



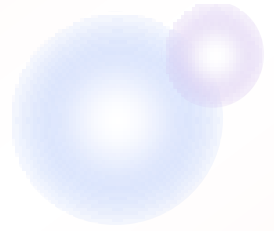
# **Antipyretic Effect of Traditional Medicine Formulation-16 (*Apu-Njein-Thwei:Hsei:*) with Decoction of Betel Leaf in Children with Febrile Illness**

Aye Thida<sup>1</sup>, Zin Mar Lwin<sup>1</sup>, Win Myint<sup>1</sup>, Than Tun<sup>1</sup>,  
Thein Zaw Linn<sup>1</sup>, Kyaw Oo<sup>2</sup>, Thin Lae Win<sup>1</sup>, Than Ohn<sup>1</sup>

1. University of Traditional Medicine, Mandalay
2. Department of Human Resources for Health, Nay Pyi Taw

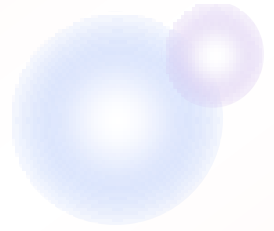


# Outline

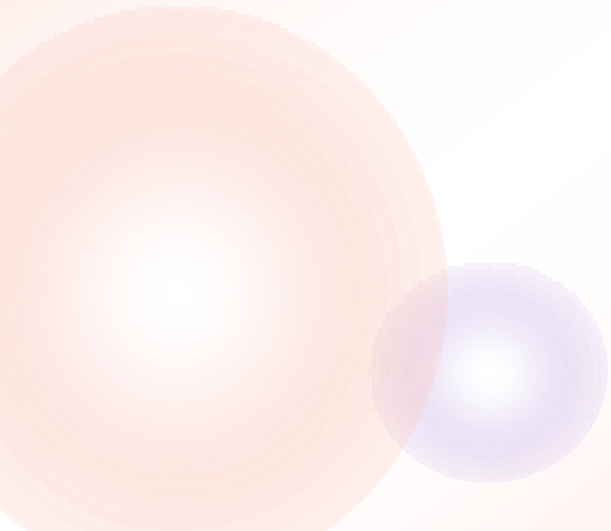


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# INTRODUCTION






# Fever

- common sign in paediatric patients
- elevated core body temperature more than  $38^{\circ}\text{C}$  ( $100.4^{\circ}\text{F}$ )
- exceeded maximum of the normal febrile range  $41^{\circ}\text{C}$ /  
 $105.9^{\circ}\text{F}$   $\longrightarrow$  heat stroke or brain injury

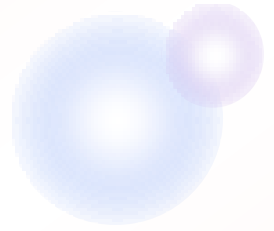
(Russell *et al.*, 2003)




## *Desana System of Medicine*

- imbalance of *Dhatus* in the body
- resulting from the disorder of *Tejo dhatu*   
dysfunction of *Vāyo*, *Āpo*, *Prithvi* and *Ākāśa*
- consisted in the group of *Kakkhala*, 2nd *Vitthambhita*,  
*Sangahita* and 2nd *Byuhana*

(Department of Medicine, 2004)



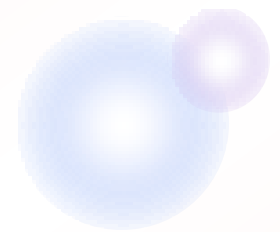
- some children  febrile convulsion
- apply the antipyretic drugs (W.M or T.M)
- clinical practice of Myanmar Traditional Medicine,  
there are many herbo-mineral preparations for the  
treatment of fever.





## TMF-16

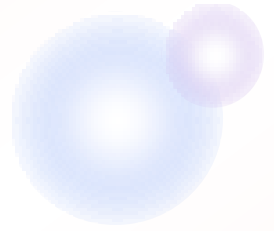
- one of the herbo-mineral preparations
- composed of 18 materials derived from plants and one from animal
- cold potency, sweet, bland sweet and astringent taste
- antipyretic activity ( $\frac{3}{4}$  efficacious as acetyl salicylate)
- fever → given with *anupana* of betel leaf decoction  
(Myanmar Traditional Medicine Formulary, 1989)



