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AWARENESS AND KNOWLEDGE ABOUT DEHYDRATION AND FLUID INTAKE PRACTICE AMONG GENERAL POPULATION IN INDIA

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ABSTRACT

This cross-sectional study was conducted among general population in India. Total number of participants was 147. Among them 53% were female and 47% were male. 54% of the participants drank 4 to 6 glasses of water per day. 91% of them take a bottle of water at their workplace. 36% of the participants reported about their source of knowledge from parents/ relatives/ friends. There are some factors linked with water intake some complex mechanisms behind water homeostasis and the effect of water intake on health.

KEYWORDS: water, Hydration, Dehydration, water intake.

INTRODUCTION

Water is essential for life from the time that primeval species ventured from the oceans to live on land, a major key to survival has been prevention of dehydration.[1] Water is a vital component of all living cells and extracellular fluids. Water acts as a solvent, regulates body temperature, and helps in food digestion and regulation of acid-base balance.[2] Hypohydration is defined as a body water deficit caused by acute or chronic dehydration.[3] Recognising the difficulty of diagnosing dehydration that it is typically due to underlying disease processes and that it can develop very rapidly.[4]

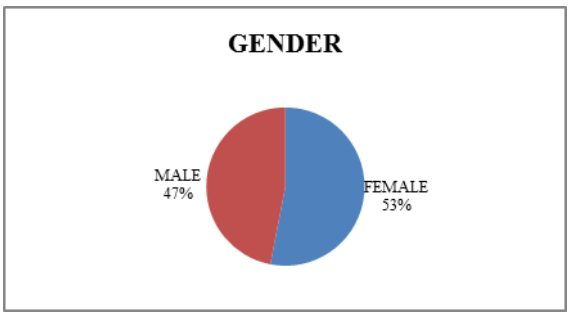
MATERIALS AND METHODS

This cross-sectional study was conducted by administering a pre validated questionnaire via Google forms to the participants whose age is 18 years and above, of either gender. The statistical evaluation was done.

RESULTS AND DISCUSSION

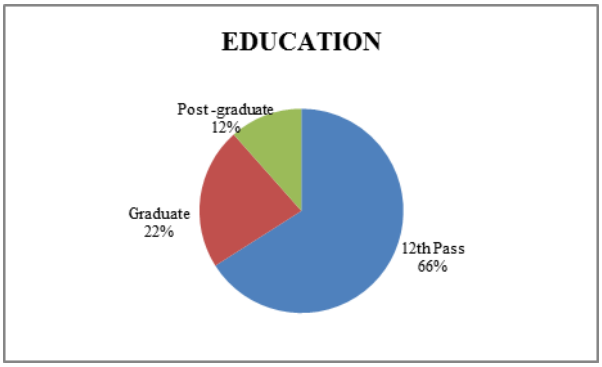
1. GENDER

GENDER	NUMBER OF PARTICIPANTS	PERCENTAGE
FEMALE	78	53%
MALE	69	47%
TOTAL	147	100%



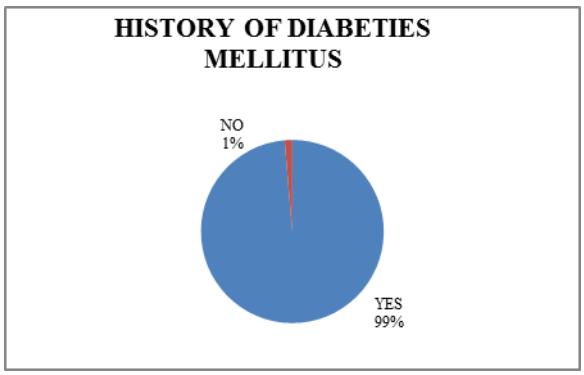
2. EDUCATION

EDUCATION	NUMBER OF PARTICIPANTS	PERCENTAGE
12th Pass	97	66%
Graduate	33	22%
Post -graduate	17	12%
Grand Total	147	100%



