KAP(Knowledge Attitude ,practice) study about type 2 Diabetes among Rural population in Eastern Bihar

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AIMS: To evaluate diabetes awareness among urban population of Purnea Eastern Bihar.
BACKGROUND: Knowledge Awarnees &Practice data among general population of India is not much .As Diabetes is emerging as future medical Psunami diabetes knowledge &Practice are very essential to manage DM &their complication so that mortality &Morbidity can be decreased now &In Future .   METHODS: A questionnaire based descriptive cross sectional study was performed during between 1 sep to 30sep2018 among Urban population visting a Urban health center Purnea eastern part of bihar . Descriptive and inferential statistics were applied using the By using Survey online calculator(https://www.surveysystem.com/sscalc.htm) .
RESULTS: The overall knowledge score in both DM&Non DM subjects were   GOOD in Rural population.Where as Attitude score were AVERAGE in both DM&Non DM subjects . Practice score were AVERAGE in both DM&Non DM subjects.. CONCLUSIONS: Majority of our study population had adequate awareness regarding diabetes. However, lack of awareness was observed among illiterate, poor and rural participants that indicated the immediate need of diabetes awareness programs for these participants.

I.   Introduction

D iabetes Mellitus (DM) is one of the major fast growing non communicable disease (NCD)and also threat to global public health .Diabetes mellitus was first described in India in the ancient texts of Charaka and Sushruta (1500 BCE)(1) Since then, the disease has gradually evolved into a major public health problem. This development has been especially rapid since the 1990s and is strongly related to lifestyle changes brought by economic transition, industrialization, and globalization. The burgeoning epidemic of diabetes places a huge burden on individuals and families, represents a drain on health resources, and threatens to derail the productivity Growth &development of the nation .The United nations(UN) resolution in 2007 confirmed Diabetes meliitus as a significant global public health issue .(2) WHO has studied that 80% of death due to diabetes &its complication is in middle & low income group population . Nowdays India is considered diabetic capital of the world with estimate 72 million sufferer in age group between 20to 79 from this dreaded disease.IDF has further estimated that in 2030 the number will cross 100millions and in 2045 highest number of diabetes in the world will be in india.(4) Knowledge plays a vital role in any future disease development & its early prevention &detection.Positive knowledge Attitude and Practice (KAP) are important for DM patients ,elements of KAP are interrelated &dependant on each other .If one elements is higher ,the other two factor should be affected positively .KAP regarding diabetes vary greatly depending on socio economic conditions,cultural beliefs &habits(5). Knowledge of Diabetes can prevents the imminent chronic comorbidies of DM which impacts significantly on the quality of life of the diabetic patients .Information can help people to assess their risk of diabetes ,motivate them to seek proper treatment and care ,and inspire them to take the charge of their disease for their life time(5) .In India Many studies have been done on knowledge about diabetes among diabetes population (6) but virtually on literature search I find a few studies which cover knowledge about diabetes of whole population particularly in rural population (7).Although nowdays Rural Urban Gap is decreasing but still there is wide gap between rural &urban health care in our country .Rural health care is still in infancy &Rural population have poor access to the health facility so this is the main barrier to combats this deadly disease in rural india.As Diabetes management needs Multidisciplinary approach, rural population is most vulnerable to its complication their by death &disability .This study will focus on to access the level of awareness &knowledge of diabetes in general as well as in diabetic population among rural population .Still many myth &misconception are prevelant in population particularly regarding diabetes .Besides diabetes population there is need to investigate KAP level among population too living with diabetes to aid in future

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development of programmes &techniques for effective health education . Now days knowledge have been flooded across rural population from expanding internet sevice this study will also answer indirectly does it have any impact on positive KAP (Knowledge ,Attitude and practice)among population ?

Aims &Objectives : The present study was planned with the aim to determine the level of KAP about T2DM among Urban population including both diabetic &Non Diabetic patients of Purnea Districts of Bihar .