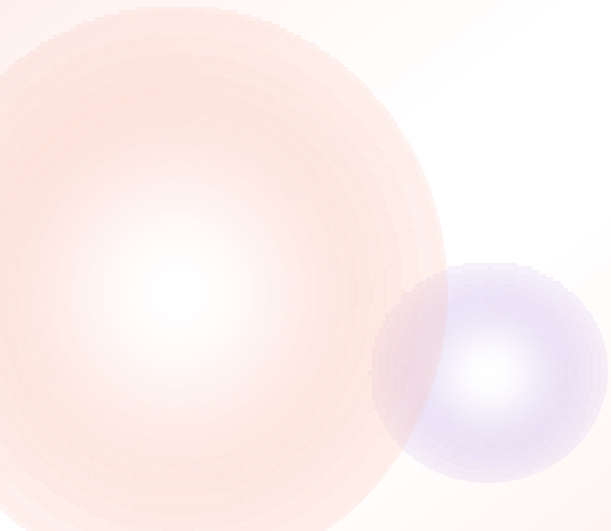
- Betel leaf → aromatic, stimulo-carminative, astringent and aphrodisiac.
- It has antipyretic activity(Sripradha, 2014).
- TMF-16 with betel leaf decoction has effectiveness for fever → no scientific research
- The present study is aimed to evaluate the effect of TMF-16 with warm decoction of betel leaf in children with febrile illness.







# OBJECTIVES





# General Objective

- To study the antipyretic effect of TMF-16 with warm decoction of betel leaf in children with febrile illness



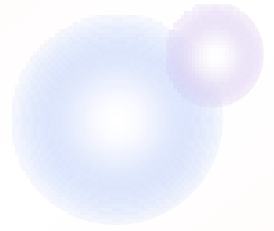
## Specific Objectives

1. To assess the body temperature, pulse rate and respiratory rate before drug administration
2. To assess the changes in body temperature, pulse rate and respiratory rate every 1 hour, 2 hours and 3 hours after drug administration
3. To determine the antipyretic effect of TMF -16 with warm decoction of betel leaf in children with febrile illness before and after administration



# MATERIALS AND METHODS





- **Study Design**

Hospital-based quasi experimental study

- **Study Site**

OPD and IPD, 100 bedded TMTH, Mandalay.

- **Study Period**

1st September 2015 to 31st August 2016





## **Selection Criteria**

### **Inclusion criteria**

1. Both sexes
2. The patients between the ages of  $1 \leq 12$  years
3. Patients presenting with temperature  $> 99.6^{\circ}\text{F} \sim < 104^{\circ}\text{F}$



## Exclusion criteria

1. Patients presenting with temperature  $> 104^{\circ}\text{F}$
2. Clinically severe ill patients such as fever with convulsion, fever with breathlessness

▪ **Sample size** - 30



# Materials

- TMF-16
- Betel Leaf Decoction
- Mercury Thermometer
- Beaker







Paediatric patients with febrile illness in  
OPD/IPD(TMTH, Mandalay)

Meet inclusion criteria  
and given consent form

Examined for demographic  
characteristics by pro-forma

BT, PR and RR were checked (0 hour)



Drug administration

1 hour assessment of BT, PR and RR after drug administration

2 hours assessment of BT, PR and RR after drug administration

3 hours assessment of BT, PR and RR after drug administration



Measurement of body temperature

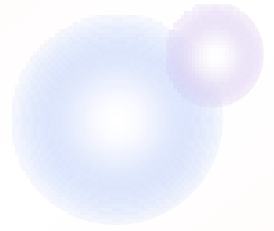


The doses of TMF-16



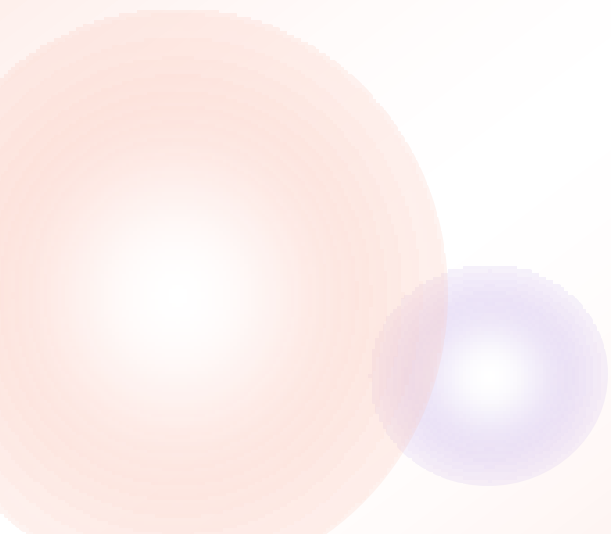
Decoction of betel leaf





## Data Collection and Data Analysis

- Data were collected by using pro-forma.
- SPSS (version 21)
- Data were analyzed by one-way ANOVA.