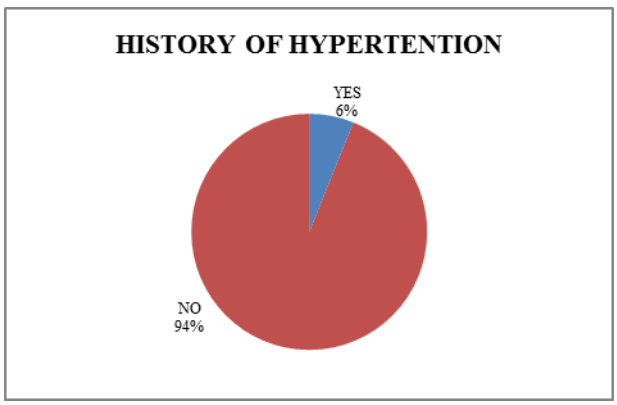
3. HISTORY OF DIABITIES MELLITUS

HISTORY OF DIABITIES MELLITUS	NUMBER OF PARTICIPANTS	PERCENTAGE
YES	145	99%
NO	2	1%
TOTAL	**147**	**100%**



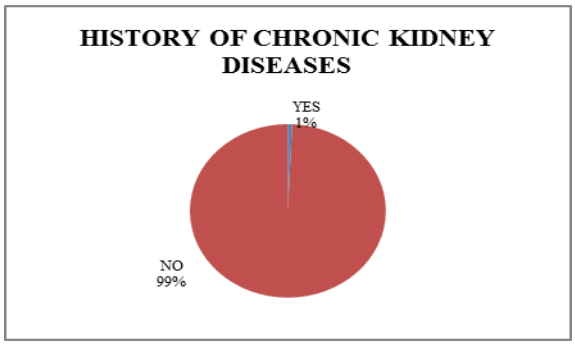
4. HISTORY OF HYPERTENSION

HISTORY OF HYPERTENSION	NUMBER OF PARTICIPANTS	PERCENTAGE
YES	9	6%
NO	138	94%
TOTAL	147	100%



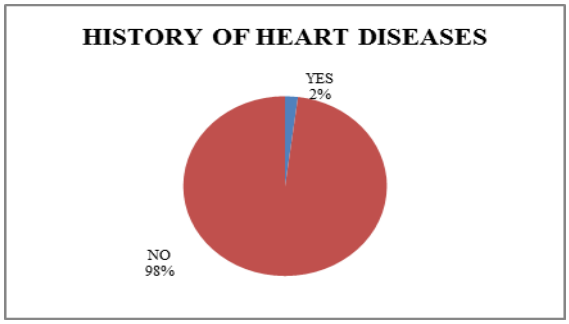
5. HISTORY OF CHRONIC KIDNEY DISEASES

HISTORY OF CHRONIC KIDNEY DISEASES	NUMBER OF PARTICIPANTS	PERCENTAGE
YES	1	1%
NO	146	99%
TOTAL	147	100%



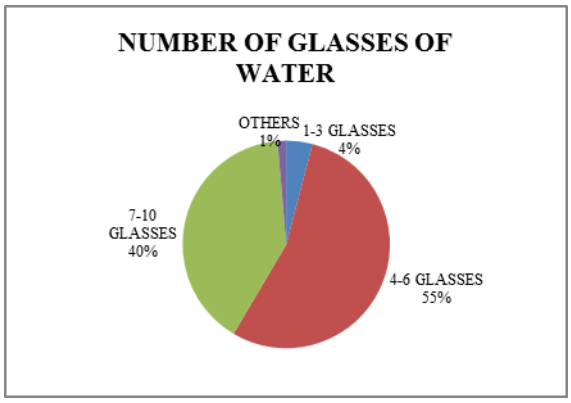
6. HISTORY OF HEART DISEASES

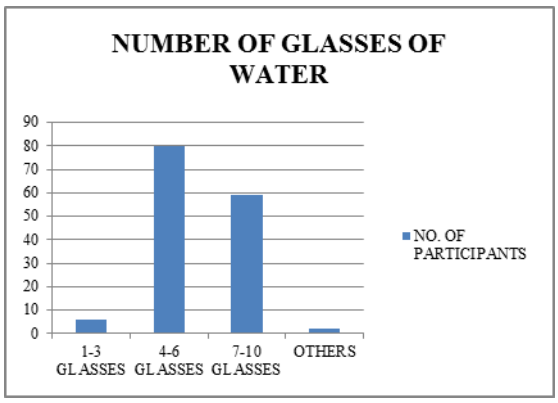
HISTORY OF HEART DISEASES	NUMBER OF PARTICIPANTS	PERCENTAGE
YES	3	2%
NO	144	98%
TOTAL	147	100%



7. NUMBER OF GLASSES OF WATER

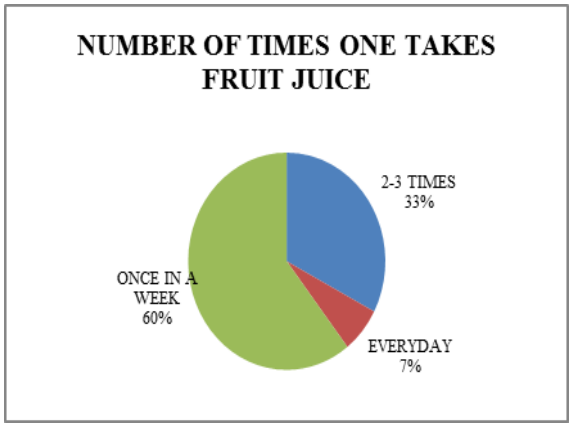
NUMBER OF GLASSES OF WATER	NUMBER OF PARTICIPANTS	PERCENTAGE
1-3 GLASSES	6	4%
4-6 GLASSES	80	54%
7-10 GLASSES	59	40%
OTHERS	2	1%
TOTAL	147	100%

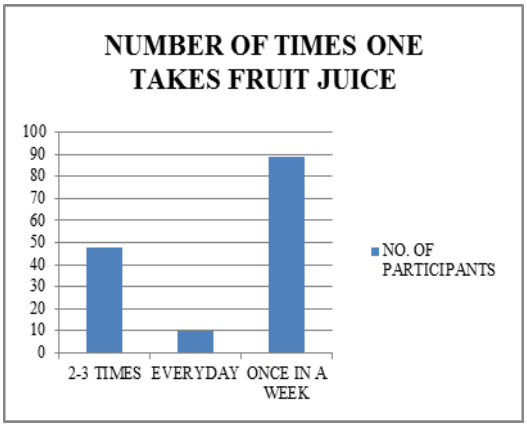




8. NUMBER OF TIMES ONE TAKES FRUIT JUICE

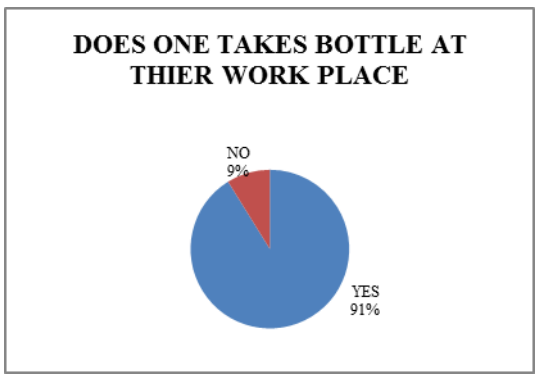
NUMBER OF TIMES ONE TAKES FRUIT JUICE	NUMBER OF PARTICIPANTS	PERCENTAGE
2-3 TIMES	48	33%
EVERYDAY	10	7%
ONCE IN A WEEK	89	61%
TOTAL	147	100%

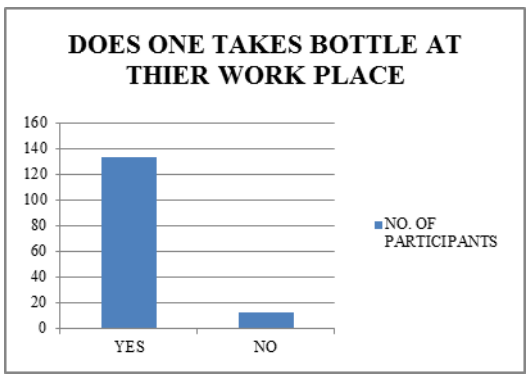




9. DOES ONE TAKES BOTTLE AT THIER WORK PLACE

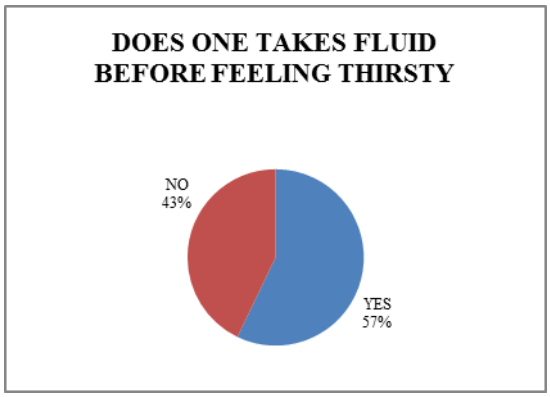
DOES ONE TAKES BOTTLE AT THIER WORK PLACE	NUMBER OF PARTICIPANTS	PERCENTAGE
YES	134	91%
NO	13	9%
TOTAL	147	100%

