUSEHOLD MEMBERS REGARDING DENGUE FEVER PREVENTION

Correct knowledge on dengue fever prevention

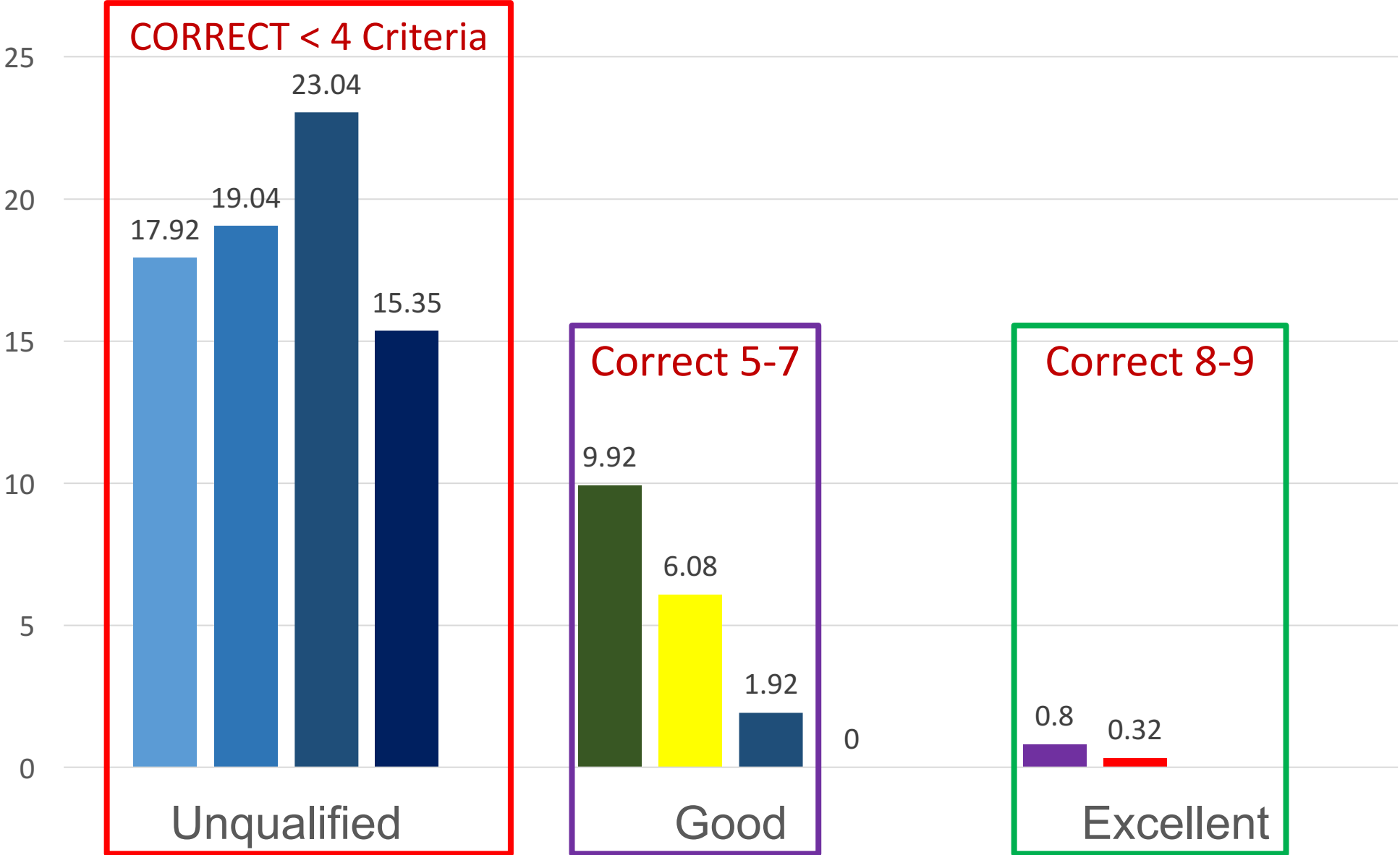


ASSESSMENT ON THE KNOWLEDGE OF HOUSEHOLD MEMBERS REGARDING DENGUE FEVER PREVENTION

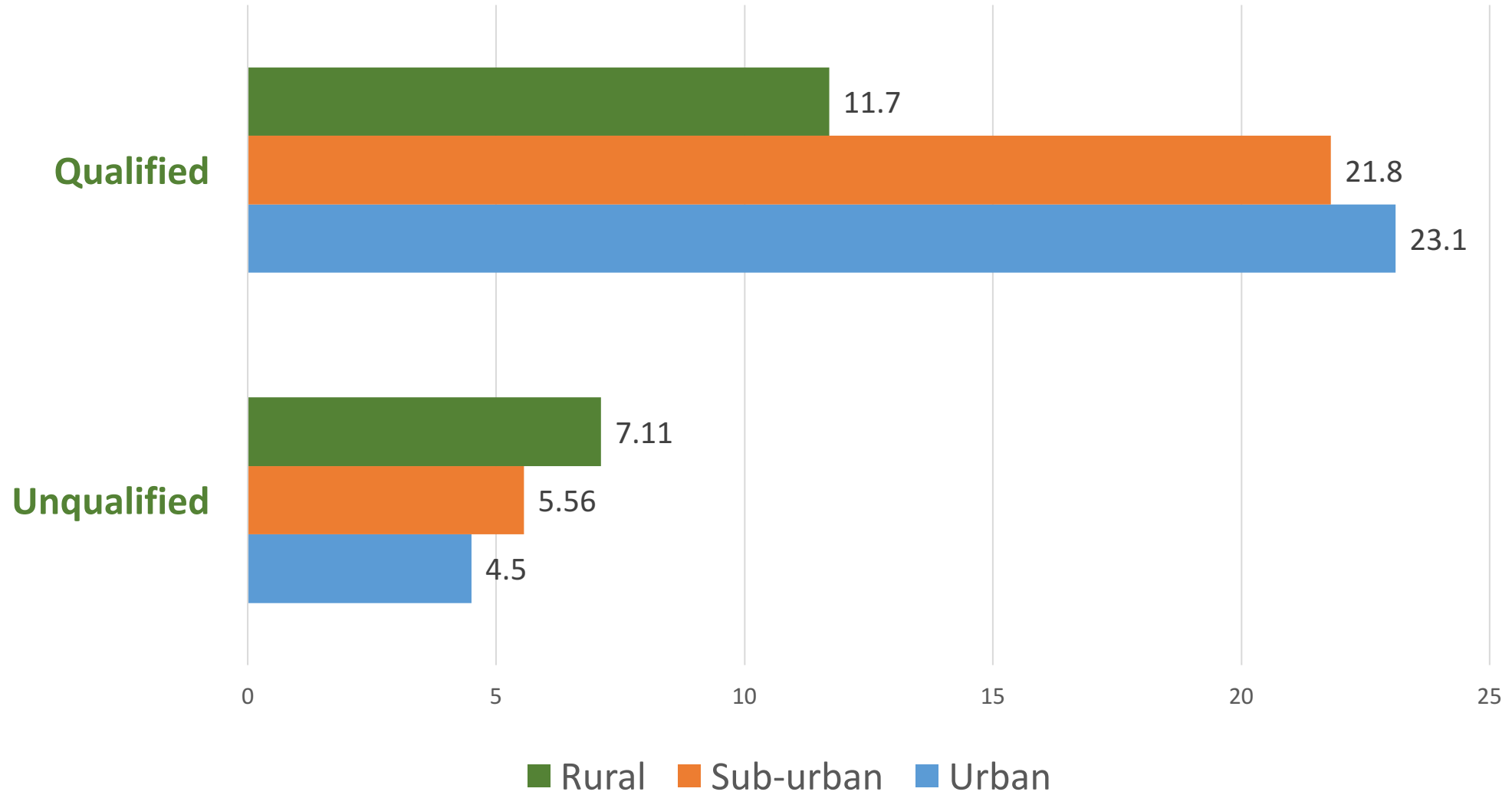
Correct knowledge on dengue fever prevention



ASSESSMENT ON THE KNOWLEDGE OF HOUSEHOLD MEMBERS REGARDING DENGUE FEVER PREVENTION



Level of knowledge by living area



4.4. PRACTICES OF HOUSEHOLD MEMBERS REGARDING DENGUE PREVENTION

Indicator	Urban (%)	Sub-urban (%)	Rural (%)	Total (%)
	n=212	n=216	n=198	
<u>Bed net use</u>	90.6%	95.4%	92.4%	92.8%
<u>Time of bed net use</u>				
▪ At night	33.5%	28.7%	40.9%	34.2%
▪ In day time	0.9%	0.9%	1.5%	1.1%
▪ At night and in daytime	56.1%	65.3%	50.5%	57.5%
<u>Frequency of bed net use</u>				
▪ Always	55.2%	60.6%	62.6%	59.4%
▪ Often	31.1%	30.6%	27.8%	29.9%
▪ Sometimes	4.2%	3.7%	2.0%	3.4%
<u>Mosquito control interventions</u>				
No	6.6%	6.5%	8.6%	7.2%
▪ Electric racket	54.7%	64.4%	52.0%	57.2%
▪ Chemicals	67.5%	60.6%	56.6%	61.7%
▪ Essential oil	16.5%	18.1%	7.6%	14.2%
▪ Mosquito incense	9.0%	10.6%	10.6%	10.1%
▪ Others	8.5%	9.3%	5.1%	7.7%