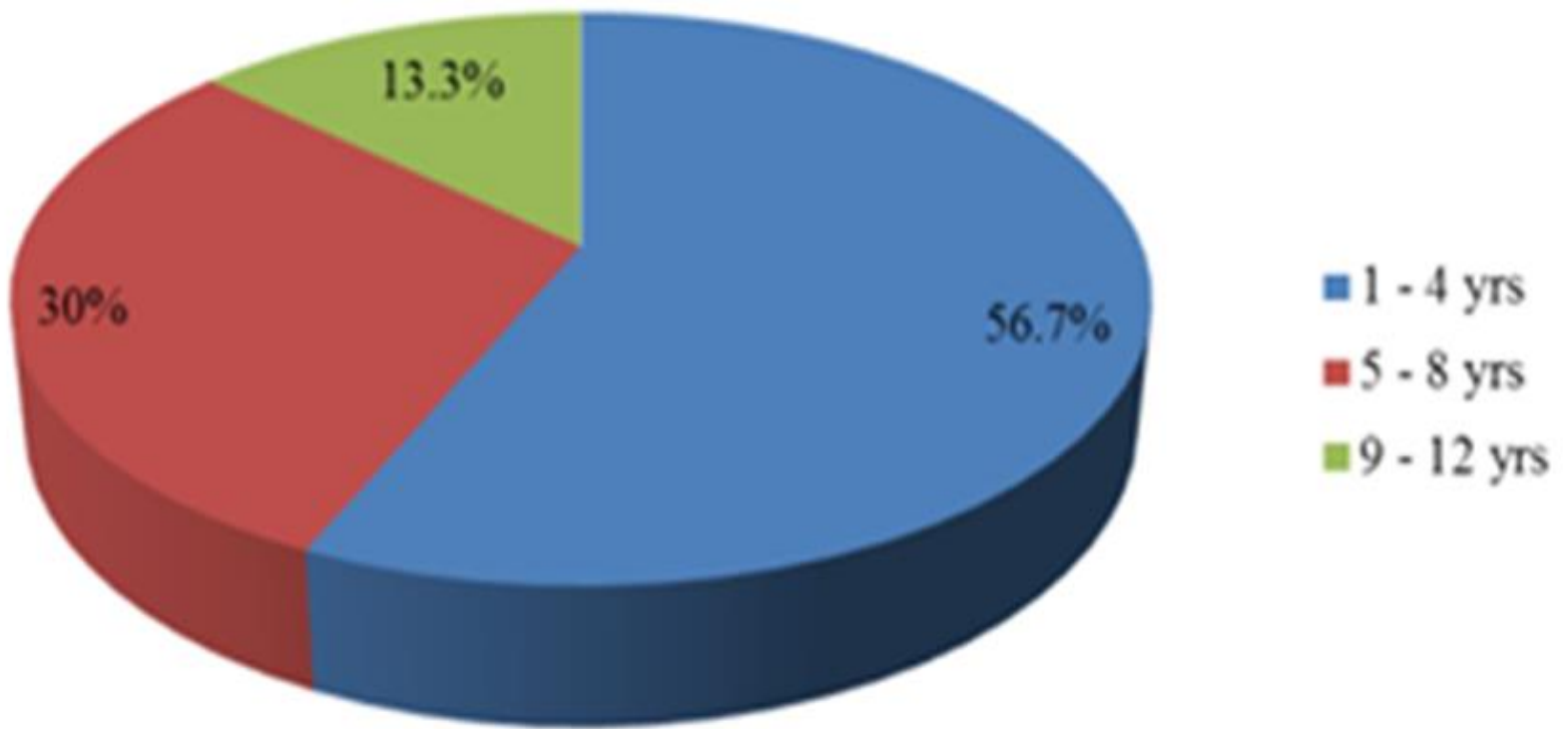


# FINDINGS AND DISCUSSIONS




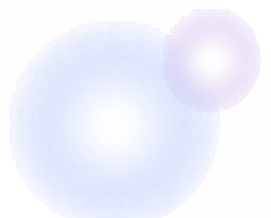


**Age group**



Age distribution of patients

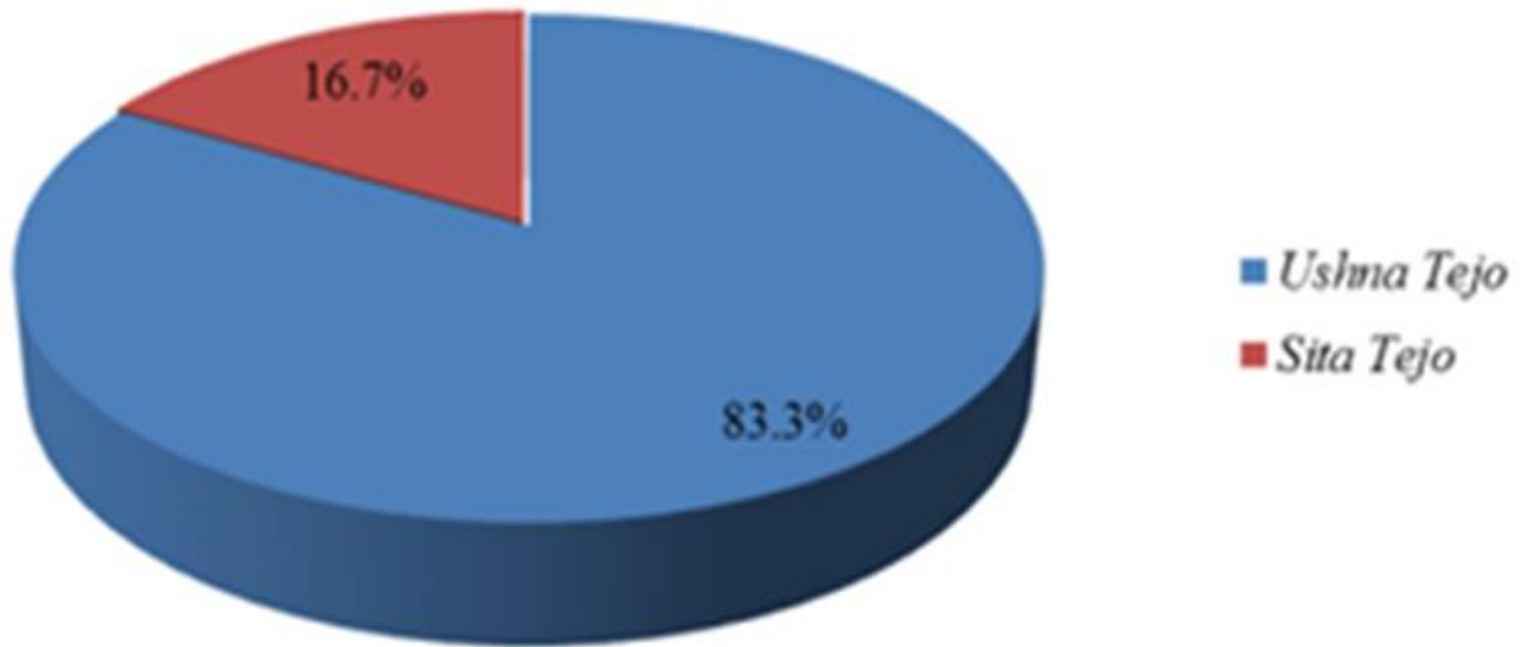


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- Most of patients were found in the age group of 1 year to 4 years.
  - According to the traditional medicine concept, fever ➡ children who are not tolerant towards heat  
children or adults who have low immunity  
(ဟန်ထွန်း၊ ၁၉၉၃)
  - This theory is supported by the present study.




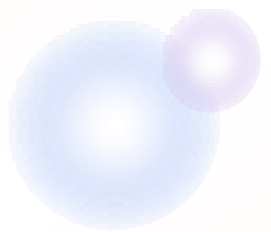


*Tejo*



*Tejo* distribution of patient



- 
- 
- Most of patients were found in *Ushna Tejo*.
  - Nowadays

Diseases in children  *Ushna Tejo*  
(ဆန့်၍ ဝေဇာ)

- This theory is supported by the present study.