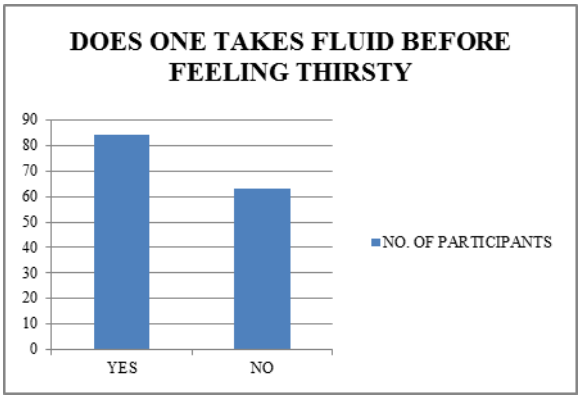




10. DOES ONE TAKES FLUID BEFORE FEELING THIRSTY

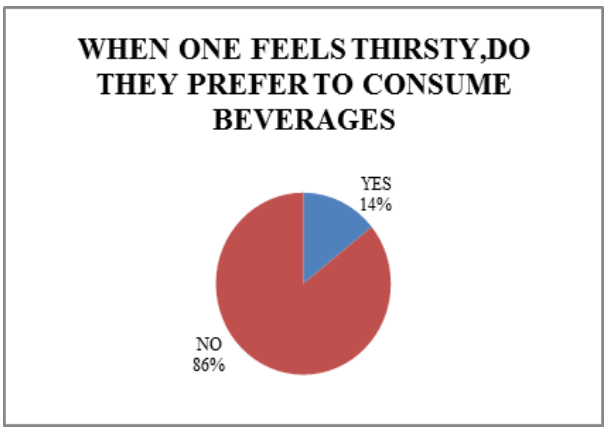
DOES ONE TAKES FLUID BEFORE FEELING THIRSTY	NUMBER OF PARTICIPANTS	PERCENTAGE
YES	84	57%
NO	63	43%
TOTAL	147	100%

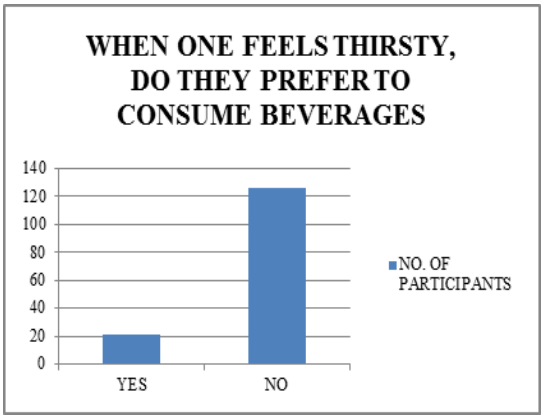




11. WHEN ONE FEELS THIRSTY, DO THEY PREFER TO CONSUME BEVERAGES

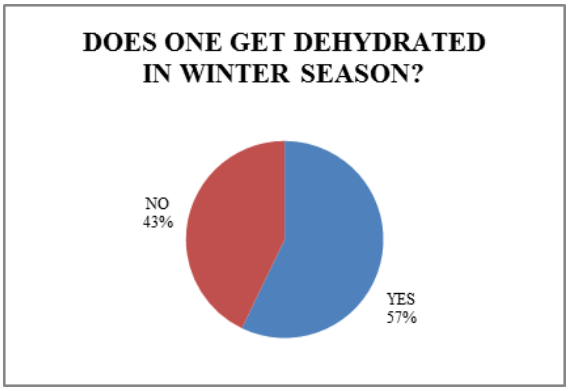
WHEN ONE FEELS THIRSTY, DO THEY PREFER TO CONSUME BEVERAGES	NUMBER OF PARTICIPANTS	PERCENTAGE
YES	21	14%
NO	126	86%
TOTAL	147	100%

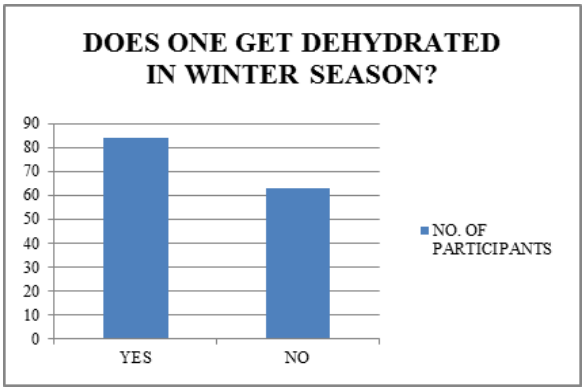




12. DOES ONE GET DEHYDRATED IN WINTER SEASON?

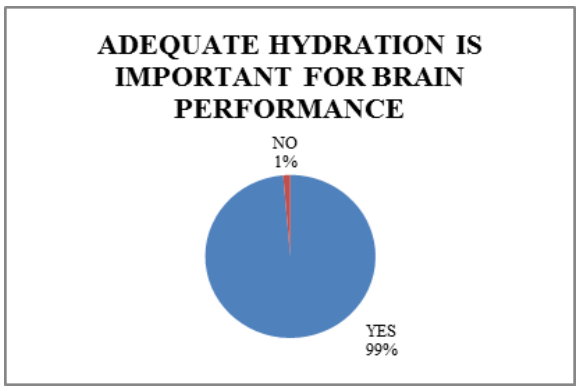
DOES ONE GET DEHYDRATED IN WINTER SEASON?	NUMBER OF PARTICIPANTS	PERCENTAGE
YES	84	57%
NO	63	43%
TOTAL	147	100%