II.   Methods

The survey was conducted from 1 sept to 30 sept (Total 25OPD)2018.It was a cross sectional study conducted at one location at URBAN   HEALTH CENTER PURNEA   BIHAR &.Age of participients was between 20 to 79 yr &includes Diabetic &non diabetics population with consideration of inclusive &Exclusive criteria.The institutional Ethics committee clearance was duly sought before the conduct of study . Exclusively URBAN   Population mean is person residing in URBAN(admnistrative) location   .**Definition of Not Diabetics** :Person who have not known or diagnosed according to WHO criteria in clinical setup or any camp . **Definition of Diabetics** :Person who have been Dignosed according to WHO criteria in any clinical setup . Any one of the following (1) Symptom of diabetes +Random Blood Sugar >200mg/dl (any time irrespective of Food) (2) Fasting blood sugar >126mg/dl(Fasting means no calorie intake for 8hr) 2hr plasma glucose during OGTT>200mg/dl(OGTT according to WHO criteria)

Sample Size calculation
SAMPLE SIZE $= Z\,2*(p)*(1\text{-}p)\,/C2$
Where: Z = Z value (e.g. 1.96 for 95% confidence level) p = percentage picking a choice, expressed as decimal (.5 used for sample size needed) c = confidence interval, expressed as decimal Target Population 5000 Confidence level 95% Confidence interval.
 By using Survey online calculator(https://www.surveysystem.com/sscalc.htm) I got Sample Size
357
TOTAL OPD day from 1 sep to 30sep was 25days
So Each opd day 16 pt was selected with consideration of inclusive &exclusive criteria

Inclusion Criteria for Rural population(1) Exclusively Rural population
(2) Age between 20 to 79 yr(3) Not participated in this test previously
Exclusive Criteria Rural Population(1)Donot meet inclusive criteria
(2) Not willing to participate or unable to understand questionnaire
KAP questionnaire
The questions relevant to KAP in the questionnaire were derived from the validated instruments: (i)Knowledge and Awareness of Diabetes Questionnaire developed for the Chennai Urban Rural
Epidemiology Study(8) (ii) AusDiab Health Knowledge, Attitudes and Practices Questionnaire 99/00 (14) (iii) KAP construction guides and .(iv) one of the authors clinical experiences of   practice more than 12yr .
A list of questionnaire about knowledge about different aspects of diabetes include proper knowledge about diabetes myth &misconception about diabetes management is prepared for diabetics &nondiabetics separately .The Question was in hindi ..Among Diabetes questionnaire serial no 1,2,3,4 were to access the knowledge about diabetes ,Among diabetes serial no 5,6 question were to access attitude about diabetes ,&question no7,8,9,10 were to access about practice among diabetes.Among 10 Non Diabetics questionnaire 1,2,3,4 6 were to access knowledge the of diabetes among Non diabetes 8,9,10,question were to access attitude about diabetes among Non diabetes &question 5.7 were to access practice about among Non diabetes.

DIABETICS QUESTIONNAIRE
1 What is the value of normal blood sugar level   **(1)60mg to 120mg/dl(2) 80 to140mg/dl(3)180mg/dl (4)<200mg/dl**
2 How do you know your sugar level is not controlled **(1)symptom like increase urination giddiness increase sleepiness(2)Regular check up(3)Not Know**
3. What are the symptom of hypoglycemia
(1)Increase urination (2)giddiness sleepiness specially after Food (3)sudden onset of   palpitation sweating restlessness (4)None Of these (5)Not know
4 Does diabetes causes blindness
    (1) Yes(2)No(3)Not know
(5) Does diabetic should not eat food like Rice sugar Potato etc
    (1) Yes(2)No(3)Not know
(6) Does increase level of sugar(>400Mg/dl) is an emergency**(1) Yes(2)No(3)Not know**
(7) Is Insulin is a last resort ?Should we avoid it ?

