Internship Training at

CARE India

BY

Anant Dev Asheesh

PGDHM

2012-2014

International Institute of Health Management Research
New Delhi

Internship Training

At

CARE India

Knowledge, Attitude and Practices regarding Kala-Azar in a highly endemic village of Kishanganj District, Bihar, India

By

Anant Dev Asheesh

Under the guidance of

Dr. D.C. Jain

Post Graduate Diploma in Hospital and Health Management

Year 2012-2014

International Institute of Health Management Research
New Delhi

TO WHOMSOEVER MAY CONCERN

This is to certify that **Anant Dev Asheesh** student of Post Graduate Diploma in Hospital and Health Management (PGDHM) from International Institute of Health Management Research, New Delhi has undergone internship training at **Care India** from **27th Jan, 2014** to **27th April, 2014**. The Candidate has successfully carried out the study designated to him during internship training and his approach to the study has been sincere, scientific and analytical.

The Internship is in fulfilment of the course requirements.

I wish him all success in all his future endeavours.

Dr. A.K. Agarwal
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The certificate is awarded to **Mr. Anant Dev Asheesh** in recognition of having successfully completed his Internship in the department of **Strengthening Kala Azar Elimination Program (SKAEP).** He has successfully completed his Project on**Knowledge, Attitude and Practices regarding Kala Azar in a highly endemic village of Kisanganj District, Bihar, India.**

Date: 27.01.14- 26.04.14

Organisation: CARE India

He comes across as a committed, sincere & diligent person who has astrong drive & zeal for learning.

We wish him all the best for future endeavours.

Amlan Majumdar
Program Manager
CARE India, Bihar

FEEDBACK FORM

Name of the Student: Anant Dev Asheesh

Dissertation Organisation: CARE India

Area of Dissertation: Knowledge, Attitude and Practices regarding Kala Azar in a highly endemic village of Kisanganj District, Bihar, India

Attendance: 100%

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Deliverables: Satisfactory

Strengths: Confidence and sense of urgency

Suggestions for Improvement: Should be bold enough to take decisions independently.

Amlan.

(AMLAN MAJUMDAR)
PROGRAM MANAGER, CARE INDIA,
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Signature of the Officer-in-Charge/ Organisation Mentor (Dissertation)

Date: 27, April 2014

Place: Purnea (HQ)

Certificate Of Approval

The following dissertation titled **Knowledge, Attitude and Practices regarding Kala Azar in a highly endemic village of Kishanganj District, Bihar, India** in **CARE India** is hereby approved as a certified study in management carried out and presented in a manner satisfactorily to warrant its acceptance as a prerequisite for the award of **Post Graduate Diploma in Health and Hospital Management** for which it has been submitted. It is understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed or conclusion drawn therein but approve the dissertation only for the purpose it is submitted.

Dissertation Examination Committee for evaluation of dissertation.

Name	Signature
S. Vivek Adhish	
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Certificate from Dissertation Advisory Committee

This is to certify that **Mr. Anant Dev Asheesh,** a graduate student of the **Post- Graduate Diploma in Health and Hospital Management** has worked under our guidance and supervision. He is submitting this dissertation titled **Knowledge, Attitude and Practices regarding Kala Azar in a highly endemic village of Kishanganj District, Bihar, India** in partial fulfillment of the requirements for the award of the **Post- Graduate Diploma in Health and Hospital Management.**

This dissertation has the requisite standard and to the best of our knowledge no part of it has been reproduced from any other dissertation, monograph, report or book.

06/05/2014

Institute Mentor Name,
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CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled **Knowledge, Attitude and Practices regarding Kala Azar in highly endemic village of Kishanganj District, Bihar, India** and submitted by **Anant Dev Asheesh** Enrollment No. **PG/12/009** under the supervision of Dr. D.C.Jain for award of Postgraduate Diploma in Hospital and Health Management of the Institute carried out during the period from **27th January 2014** to **27th April** embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other Institute or other similar institution of higher learning.

Anant D.A.