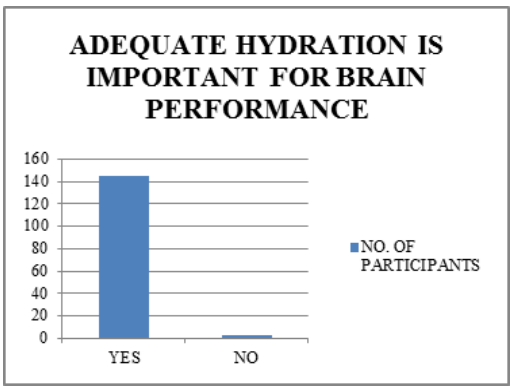




13. ADEQUATE HYDRATION IS IMPORTANT FOR BRAIN PERFORMANCE

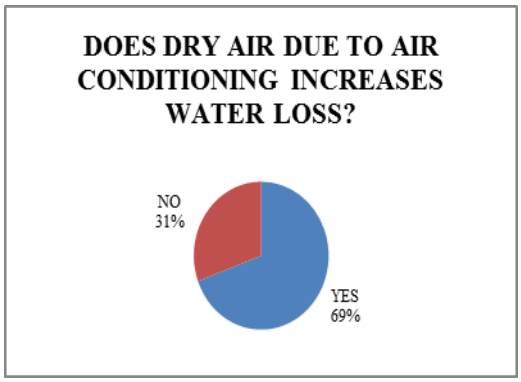
ADEQUATE HYDRATION IS IMPORTANT FOR BRAIN PERFORMANCE	NUMBER OF PARTICIPANTS	PERCENTAGE
YES	145	99%
NO	2	1%
TOTAL	147	100%

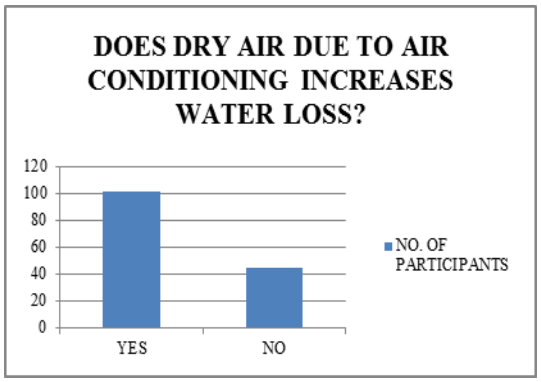




14. DOES DRY AIR DUE TO AIR CONDITIONING INCREASES WATER LOSS?

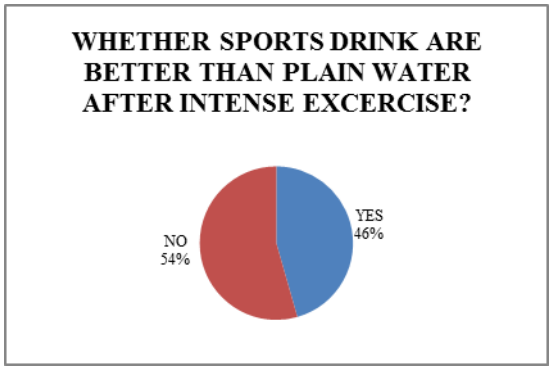
DOES DRY AIR DUE TO AIR CONDITIONING INCREASES WATER LOSS?	NO. OF PARTICIPANTS	PERCENTAGE
YES	102	69%
NO	45	31%
TOTAL	147	100%

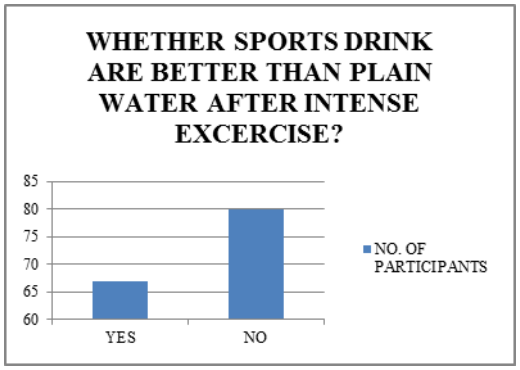




15. WHETHER SPORTS DRINK IS BETTER THAN PLAIN WATER AFTER INTENSE EXCERCISE?

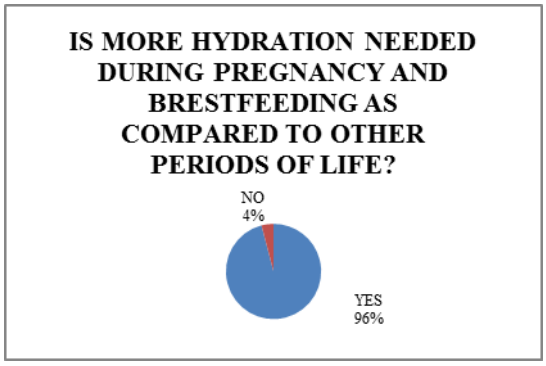
WHETHER SPORTS DRINK ARE BETTER THAN PLAIN WATER AFTER INTENSE EXCERCISE?	NUMBER OF PARTICIPANTS	PERCENTAGE
YES	67	46%
NO	80	54%
TOTAL	147	100%

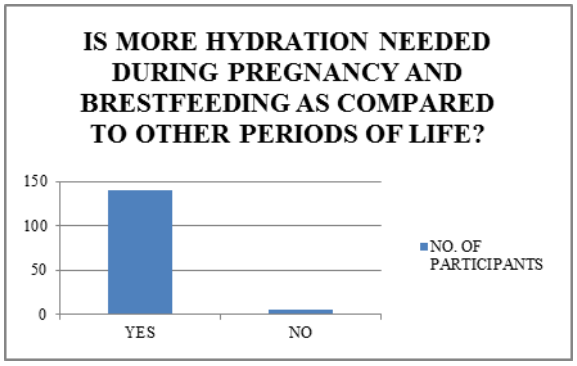




16. IS MORE HYDRATION NEEDED DURING PREGNANCY AND BRESTFEEDING AS COMPARED TO OTHER PERIODS OF LIFE?

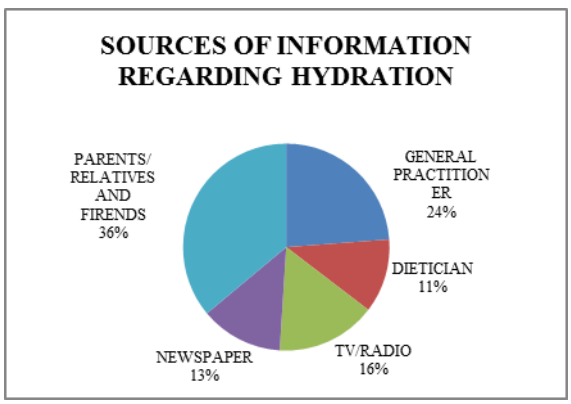
IS MORE HYDRATION NEEDED DURING PREGNANCY AND BRESTFEEDING AS COMPARED TO OTHER PERIODS OF LIFE?	NUMBER OF PARTICIPANTS	PERCENTAGE
YES	141	96%
NO	6	4%
TOTAL	147	100%