(1) Yes(2)No(3)Not know

(8) Do Insulin have addiction

    (1) Yes(2)No(3)Not know

(9) Do Diabetics who is taking medicine donot need dietary Restriction

    (1) Yes(2)No(3)Not know

(10) Do those taking much sugar have increase risk of Diabetes

    (1) Yes(2)No(3)Not know

 NON DIABETICS QUESTIONNAIRE

1 Do you aware that number of T2DM is increasing around you

    (1) Yes(2)No(3)Not know

(2) According to you what is the reason of increase no of Diabetes

    (1)Obesity (2)Stress (3)hereditary (4)increase sugar consumption (5)Change in life style

(3) Earliast symptom of Diabetes

    (1)frequent urination (2)wound not healing (3)Sudden Loss of weight (4)No specific symptom only by Regular check up

(4) Can diabetes be prevented

     (1) Yes (2)No (3)Not know

(5) Is Exercise helpful in controlling diabetes

    (1) Yes (2)No (3)Not know

(6) Majority of reason of Diabetes is due to hereditary?

    (1) Yes(2)No(3)Not know?

(7) Does diabetic should not eat food like Rice sugar Potato etc

    (1) Yes(2)No(3)Not know

(8) Which age is mostly effected by Diabetes

    (1)<40yr(2)>40yr(3)any age

(9) Which organ is effected by diabetes

    (1)liver(2)kidney(3)nerve(4)Any organ system

(10) Does person who eat more sugar are prone to diabetes

     (1) Yes(2)No(3)Not know?

KAP scoring is done 1 marks for correct response &0 marks to incorrect response in both diabetic&non diabetic questionaare.Upto 30% is marked as POOR, 30 TO 50% AVERAGE 50 TO 75% GOOD

Correct Answer of the KAP QUESTIONNARE

Non Diabetics questionnaire

1	2	3	4	5	6	7	8	9	10
1	5	4	1	1	2	2	2	4	2

Diabetics questionnaire

1	2	3	4	5	6	7	8	9	10
2	2	3	1	2	1	2	2	2	1

III. Results

Data Analysis

For total 357 participants with mean age 46+-14yr .Among them there were Male preponderance(73%) . Education of majority were th Above matriculation (10th) .14% were smoker

Table 1: Characteristics of the study subjects

Age	**Below 35** 108(30%)	**Above 35** 249(70%)
Sex	**Male** **261(73%)**	**Female** **96 (27%)**
Education level	**Upto Matriculation** **145(40%)**	**Above matriculation** **212 (60%)**
Smoker	**NO** **305(86%)**	**YES** **52(14%)**
H/O Diabetes	**No**	**Yes**

	289(81%)	68(19%)

RESULT OF THE STUDY
DATA ANALYSIS
KAP Level About Diabetes among URBAN population

Table 2: Knowledge score among Diabetics in URBAN Population in the study

QUESTION to access Knowledge Score	
1.What is the normal Blood sugar level in blood	AVERAGE
2. How do you know your sugar level is controlled	AVERAGE
3. What is the symptoms of hypoglycemia	GOOD
4 .Does diabetes causes Blindness	GOOD

Overall Knowledge Score in URBAN Population is GOOD

Table 3:Attitude score among Diabetetic in Rural Population in the study

QUESTION to access Attitude	Score
5. Does diabetic should not eat food like Rice ,sugar .Potato etc	AVERAGE
6. Does increase level of sugar (more than 400mg /dl) is an emergency	AVERAGE

Overall Attitude Score in URBAN population is AVERAGE 2

Table 4:Practice score among Diabetic in Rural Population in the study

QUESTION to access Attitude	Score
8Which age is mostly affected by Diabetes	AVERAGE
9Which organ is most affected by Diabetes	AVERAGE
10Does person eat more sugar are prone to Diabetes	AVERAGE