Table1. Change in mean values of body temperature at 0 hour, 1 hour, 2 hours and 3 hours						
Body temperature	Mean	Std. Deviation	Std. Error	95% Confidence Interval		p value
				Lower	Upper	
0 hour	101.50	0.9463	0.173	101.150	101.857	< 0.001
1 hour	101.00	0.9190	0.168	100.654	101.340	
2 hours	100.27	0.9606	0.175	99.915	100.632	
3 hours	99.78	1.2554	0.229	99.311	100.249	


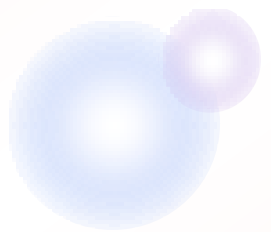

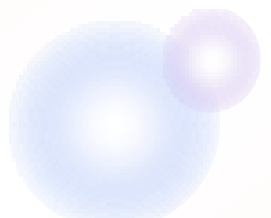
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- In the first 1 hour → 0.5 °F
  - In the second 1 hour → 0.73 °F
  - In the third 1 hour → 0.49°F
  - In this study, above data showed that TMF-16 with decoction of betel leaf has decreased the action gradually.

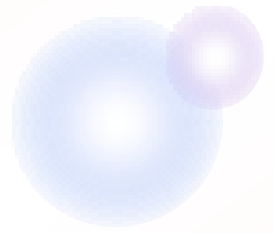
Table2. Change in mean values of pulse rate  
at 0 hour, 1 hour, 2 hours and 3 hours

Pulse rate	Mean	Std. Deviation	Std. Error	95% Confidence Interval		p value
				Lower	Upper	
0 hour	108.20	12.947	2.364	103.366	113.034	< 0.001
1 hour	102.70	11.372	2.076	98.454	106.946	
2 hours	94.90	9.553	1.744	91.333	98.467	
3 hours	90.07	12.421	2.268	85.429	94.705	

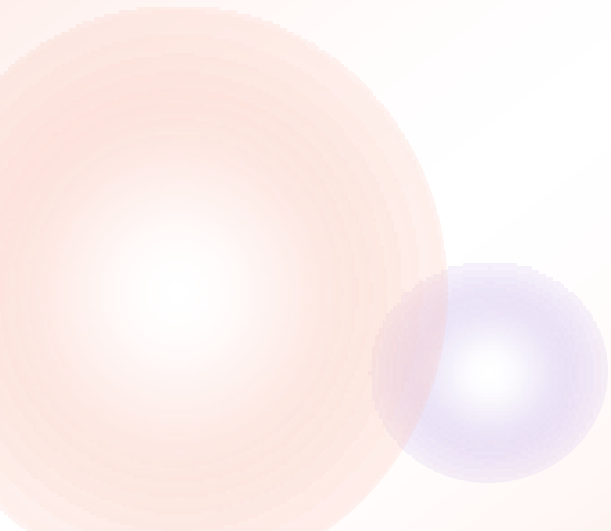
Table3. Change in mean values of respiratory rate at 0 hour, 1 hour, 2 hours and 3 hours

Respiratory rate	Mean	Std. Deviation	Std. Error	95% Confidence Interval		p value
				Lower	Upper	
0 hour	32.17	4.728	0.863	30.401	33.932	< 0.001
1 hour	30.87	4.946	0.903	29.020	32.714	
2 hours	29.80	4.708	0.860	28.042	31.558	
3 hours	29.20	4.498	0.821	27.520	30.880	

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- The results of this study showed that highly significant decreased ( $p$  value  $< 0.001$ ) of TMF-16 with decoction of betel leaf on febrile illness.
  - Overall effect of the treatment, the obtained results can be proved statistically effective for the management of febrile illness in children by TMF-16 with decoction of betel leaf in study population.



# CONCLUSION AND SUGGESTIONS








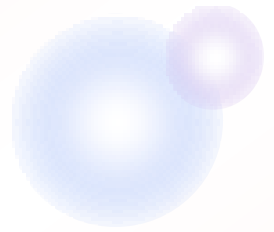
## Conclusion

- effectiveness in the management of fever in children
- effective and easily available in community
- can be used a rational prescription in treating children with febrile illness