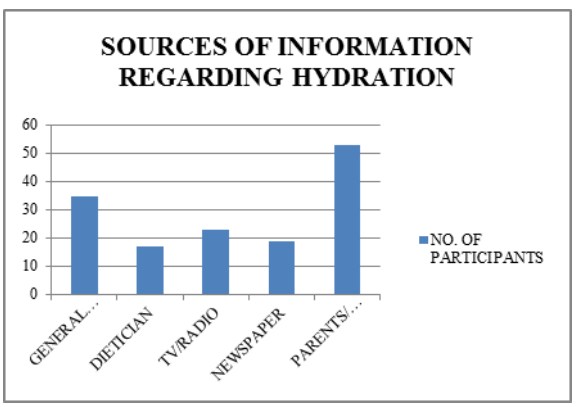




17. SOURCES OF INFORMATION REGARDING HYDRATION

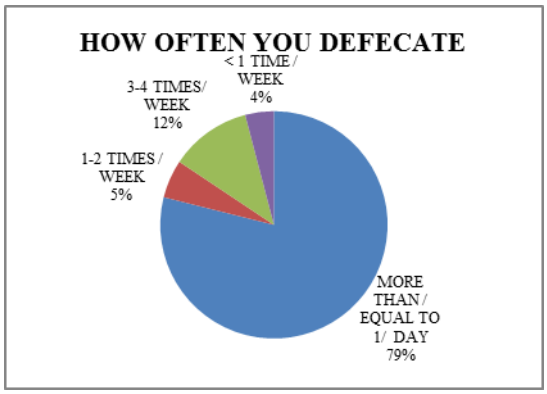
SOURCES OF INFORMATION REGARDING HYDRATION	NUMBER OF PARTICIPANTS	PERCENTAGE
GENERAL PRACTITIONER	35	24%
DIETICIAN	17	12%
TV/RADIO	23	15%
NEWSPAPER	19	13%
PARENTS/ RELATIVES AND FIRENDS	53	36%
TOTAL	147	100%

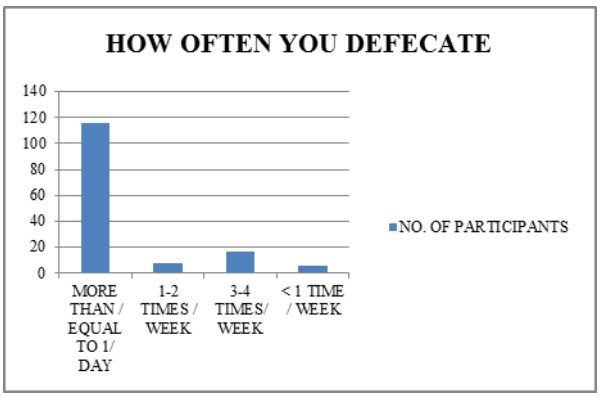




18. HOW OFTEN YOU DEFECATE

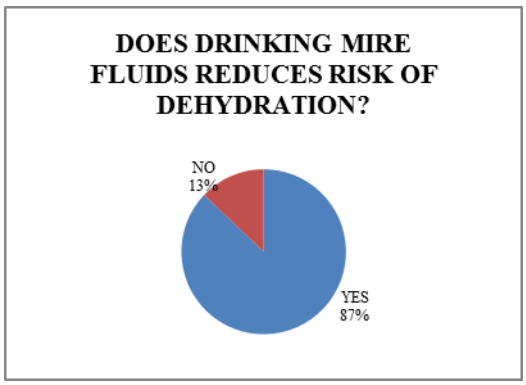
HOW OFTEN YOU DEFECATE	NUMBER OF PARTICIPANTS	PERCENTAGE
MORE THAN / EQUAL TO 1/ DAY	116	79%
1-2 TIMES / WEEK	8	5%
3-4 TIMES/ WEEK	17	12%
< 1 TIME / WEEK	6	4%
TOTAL	147	100%

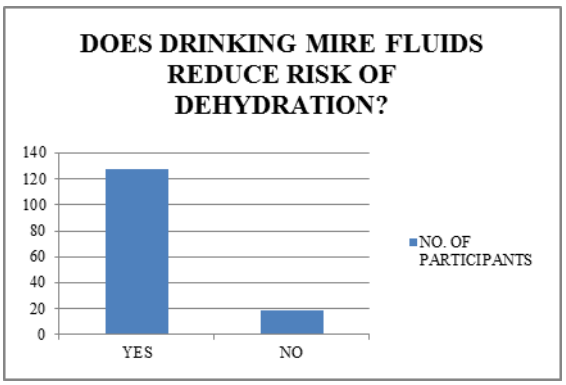




19. DOES DRINKING MIRE FLUIDS REDUCE RISK OF DEHYDRATION?

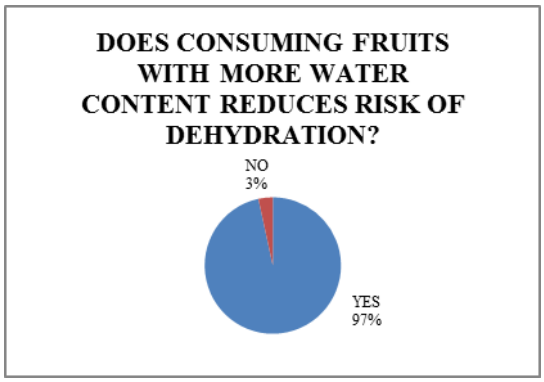
DOES DRINKING MIRE FLUIDS REDUCE RISK OF DEHYDRATION?	NUMBER OF PARTICIPANTS	PERCENTAGE
YES	128	87%
NO	19	13%
TOTAL	147	100%

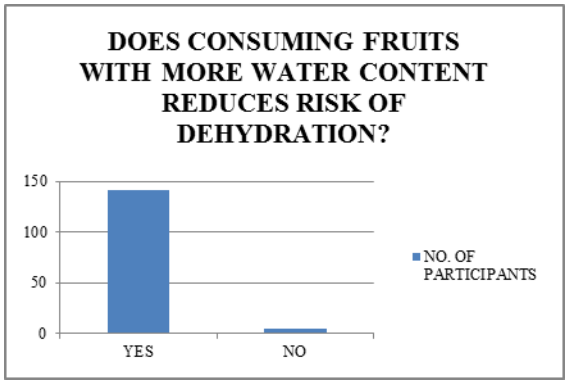




20. DOES CONSUMING FRUITS WITH MORE WATER CONTENT REDUCES RISK OF DEHYDRATION?

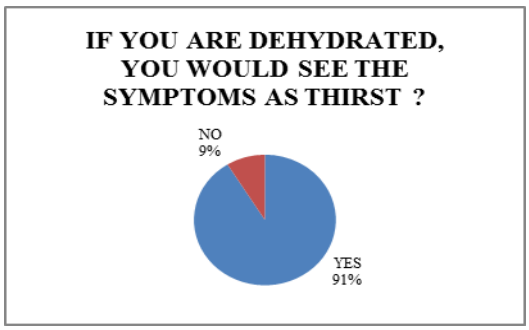
DOES CONSUMING FRUITS WITH MORE WATER CONTENT REDUCES RISK OF DEHYDRATION?	NUMBER OF PARTICIPANTS	PERCENTAGE
YES	142	97%
NO	5	3%
TOTAL	147	100%