Signature 6/5/14

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- Anant Dev Asheesh

PG/12/009

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List of Abbreviations

ACD: Active Case Detection

ASHA: Accredited Social Health Activist

AWW: Anganwadi worker

BCC: Behaviour Change Communication

DDT: Dichlorodiphenyltrichloroethane

IEC: Information, Education and Communication

IRS: Indoor Residual Spray

KA: Kala Azar

PCD: Passive Case Detection

Abstract

Title- Knowledge, Attitude and Practices regarding Kala Azar in a highly endemic village of Kishanganj District, Bihar, India

Objectives- The major objectives behind conducting this KAP study were-

1. To measure that what percentage of people know about the causes, signs and symptoms of Kala Azar
2. To find the most popular measure to protect against Kala Azar
3. To determine the major source of information regarding Kala Azar

Methodology- Multi level sampling technique was used. A highly endemic block was selected and then a highly endemic village in that block was selected as study area. Sitihar village of Bahadurganj block was my study area. There are total 1432 households in that village. The sample size was 70. Thirty five households from the right side of the road and thirty five from the left side of the road were interviewed for this study. Questionnaire was used as a tool in the study.

Results- It was found that 84% people had not heard about Kala-azar. 73% respondents use bed nets to protect themselves from Kala-Azar. 36% people received information regarding Kala Azar from their friends or neighbour followed by 27% respondent who received information from Radio.

Conclusion- A high level IEC/BCC is required in Kishanganj District because unless people will not get aware then elimination of disease will become difficult. CARE organisation can play a vital role in Capacity Building, Monitoring of IRS and IEC of Kala Azar. The collaboration of Bihar government and CARE could be fruitful in the progress of the program.

INTRODUCTION

Visceral leishmaniasis, popularly known as Kala-Azar in Hindi, is a parasitic fatal disease. In India, *Leishmania donovani* is the only parasite that causes this disease. It is transmitted by the bite of sandfly vector *Phlebotomus argentipes.* It is confined to some of the tropical and sub-tropical regions. In India, it appeared first in Bengal Gangetic plains and from there spread to Assam and Bihar, further to Tripura and eastern UP. Sporadic cases reported from Gujrat, Maharastra, Tamil Nadu, Orissa, Himanchal Pradesh and Jammu & Kashmir**.**

More than 90% of kala-azar cases reported worldwide occurs in Bangladesh,Northeast India, Nepal, Sudan and Northeast Brazil and more than 60% of the world's VL cases are reported from India, Nepal and Bangladesh alone (WHO, 2005). Bihar contributes to over 80-85% of National Kala-Azar burden. Out of 38 districts, 33 districts are endemic for Kala-Azar. 11 Districts out of these 33 Kala-Azar affected districts contributes to 65-70% cases of Kala-Azar. These 11 highly endemic districts are Araria, Darbhanga, E.Champaran, Madhepura, Muzafarpur, Purnia, Saharsa, Samastipur, Saran Sitamarhi & Vaishali. Disease affects mostly poorest of the poor specially Mushahar Community.

34.65 million population is at risk, having 11,500(approx.) villages in 429 PHCs. State has commitment to achieve National Kala-azar Elimination goal set for 2015 by GOI i.e. reducing incidence of KA by 1 case per 10,000 population at sub-district level.

The Government of India aspires to eliminate VL from India by 2017. But, despite Government control efforts in terms of early diagnosis and treatment, indoor residual spraying (IRS), and IEC (information, education, and communication) activities, the general public still have misconceptions regarding kala-azar. Community participation is the most important prerequisite for the success of prevention and control programs of any disease, and cooperation of the affected population is essential for the implementation and use of program activities.

The present study was therefore undertaken with the objective to acquire information on community awareness about kala-azar and its related preventive attitudes, and practices to control the disease in Kishanganj District, Bihar, India.

1.1 Case definitions

1.1.1 Case definition of KA

A person from an endemic area with a fever of more than two weeks duration and with splenomegaly should be tested for KA:

• Using a standard, quality-assured rapid diagnostic test (RDT) based on the rK39 antigen at the primary health centre (PHC)/upazila health centre (UHC) level

or

• By biopsy for parasitology at hospitals with appropriate training.