Overall Practice Score in URBAN population is AVERAGE

Table 5; Knowledge score among Non Diabetetic in Rural Population in the study

QUESTION to access Knowledge	Score
(1)Do you aware that no of Diabetes is increasing around you	GOOD
(2)According to you what is reason of increase no of Diabetes	AVERAGE
(3)Earliest Symptoms of Diabetes	POOR
(4)Can diabetes be prevented	GOOD
(6)Majority of reason of diabetes is due to hereditary	AVERAGE

Table 6: Attitude score among Non Diabetetic in Rural Population in the study

QUESTION to access Attitude	Score
Which age is most affected by Diabetes	AVERAGE
Which organ is affected in diabetes	POOR
Does person who eat more sugar prone to diabetes	AVERAGE

Overall Attitude Score Among Non Diabetics in Rural population is AVERAGE

Table 7:Practice score among Non Diabetetic in Rural Population in the study

QUESTION to access Knowledge Score	
Is exercise helpful in controlling Diabetes	EXCELLENT
Does Diabetic should not eat food like Rice Sugar ,Potato	AVERAGE

Overall Practice Score Among Non Diabetics in Rural population is AVERAGE

IV.   Discussion

In the present study the participants' knowledge was assessed based on their understanding about Diabetes which included the causes, risk factors, symptoms, complications and treatment options. The diabetes related knowledge level in both DM& nonDM subjects were found to be AVERAGE in Rural population .This

result is differ from a study done by Dr S K raina et al published in Indian Journal of Community Health issue03 july sep 2015(5).This study had concluded that Good knowledge score in Rural population of RS Pura Jammu North India. Present study was also different from study from western Nepal (11) which shows poor level of knowledge among the rural population .But results of Present study was similar to the study done at Bangaldesh(12) in Rural population which concluded that rural population had fair average knowledge about diabetes . The outcome of the study reflects the average level of training they received and the availability of information of diabetes . One possible reason for failure to answer questions correctly may reflect not just poor knowledge but also substantial misconceptions surrounding issues like incurability of diabetes, the use of sweets by diabetics etc .Among Non Diabetics although good number have view that pandemic of DM is spreading to his surrounding but have poor knowledge about the cause.This should be taken as alarming sign as they know that danger are at hand but poor in identifying the reason ..Among diabetics participents about answer of question of Normal blood sugar level ,symptoms&sign of hypoglycemia and about monitering Shows poor score ..This study also shows that Rural Diabetics are more prone to complication his knowledge level about monitoring the disease is poor .Diabetes knowledge awareness particularly in Rural population is urgent need of this time .

.In this study Attitude toward DM is POOR in participants among DM .The question were related to types of diet &about preparedness towards emergency situation.This shows still there is age old concepts in the mind about the disease inspite the many progress in the pathophsiology of the disease .The Attitude towards DM in NonDM were POOR in Rural participants .This is a warning sign for the policymakers of our country .A study in shaurastra Gujrat (9) has shown that there is strong relationship between good diabetic knowledge of care giver &control of DM and its complications.There is need of a national Diabetes education programme which not just enrich the knowledge but at same time disproving the myth &misconceptions prevelant in the society so that positive attitude about diabetes can be made .

The result of practice related question in DM participants were AVERAGE in Rural population..The score of question related to Insulin were Poor in participants .This results shows how extent the myth &misconception are prevalent in the society

about insulin .Diet Related practice was also poor among DM..The results of this study is as par as study(10)cross sectional study conducted at Urban Health center at Ariankuppam,Pondicherry by Dr Raj kumar patil et al Associate ProfesorMG medical college

&Research center Pondicherry which concludes that myth & misconception is one of the barriers in the way of diabetes management &preventing its complications.

V. Conclusions

Regarding self-care practices, it should be a matter of concern that knowledge about diabetic in Rural participants are Average in this area, meaning that only a minority group do exercise, monitor their blood glucose and follow the dietary advice regularly. . The majority of respondents in Rural area are aware of behavioural practices, including increasing exercise but have POOR knowledge about dietary practice. . As International Diabetic Federation (7) has estimated that india will have highest number of diabetes in the world in 2030 there is urgent need for a coordinated Diabetic educational campaigns with a prioritized focus on Rural Populations. . **Recommendation**
Scietific &Practical approach should be applied to disapprove the Myth &Misconception prevalant in the society so that Attitude towards diabetes should be on Postive side.