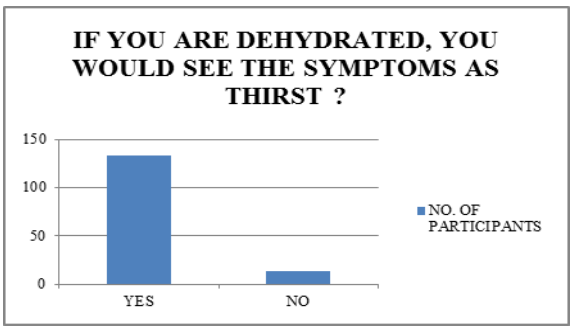




21. IF YOU ARE DEHYDRATED, YOU WOULD SEE THE SYMPTOMS AS THIRST?

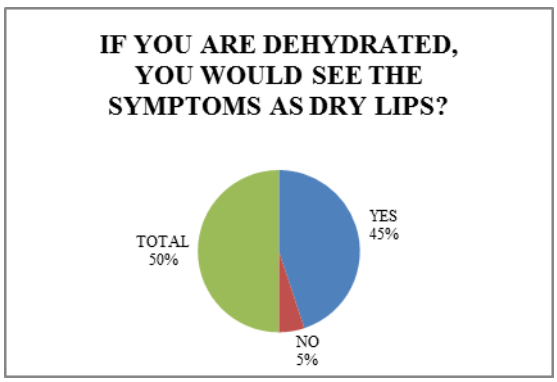
IF YOU ARE DEHYDRATED, YOU WOULD SEE THE SYMPTOMS AS THIRST?	NUMBER OF PARTICIPANTS	PERCENTAGE
YES	134	91%
NO	13	9%
TOTAL	147	100%

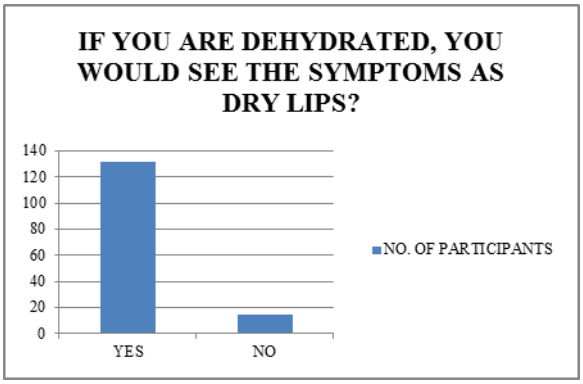




22. IF YOU ARE DEHYDRATED, YOU WOULD SEE THE SYMPTOMS AS DRY LIPS?

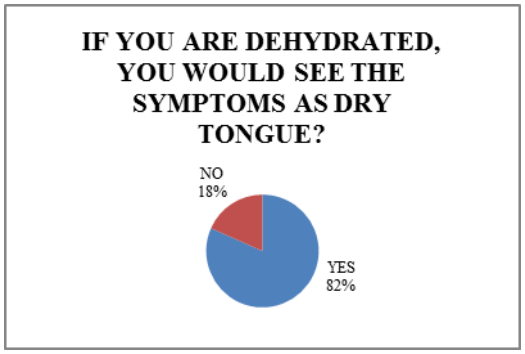
IF YOU ARE DEHYDRATED, YOU WOULD SEE THE SYMPTOMS AS DRY LIPS?	NUMBER OF PARTICIPANTS	PERCENTAGE
YES	132	90%
NO	15	10%
TOTAL	147	100%

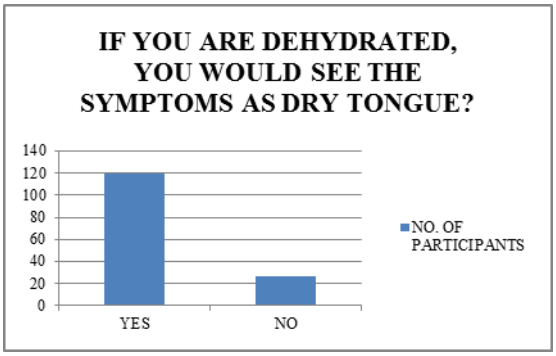




23. IF YOU ARE DEHYDRATED, YOU WOULD SEE THE SYMPTOMS AS DRY TONGUE?

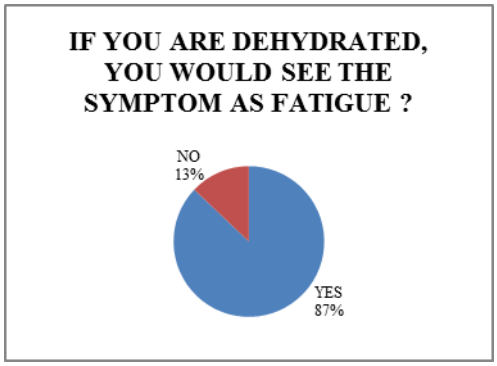
IF YOU ARE DEHYDRATED, YOU WOULD SEE THE SYMPTOMS AS DRY TONGUE?	NUMBER OF PARTICIPANTS	PERCENTAGE
YES	120	82%
NO	27	18%
TOTAL	147	100%

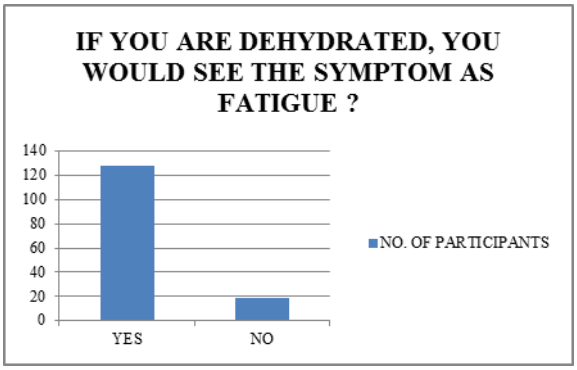




24. IF YOU ARE DEHYDRATED, YOU WOULD SEE THE SYMPTOM AS FATIGUE?

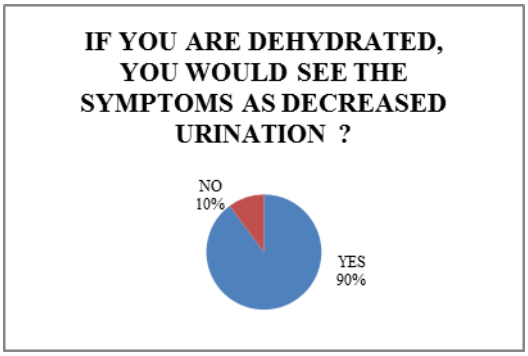
IF YOU ARE DEHYDRATED, YOU WOULD SEE THE SYMPTOM AS FATIGUE?	NUMBER OF PARTICIPANTS	PERCENTAGE
YES	128	87%
NO	19	13%
TOTAL	147	100%