Box 1. Case definition of KA

A case of KA is defined as: *a person from an endemic area with fever of more than two weeks duration and with splenomegaly, who is confirmed by an RDT or a biopsy.*

1.1.2 Treatment outcomes in KA

Treatment outcomes in KA have to be assessed twice:

(i) at the last day of drug treatment (initial outcome)

and

(ii) six months after the last drug was taken (final outcome).

The KA elimination initiative has trained health workers to distinguish four main outcomes in KA treatment. (see Box 2)

Box 2. Treatment outcomes in KA

1. **Cure:** *a patient is considered clinically cured if he/she has completed full treatment and there are no signs and symptoms of KA*
2. **Non-response:** *signs and symptoms persist or recur despite satisfactory treatment for more than two weeks*
3. **Relapse:** *any reappearance of KA signs and symptoms within a period of six months after the end of treatment*
4. **Treatment failure:** *non-response or relapse*

There are more possible outcomes at each time point. These are listed below.

At initial assessment, at the last day of drug treatment

• **Initial cure:** a full course of drugs has been completed AND the patient has clinically improved. Clinical criteria for cure should be assessed as no fever + regression of enlarged spleen + return of appetite and/or gain in body weight.

• **Non-response:** signs and symptoms persist or recur. Switch to a second-line drug because of no response to the first-line drug.

• **Side-effects related switch:** side-effects necessitate a change of treatment.

• **Death:** any death, whether or not related to KA.

• **Default:** the patient does not complete treatment and/or does not present for assessment after treatment.

At final assessment, six months after the last drug taken

• **Final cure:** an initial cure patient who is symptom-free at six months after the end of treatment.

• **Relapse:** any reappearance of KA symptoms within a period of six months after the end of treatment.

• **Death:** any death, whether or not related to KA.

• **Loss to follow-up:** patient does not present for assessment at six months.

1.2 Case Detection Activities for KA

- **Passive case detection (PCD):** patients are detected through regular health service activities in health centres and clinics. Health providers then manage the cases and notify authorities at district level.
- **Active case detection (ACD):** health-care personnel go to the community and screen the population to find cases of KA. ACD is an essential component of the elimination strategy. Several possible approaches are defined below.
  - *House-to-house search (or blanket screening):* a medical team visits every house in a community in an endemic area and screens every household member for KA/PKDL.
  - *Index-case approach (also called snowballing)*: an index case is defined as a person who is currently suffering or has suffered from KA or PKDL during the past 12 months. A focused search in which all households in a certain perimeter around an index case are visited and screened for KA/PKDL.

- *Camp-based approach:* a medical camp is organized in a central place in an endemic village and the community is actively encouraged to participate. It is particularly important that patients with fever of more than two weeks duration or with skin lesions after past KA treatment present for a simple medical check-up that screens for KA/PDKL.
- *Incentive-based approach*: a financial or other incentive/award is provided to health volunteers or village health workers who detect suspected cases of KA and motivate these cases to report to health facilities where they are then diagnosed with KA/PKDL.

1.3 Line of Drug for Treatment

Medicine	**Side-effects**	**Symptoms and clinical signs**	**Laboratory tests and ECG**
Miltefosine	Gastrointestinal effects Nephrotoxicity Hepatotoxicity	Abdominal pain, vomiting, diarrhoea Dehydration, oedema, decreased urine output, Jaundice	Creatinine Bilirubin, liver enzymes
Amphotericin B	Drug reaction Nephrotoxicity Cardiotoxicity Ototoxicity Any other, unanticipated	Fever with chills and rigors Oedema, decreased urine output Arrhythmias Hearing loss, vertigo	Check renal function, electrolytes, hypokalaemia

Review of Literature

A household-based cross-sectional knowledge, attitude, and practices (KAP) survey was done in the eight selected villages of Kurhani Block, Muzaffurpur District, Bihar India. It was found that 66% people were not using any measure to protect themselves against Kala-Azar. 72% people favoured the primary health centre or government hospitals as first choice of treatment. 11% suggested that isolation from patient would help in protection against Kala-Azar[1].