Media and Non Government Organisation should be involved in the daunting task of removing misbelieves, ignorance and instituting diabetes preventive measures in the community.

Rural care physician&Health care giver should be enriched with more knowledge by
CME and other programmes .

Limitations of the study
One potential drawback in the current study is a single location data collrction so authors recommend more studies in different locations to make results truly representative at national level .

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Authors Contribution
All Authors have contributed equally

References

[1].   Parivallal T. Diabetes in Ancient India. In: Mohan V, Rao Gundu HR, eds. Type 2 diabetes in South Asians: epidemiology, risk factors and prevention. New Delhi: Jaypee Brothers Medical Publishers; 2007, 1–19

[2].   Global Report on Diabetes 2014WHO Excutive summary Globle Burden WHO :Global status report on non communicable disease2014

[3].   Global prevalence of diabetes estimates for the the year 2000&projection for 2030 Diabetes care 2004

[4].   th (4)IDF Diabetes Atlas 7 edition Global Burden

[5].   Moodley L, Rambiritch V. An assessment of the level of knowledge about diabetes mellitus among diabetic patients in a primary healthcare setting. South African Family Practice. 2007;49(10):16- 16d.

[6].   Reza JN, Heel Dv, Chowdhury T, Wragg. A: Diabetes and heart disease in Bangladeshis and Pakistanis. In. Queen Mary University of London: http:// www.mantaraymedia.co.uk/. 2014. Accessed 15 Apr 2015.

[7].   Assessing the knowledge attitude &practice among Type 2 diabetes among saurastra region Gujrat BY V N Shah ,P K Kamdar &Nishit Shah International journal of diabetes in developing country 2009 jul aug

[8].   Awareness and Knowledge of Diabetes in Chennai -The Chennai Urban Rural Epidemiology Study[CURES - 9]Deepa Mohan*, Deepa Raj*, CS Shanthirani*, Manjula Datta**, NC Unwin***,A Kapur+, V Mohan*

[9].   Relationship between care giver knowledge on glycemic outcome in young person with diabetes BY Stallwood L university of Colorado at Denever and health science center '

[10].   Popular Misconceptions regarding the Diabetes Management :Where should we focus our attention.Rajkumar patil et al MG medical college &Research center

[11].   Gupta RK, Shora TN, Jan R, Raina SK, Mengi V, Khajuria V. Knowledge, Attitude and Practices in Type 2 Diabetes Mellitus Patients in Rural Northern India. Indian J Community Health [Internet]. 2015Sep.30 [cited 2020Jul.4];27(3):327-33. Available from: https://www.iapsmupuk.org/journal/index.php/IJCH/article/view/579

[12].   Upadhyay DK, Palaian S, Shankar PR Mishra P. Knowledge, Attitude and Practice among Diabetes Patients in Western Nepal. Rawal Med J 2008;33:8-11

[13].   Islam FM, Chakrabarti R, Dirani M, Islam MT, Ormsby G, Wahab M, Critchley C, Finger RP. Knowledge, attitudes and practice of diabetes in rural Bangladesh: the Bangladesh Population based Diabetes and Eye Study (BPDES). PLoS One. 2014 Oct 14;9(10):e110368.   doi: 10.1371/journal.pone.0110368. eCollection 2014. PubMed PMID: 25313643; PubMed Central PMCID: PMC4196995.[PubMed

[14].   https://www.researchgate.net/profile/Mohamed_Hammad11/post/Can_anyone_help_with_knowledge_attitude_and_practice_KAP_ in_diabetes/attachment/59d6296079197b8077987e03/AS%3A335205522001920%401456930632572/download/AusDiab_Health_ Knowledge%2C_Attitudes_and_Practices_Questionnaire_04_05.pdf.