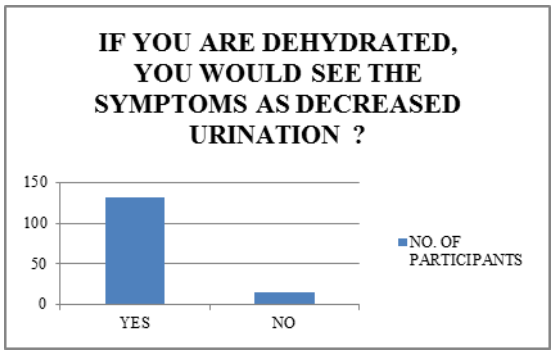




25. IF YOU ARE DEHYDRATED, YOU WOULD SEE THE SYMPTOMS AS DECREASED URINATION?

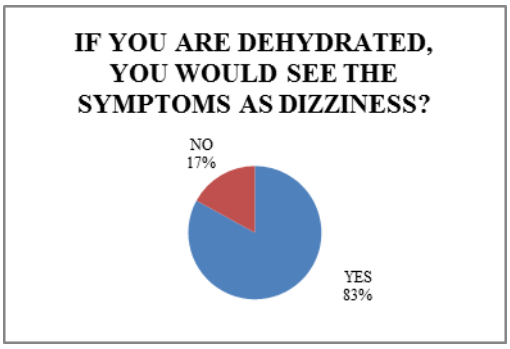
IF YOU ARE DEHYDRATED, YOU WOULD SEE THE SYMPTOMS AS DECREASED URINATION?	NUMBER OF PARTICIPANTS	PERCENTAGE
YES	132	90%
NO	15	10%
TOTAL	147	100%

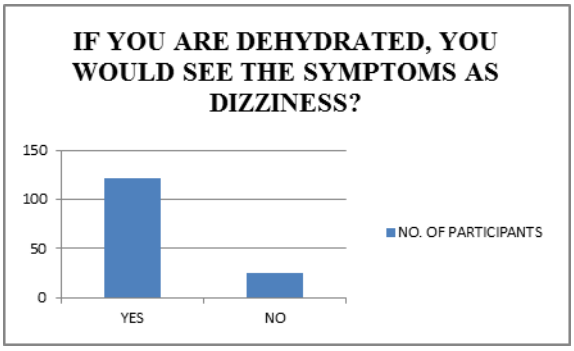




26. IF YOU ARE DEHYDRATED, YOU WOULD SEE THE SYMPTOMS AS DIZZINESS?

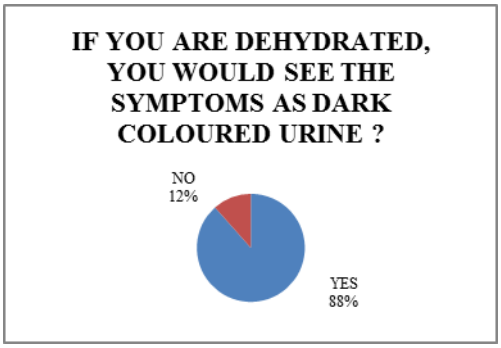
IF YOU ARE DEHYDRATED, YOU WOULD SEE THE SYMPTOMS AS DIZZINESS?	NUMBER OF PARTICIPANTS	PERCENTAGE
YES	122	83%
NO	25	17%
TOTAL	147	100%

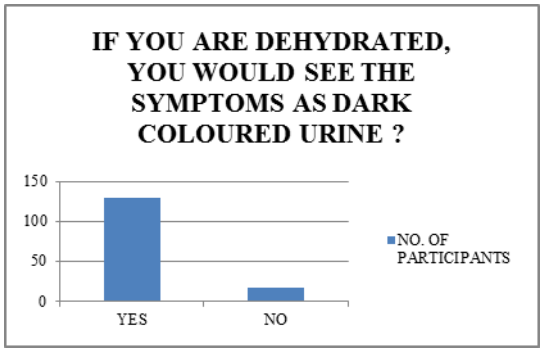




27. IF YOU ARE DEHYDRATED, YOU WOULD SEE THE SYMPTOMS AS DARK COLOURED URINE?

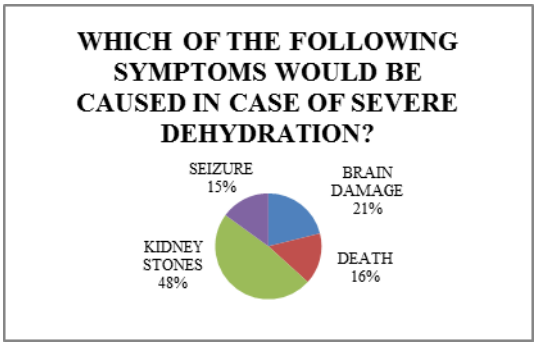
IF YOU ARE DEHYDRATED, YOU WOULD SEE THE SYMPTOMS AS DARK COLOURED URINE?	NUMBER OF PARTICIPANTS	PERCENTAGE
YES	130	88%
NO	17	12%
TOTAL	147	100%