A community based cross-sectional study was conducted among the residents of a town named Addis Zemen. The study was done from February to March 2012. It was found that 68.7% people didn't use any kind of protective measure against Visceral Leishmaniasis and 87.6 % people had heard of the disease. In their findings it was found that people had favourable attitude towards Kala-Azar[2].

A similar study suggested that 97.4 % respondents were aware about the Kala Azar disease. Fever and weight loss were the commonly known symptoms. 72.8% had a misconception that Kala Azar spreads from mosquito bite. It was found that 23.6 % people gave preference to public health sector for treatment [3].

In a case-control study conducted in the highly endemic areas of Bihar. It was found that irregular spray of DDT and houses made of mud-walls and bamboos were the significant risk factors for Indian Kala-Azar[4].

Most Villagers perceived that mosquito was responsible for Kala Azar other than sand fly. Majority also failed to tell the symptoms of Kala Azar. 58% of villagers in Titaria village and 36.8% in Haraincha village used bednets as protective measure against Kala Azar[5].

Methodology

Study Area

This study was conducted in Bahadurganj Block of Kishanganj District, Bihar State, India. The total population of Kishanganj District is 17, 95,460. In this 16, 23,529 is the rural population. There are 7 Primary Health Centres (PHCs) in the district. The total population of the selected block was 2, 69,185. There are 20 Panchayats, 114 villages and 40 Health Sub-Centres (HSCs) in this block. The selected village was Sitihar. The total population of the village is 2863 in 1432 households. Major occupation is agriculture. Many people have migrated to Punjab, Assam, Maharashtra and Bengal in search of livelihood. Majority of the people speak Bengali or Surjapuri but they also understand Hindi. Surjapuri Language is common in the tribal communities of the district.

Study Design

It is a descriptive cross sectional study. A house-to-house survey with quantitative components was conducted in the Study area. Multistage sampling method was used in this study. Among the 7 blocks of Kishanganj district, the block with maximum case load in 2013 was chosen and after that the village with maximum reported cases was chosen. Likewise, Sitihar village of Bahadurganj block became my study area. IRS happens every year in the district and IEC activities regarding Kala-Azar also take place during or before the spray round. This KAP study was important to know the impact of the IEC and BCC in the community. The head of each household (preferably male heads) was interviewed through a questionnaire. If no male was available for the survey, a female head of household was interviewed. A pre-tested semi-structured interview schedule was prepared in English and was translated into Hindi.

Sample Size

The Sample size was calculated by the help of formula given below:-

$$n = [DEFF*Np(1-p)]/ [(d^2/Z^2_{1-\alpha/2}*(N-1)+p*(1-p)]$$

Population size(for finite population correction factor or fpc)(*N*): 1432

Hypothesized % frequency of outcome factor in the population (*p*):95%+/-5

Confidence limits as % of 100(absolute +/- %)(*d*): 5%

Design effect (for cluster surveys-*DEFF*): 1

By putting these values, Sample Size comes to be 70. Therefore, out of 1432 households 70 respondents were interviewed. 35 respondents from left side of the road and 35 respondents from right side of the road were chosen for the study. Simple data analysis method was used and calculations are derived in percentage.

Timeframe

The study was conducted from 27th January to 27th April, 2014.

Results

A total of 70 households were interviewed, of which 51 (73%) were male and 19 (27%) were female. The majority of respondents (18%) were 25-34 year age group followed by (18%) in the age group of 35-44. The education status indicated that 50% were illiterate and only 3% had graduated or above. 46% were dependent parents or jobless dependents, 26% were engaged in agriculture and 19% were labourer. The majority of respondents (84%) had not heard about Kala-azar. The KAP study was focused on people who had heard about Kala Azar. People who were not aware about Kala-azar were ignored.The most common cause of Kala-Azar was cited as mosquito bite (82%) and 18% has no idea at all. Fever was the most common know sign and symptom of Kala-Azar reported by 73%. About 18% respondents had no idea about the signs and symptoms of Kala-Azar.