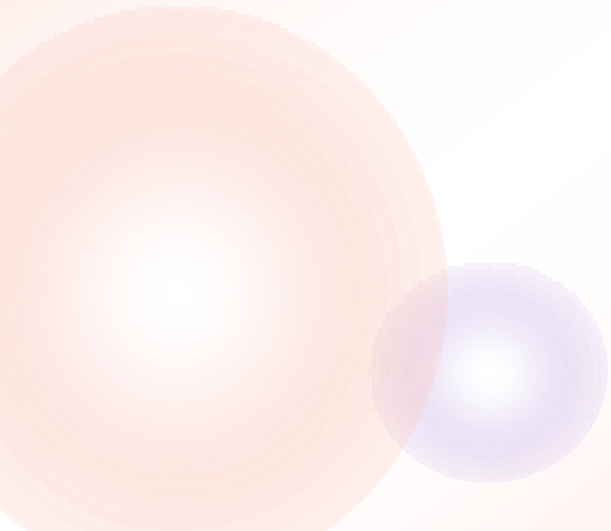


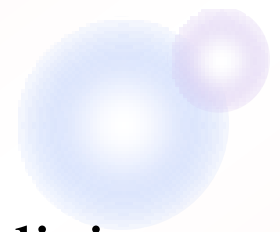
# Suggestions

- small sample  large sample size
- Fever clearance time
- A repeated dose should be administered 3 hours after the first dose



# ACKNOWLEDGEMENT





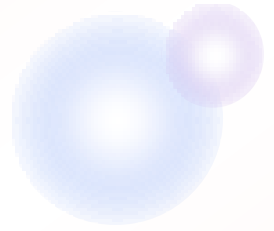
- Director General, Department of Traditional Medicine
- Rector, University of Traditional Medicine, Mandalay and all members of the Protocol Board of Studies
- senior and junior colleagues from Pediatric department and Child Ward
- all the persons who helped us directly or indirectly throughout our carrier






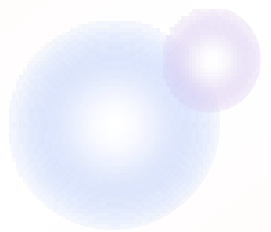
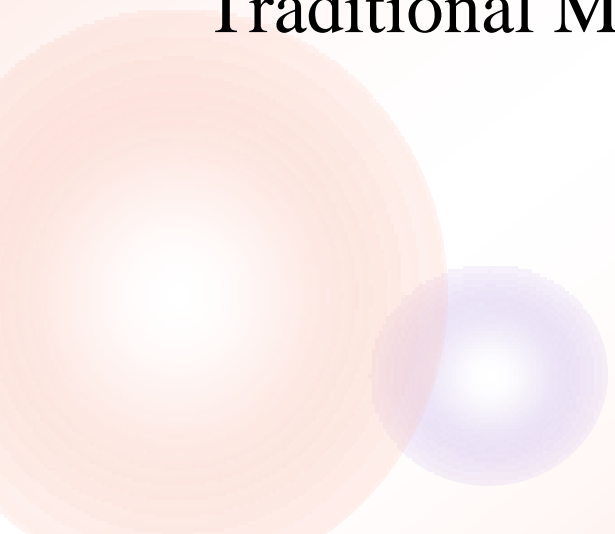
# REFERENCES



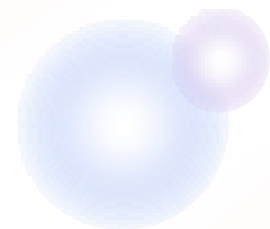


- သန်း(ဆရာ၊သဘာဝဓမ္မ)၊ (၁၉၇၄)၊ ရောဂါဗေဒကုထုံးကျမ်း၊ ဂန္ဓမာပုံနှိပ်  
တိုက်၊ အမှတ်-၁၃၉၊ လမ်း-၅၀၊ ရန်ကုန်။ နှာ-၂၂၃
- ဟန်ထွန်း(ဦး)၊(၁၉၉၃)၊လက်တွေ့အသုံးချ မြန်မာ့ကုထုံးဆေးပညာကျမ်း၊  
ပထမအကြိမ်၊ စိုးမိုးမိတ်ဆက် ပုံနှိပ်တိုက်၊ အမှတ်-၁၄၆၊ ၃၃လမ်း၊  
ရန်ကုန်။



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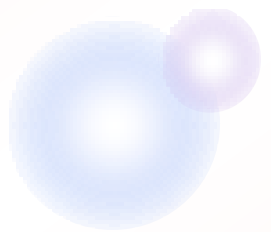




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**THANKS FOR KIND  
ATTENTION**