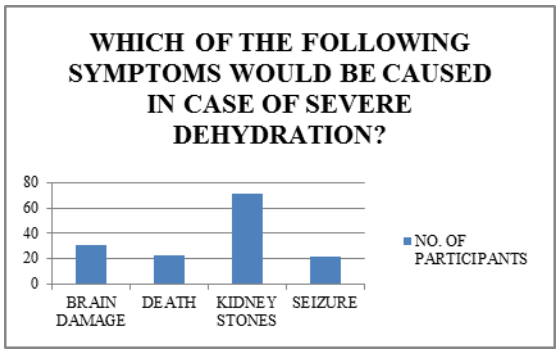




28. WHICH OF THE FOLLOWING SYMPTOMS WOULD BE CAUSED IN CASE OF SEVERE DEHYDRATION?

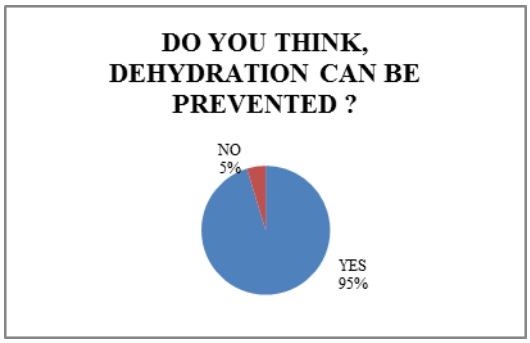
WHICH OF THE FOLLOWING SYMPTOMS WOULD BE CAUSED IN CASE OF SEVERE DEHYDRATION?	NUMBER OF PARTICIPANTS	PERCENTAGE
BRAIN DAMAGE	31	21%
DEATH	23	16%
KIDNEY STONES	71	48%
SEIZURE	22	15%
TOTAL	147	100%

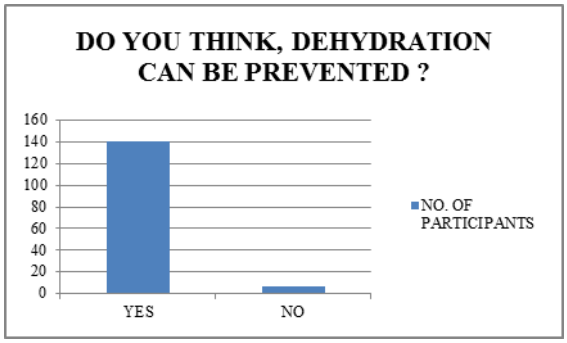




29. DO YOU THINK DEHYDRATION CAN BE PREVENTED?

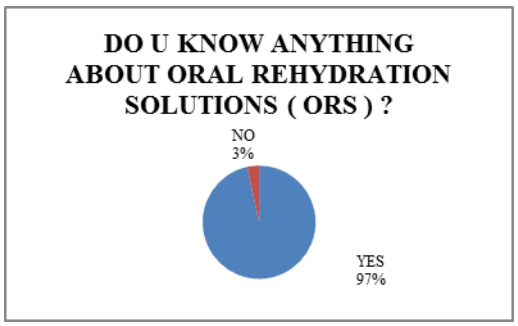
DO YOU THINK DEHYDRATION CAN BE PREVENTED?	NUMBER OF PARTICIPANTS	PERCENTAGE
YES	140	95%
NO	7	5%
TOTAL	147	100%

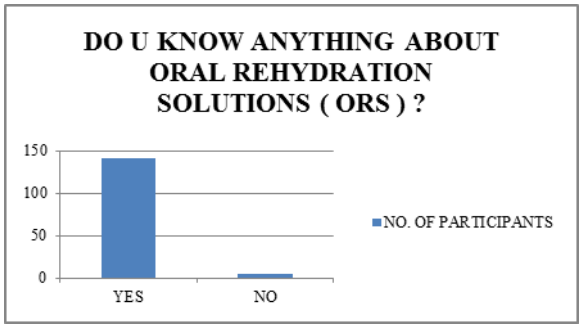




30. DO U KNOW ANYTHING ABOUT ORAL REHYDRATION SOLUTIONS (ORS)?

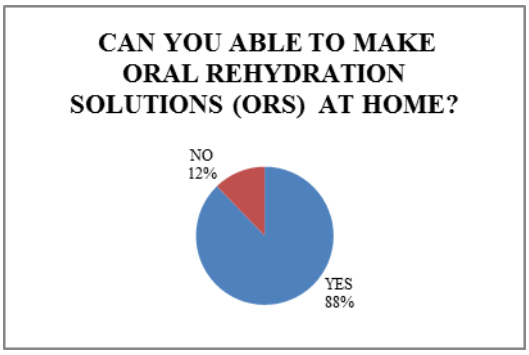
DO U KNOW ANYTHING ABOUT ORAL REHYDRATION SOLUTIONS (ORS)?	NUMBER OF PARTICIPANTS	PERCENTAGE
YES	142	97%
NO	5	3%
TOTAL	147	100%

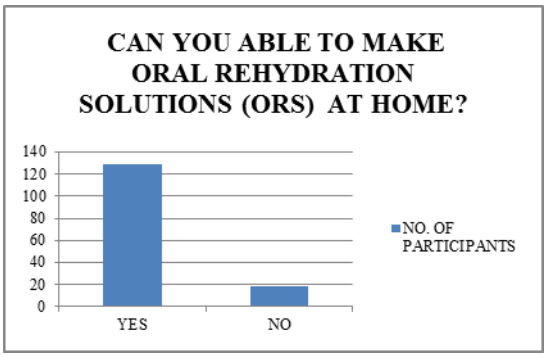




31. CAN YOU ABLE TO MAKE ORAL REHYDRATION SOLUTIONS (ORS) AT HOME?

CAN YOU ABLE TO MAKE ORAL REHYDRATION SOLUTIONS (ORS) AT HOME?	NO. OF PARTICIPANTS	PERCENTAGE
YES	129	88%
NO	18	12%
TOTAL	147	100%





In our study total number of participants was 147. Among them 53% were female and 47% were male. 6% among the participants we're suffering from hypertension. A combination of pre-clinical, observational, and interventional studies point to a direct link between low water intake, increased anti diuretic signal concentration and metabolic dysfunction.[5] 1% of the respondents had history of chronic kidney disease. Repeated episodes of acute kidney injury related to dehydration.[6] Dehydration, a condition that characterises excessive loss of body water, is well known to be associated with acute renal dysfunction.[7] Among the participants 57% gets dehydrated in winter season. Cardiovascular mortality associated with temperature may be attributable to hemodynamic changes linked to dehydration.[8] 99% of the participants agreed regarding the association between hydration and brain performance - a consistent mood listening during mild dehydration.[9] Among the participants 96% of them agreed that more hydration is needed during pregnancy and breastfeeding.

Studies have shown that the incidence of chronic dehydration during pregnancy affects the weight and length of the child at birth.[10] Hypernatremic dehydration predominantly appears in breastfed neonates can cause serious complications such as convulsions, permanent brain damage and death.[11]

CONCLUSION

The maintenance of fluid and electrolyte balance is the key to prevent and treat dehydration. An approach to dehydration including an earlier rather than delayed diagnosis benefits the patient and the healthcare team.

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