Table 1

Distribution of Socio-Demographic characteristics of the respondents (n=70)

Characteristics	**n**	**%**
Sex		
Male	51	73%
Female	19	27%
Age (in years)		
15-24	14	20%
25-34	18	26%
35-44	18	26%
45-54	12	17%
≥55	8	11%
Education Status		
Illiterate	35	50%
Upto 5th Class	31	44%
Upto 12th Class	2	3%
Graduation & above	2	3%
Occupational Status		
Agriculture	18	26%
Labour	13	19%
Business	5	7%
Services	2	3%
Others*	32	46%

*Dependent parents or Jobless dependents

45% responded Polluted water as the breeding place of the vector and 36% did not had any idea at all. The fact that Kala-Azar is a contagious disease and can be transmitted from one person to another was reported only by 18%, 57% responded that Kala-Azar was not a contagious disease and 27% had no idea at all.

Table 2

Distribution of respondents according to their knowledge about Kala-Azar

Awareness	**n**	**%**
Awareness about Kala azar		
Aware	11	16%
Not Aware	59	84%
Awareness about the causes of Kala Azar*		
Polluted Water	0	Nil
Polluted Air	0	Nil
Mosquito Bites	9	82%
Sand Fly Bites	0	Nil
Others	0	Nil
Don't Know	2	18%
Awareness about the signs & symptoms*		
Fever	8	73%
Headache	0	Nil
Patient skin turns black	0	Nil
No appetite	0	Nil
Abdominal Pain	0	Nil
Loss of weight	1	9%
Don't know	2	18%
Awareness about the breeding place of the vector*		
Polluted Water	5	45%
Cracks and Crevices in the house	0	Nil
Garbage collection sites	0	Nil
Dark places in the house	2	18%
Don't know	4	36%
Kala Azar is an infectious disease transmitted from one person to another*		
Yes	2	18%
No	6	55%
Don't Know	3	27%

*****Multiple Responses

36% responded DDT spraying is effective in the control of Kala Azar whereas 64% had no idea at all. On being asked about the seriousness of disease as compare to malaria, 82% responded that it is more serious than malaria and 18% were not sure on its seriousness.

Table 3

Distribution of respondents according

to Kala-Azar related attitude for the control of Kala Azar (n=11)

Attitude	**n**	**%**
DDT spraying is effective in controlling KA		
Yes	4	36%
No	0	Nil
Not Sure	7	64%
Seriousness of disease as compared to malaria		
More Serious	9	82%
Equally Serious	0	Nil
Less Serious	0	Nil
Can't Say	2	18%

This study found that 82% respondent would choose primary health centre/government hospital for the treatment of Kala Azar and 18% would go to Local faith healers. 73% use bed nets as protective measure against Kala Azar and 18% don't use any measure.

Table 4

Distribution of respondents according to the use of preventive practices for control of Kala-Azar (n=11)

Practices	n	%
Choice of health service for the treatment of Kala Azar		
PHC/Government Hospital	9	82%
Private Hospital	0	Nil
Indigenous medicine	0	Nil
Local faith healers	2	18%
Can't say	0	Nil
Most popular method being practiced in your house to protect against Kala azar*		
Bed Nets	8	73%
Mosquito Repellents	1	9%
Wearing full clothes	0	Nil
Insecticide	0	Nil
Others	0	Nil
Don't use any measure	2	18%

*Multiple Responses

Table 5

Major source of Information regarding Kala azar (n=11)

Source of Information	n	%
Health Personnel	2	18%
Friends and/or neighbours	4	36%
Television	2	18%
Radio	3	27%
Newspaper	0	Nil
Magazine	0	Nil

Discussion

Language was a barrier in the conduct of the study because many people speak Bengali or Surjapuri Language. The questionnaire was in English and majority of the population was illiterate. Effective translation of the questions was a challenge. Local educated people of Sitihar village helped in translating the questions in the language best known to others. It was surprising to see that majority of people had no idea about the disease and those who had heard about the Kala Azar told that mosquito bite was the common cause behind the disease.

Many people didn't know about their correct age. The age which they told was actually based on their assumption. Few people hesitated while answering these questions because they had a fear whether the information which they had shared was saved with me or not. After an assurance it became easy to connect with them. Few people asked that how this research was helpful for them. It was told honestly that this research was being done strictly for academic purpose.

Questionnaire was kept short and simple so that people don't have to waste much time on it and they could quickly give the answers best to their knowledge.