Indicator	Urban (%)	Sub-urban (%)	Rural (%)	Total (%)
<u>Mosquito larva control</u>				
No	11.8%	8.8%	21.2%	13.7%
▪ Empty water from containers	62.3%	61.1%	49.5%	57.8%
▪ Clean vase, pot, bucket	73.1%	75.9%	55.6%	68.5%
▪ Dispose Waste	33.5%	41.7%	28.3%	34.7%
▪ Use biocontrol method	19.3%	30.1%	20.7%	23.5%
▪ Others	1.9%	4.2%	2.0%	2.7%
<u>Frequency of cleaning water containers</u>				
▪ Everyday	49.5%	50.0%	46.5%	48.7%
▪ Once a week	15.6%	14.4%	11.1%	13.7%
▪ Once every 02 weeks	4.2%	2.3%	4.0%	3.5%
▪ Once every more than 02 weeks	5.2%	4.6%	3.0%	4.3%
<u>Cleaning living environment</u>				
No	0.5%	0.9%	0.5%	0.6%
▪ Clear the bushes	11.8%	25.9%	22.7%	20.1%
▪ Unblocking drainage system	8.5%	21.3%	17.2%	15.7%
▪ Cleaning house and surroundings	98.6%	97.2%	94.9%	97.0%
▪ Waste treatment	37.7%	45.8%	48.0%	43.8%
▪ Others	0.5%	1.9%	3.5%	1.9%

Indicator	Urban (%)	Sub-urban (%)	Rural (%)	Total (%)
<u>Frequency of cleaning environment</u>				
• Everyday	88.2%	84.3%	76.8%	83.2%
• Once time a week	9.4%	12.5%	14.6%	12.1%
• Once time per 02 weeks	0.5%	0.5%	5.6%	2.1%
• Once time per more than 02 weeks	0.9%	0.9%	2.5%	1.4%
<u>Waste treatment method</u>				
• Apply diesel, oil	0.9%	0.5%	2.5%	1.3%
• Punch a hole	3.3%	2.8%	3.5%	3.2%
• Arrange, cover up	12.3%	6.0%	9.1%	9.1%
• Throw away	9.4%	5.6%	6.6%	7.2%
No	75.5%	78.7%	73.2%	75.9%
• Others	0.5%	2.8%	4.5%	2.6%

	Urban (%)	Sub-urban (%)	Rural (%)	Total (%)
<u>Water container treatment</u>				
• Collect	52.8%	67.6%	75.3%	65.0%
• Deform	0.9%	0.9%	0.5%	0.8%
• Bury	0.5%	0.0%	2.5%	1.0%
• Throw away	33.5%	35.2%	17.2%	28.9%
No	17.5%	6.5%	6.1%	10.1%
• Others	3.8%	7.9%	4.5%	5.4%
<u>Other trash</u>				
• Flip over	19.8%	17.1%	31.3%	22.5%
• Deform	1.4%	0.5%	0.5%	0.8%
• Bury	0.0%	0.0%	4.0%	1.3%
• Throw away	45.8%	45.4%	33.8%	41.9%
No	27.8%	19.4%	13.1%	20.3%
• Others	7.5%	20.8%	20.7%	16.3%

Limitations

- Conducted in working days, resulting in biased characteristics of respondents.
- Could not observe actual practices of subjects. Therefore, responses may not reflect actual practices.

5. CONCLUSION AND RECOMMENDATIONS

Conclusion

- a) The qualified knowledge of people on dengue prevention and control is still limited.
- b) Better knowledge in urban districts (urban: 23.1%, sub-urban: 21.8%, rural: 11.7%).
- c) People in Hanoi had a relatively good practice on dengue prevention and control regardless of limited knowledge (highest in cleaning environment and bed net use; lowest in larva control). No significant difference among three living areas

However, it is necessary to do further study and analysis to examine the actual practice.

Recommendations

- a) More communication activities to raise awareness of household members
- b) More training to instruct people to have proper practices
- c) Improve the effectiveness of communal monitoring team, especially in the outbreaks.

Acknowledgements

- CDC US – GDPM: Field Epidemiology Training Program
- Institute for Preventive Medicine and Public Health, Hanoi Medical University;
- Mentors: Prof. Le Thi Huong – Director of Institute for Preventive Medicine and Public Health; Associate Professor. Le Minh Giang – Chair of Department of Global Health.

THANK
YOU

The image features the words "THANK YOU" in a bold, green, rounded font with a brown outline. The text is centered and flanked by two stylized roses. Each rose is composed of red and white petals, with a green stem and two green leaves extending downwards and outwards from the base of the rose.