Many field workers and superior field workers had not seen sandfly. Therefore, it was impossible for them to locate the hot-spot where sandfly could be found. During an informal conversation with the local people it was found that refusal rate was high in pucca houses.

Lack of proper sanitation, nutrition and low standard of living in people was also evident.

Conclusion

Kishanganj was a part of Purnea district till 1990. Later, it was divided from Purnea as a new district. IRS is going around in the district from almost two decades. A district where IRS to eliminate Kala-azar is going around from such a long time their majority of people don't know about it was really surprising. Literature which I have reviewed shows that people are aware about Kala Azar in Kala azar endemic regions but my research showed completely different results. Maximum people had not heard about the disease. A high level of community awareness is required to eliminate this disease. Panchayat Raj Institutions, Mukhiya, ASHA, AWW, government officials etc. will have to come together for this purpose. Kala Azar does not have any vaccine and DDT spraying is the only known effective control measure. One round of effective spraying is not enough. This process will have to be continued every year. It is important to strengthen the whole system. With proper IEC/BCC campaign, proper training and monitoring of IRS we can ensure the success of the program. Public Private Partnership model is being followed by the Government of Bihar. Care is playing a role of the development partner into this program. District Program Officer for each district has been appointed on the behalf of Care. They are responsible for all the Kala Azar related activities at the district level. They have to liason with the government and get things done for the improvement of the program. First step for the success of the program has been taken and hopefully the goal of eliminating Kala Azar from Bihar will be achieved before 2017. It is important to get an educational reform in the district because during the research it was found that many people have not received any formal education. Impact of posters and leaflets would be higher if people would know how to read it else it would be a waste.

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Appendices

Questionnaire

1. **Sex** :
   (1) Male (2)Female
2. **Age**:
   (1) 15-24
   (2) 25-34
   (3) 35-44
   (4) 45-54
   (5) ≥55
3. **Educational status**:
   (1) Illiterate
   (2) Upto 5^{th} class
   (3) Upto 12^{th} class
   (4) Graduation & Above
4. **Occupational Status**:
   (1) Agriculture
   (2) Labour
   (3) Business
   (4) Services
   (5) Others
5. **Awareness about KA**:
   (1) Aware
   (2) Not Aware

   You can tick (✓) multiple answers for below questions
6. **Causes of KA**:
   (1) Polluted Water
   (2) Polluted Air
   (3) Mosquito Bites
   (4) Sand fly Bites
   (5) Others
   (6) Don't know

7. **Signs and Symptoms of Disease**:
   (1) Fever
   (2) Headache
   (3) Patient skin turns black
   (4) No appetite
   (5) Abdominal Pain
   (6) Loss of weight
   (7) Don't know
8. **Awareness about the breeding place of vector:**
   (1) Polluted Water
   (2) Cracks and Crevices in the house
   (3) Garbage collection sites
   (4) Dark places in the house
   (5) Don't know
9. **KA is an infectious disease, transmitted from one person to another:**
   (1) Yes
   (2) No
   (3) Don't know
10. **Measures to protect against KA:**
   (1) Use of mosquito nets
   (2) Keep surroundings clean
   (3) Use of mosquito repellents/ lotion
   (4) Other methods
   (5) Isolation from patients
   (6) Don't know
11. **DDT spraying is effective in controlling KA**
   (1) Yes
   (2) No
   (3) Not sure
12. **Seriousness of disease as compared to malaria:**
   (1) More Serious
   (2) Equally Serious
   (3) Less Serious
   (4) Can't say

13. Choice of health service for the treatment of KA:

(1) Primary health centre/Government Hospital

(2) Private Hospital

(3) Indigenous medicine (please specify)

.....

(4) Local faith healers

(5) Can't say

14. Source of information about KA:

(1) Health Personnel

(2) Friends and/or neighbours

(3) TV

(4) Radio

(5) Newspaper

(6) Magazine

15. Most popular method being practiced in your house for the protection against KA

(1) Bed Nets

(2) Mosquito Repellents

(3) Wearing full clothes

(4) Insecticide

(5) Others.....

(6) Don't use any measure