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To study about the nutrients and organoleptic evalution of lycopene in pregnant women

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Abstract
Hypertention is a known risk factor for cardiovascular morbidity and mortality and including tomatoes in your diet might help you to cut down o the risk in little. And the same has been proven by various research studies. According to a 2009 study published in cardiovascular drugs and therapy. Adding tomato extract to the diet of people with hypertension but on a low dose of ACE inhibitor drugs, calcium channel blockers and the combination with a low dose of diuretics, showed a significant reduction in the BP levels. The BP was reduced by more than 10 mmHg (systolic) and more than five mmHg (diastolic).Moreover, it didn't show any side effects to the treatment. another study published in the American Heart journal concluded that a short term treatment with anti- oxidants rich tomato extract reduces blood pressure in patients with grade-1 hypertensive patients, people without any secondary illness and who do not require antihypertensive or lipid- lowering drug therapy. Tomatoes are rich in carotenoids such as lycopene in beta- carotene, which are powerful antioxidants increasing the intake of tomatoes in diet can help you to be inactive the free radicals and flush the harmful toxins from the body. this only slows down the progression of atherosclerosis but also lower oxidative stress and aids in managing your blood pressure. it also contains vitamin E, which is also an antioxidant and potassium, a mineral that plays a key role in maintaining the fluid – electrolyte balance in the body and keep your blood pressure in control.
Hence, up your intake of tomatoes if you are a risk of hypertension. You can eat tomatoes in raw form of salads or along with another vegetables as juice. Tomatoes can also be eaten soups, Idly or chutney.

Keywords: tomatoes powder, black paper, ordinary salt, green chilli, sugar, turmeric powder organoleptic properties, sensory evaluation

Introduction
Hypertension is amongst the most common imported health problem throughout the world. It is a major cause of mortality and morbidity in society but it exact prevalence is not known because of large number of representing submerged portion of iceberg. [3]. Hypertension is one such disease which is slow, secret and silent threat to people, throughout the world with potential to cause serious and organ damage hypertension affect heart, kidney, eyes, brain and almost all organ of body [4]. Hypertension is the disease that is usually diagnosed when it has already cause major damage to the body system or persist as acute complication which may lead to death [5]. Hypertension is readily detectable, easily treatable and leads to lethal complications it left untreated in the virth of the joint National committee on prevention, detection, evaluation and treatment of high blood pressure (JNC VII) hypertension is classified as
Although many condition and disorder are known now that causes increased blood pressure, the cause remains unknown in over 90% of cases. So these patients with no definite cause are said to have primary, idiopathic or essential hypertension [6]. Several mechanisms have been described in patients with essential hypertension. Like dysfunction of sympathetic nervous system, rennin angiotensin system defect, increase salt sensitivity, sodium transport defect and certain risk factor like obesity, smoking, alcoholism and dyslipidemia.

1. **Renal**
   - Aute/chronic glomerulonephritis
   - Pyelonephritis
   - Renal artery stenosis
   - Renal tumour and cysts
2. **Endocrinal**
   - Cushing's syndrome
   - Primary aldosteronism
   - Pheochromocytoma
   - Oral contraceptive
3. **Others**
   - Coarctation of alorta
   - Toxaaemia of pregnancy

Untreated hypertension increases the risk of vascular damage involving both small (resistance) arteries and arterioles and large (conduit) arteries. These leasioons lead to cardiac, renal and cerebrovascular morbidity and mortality. the incidence of these different lesions is also dependent upon the level of other risk factor such as plasma cholesterol, diabetes, alcoholism, smoking and obesity. Kidneys are important target of hypertention induced organ damage Urine analysis, creatinine clearance, ultrasonic kidney size, pyelogram and angiogram are relatively normal in patients with essential hypertentsion Hypertensive

disorders of pregnancy are the common medical disorders in pregnancy. It has effects both on expectant mother and foetus [7]. The impact due to hypertensive disorders in pregnancy on maternal and neonatal mortality and morbidity is very high in India and other developing countries [8]. The incidence of pregnancy induced hypertension in India is about 710% of all antenatal admission [9]. Severe forms of hypertensive disorders of pregnancy like eclampsia is a major cause of maternal mortality [10]. There are various categories of hypertensive disorders in pregnancy like pregnancy induced hypertensive (gestational hypertension), preeclampsia, eclampsia and chronic hypertension [11]. Pregnancy induced hypertension is the appearance of hypertension of more than 140/90 mm of Hg after 20 weeks of gestation.whenhypertention is associated with significant proteinuria it is called preeclampsia. Preeclampsia complicated by seizures is called eclampsia. Hypertension antecedent before pregnancy is known as chronic hypertension. Chronic hypertension can be superimposed with preeclampsia or eclampsia. [12]. Pregnancy induced hypertension is a disease of multiple organ system that is unique to pregnancy cause maternal complications like eclampsia, HELLP syndrome, acute renal failure, cerebrovascular accidents etc. it has effect on the foetus like foetal growth restriction, oligohydramnios, foetal distressetc. During pregnancy the priority regarding hypertension is in making the correct diagnosis as to distinguish pre- existing (chronic) from pregnancy induced (gestational hypertension). Then is to distinguish blood pressure levels as either mild (140/90 to 159/109mm of Hg) or severe(>160/110mm of Hg) rather than as stages [13]. The management of pregnancy induced hypertension is aimed at termination of pregnancy, but this can not be done in all cases, as most are preterm or very preterm. The pregnancy can be prolonged by using antihypertensive agents by till a period where in foetalsurviva;l is good, there by maximizing the gestational age of infant and minimizing the foetal exposure to medication that may have adverse effects. The focus of treatment is the 9 months of pregnancy during which, untreated mild to moderate hypertension generally have maternal and foetal outcome as comparable to normotensive women. In this regard antihypertensive agents are mainly used to prevent and treat severe hypertension.there is no consensus regarding the use of antihypertensive agents in mild hypertension, but in view of unpredictable transition to severe variety, it is suggested to start antihypertensive therapy to maintain the blood pressure in mild variety, itself [14]. The antihypertensive agents have a role in controlling hypertension and there by maternal and foetal complications can be avoided [15]. The choice of antihypertensive agents is less complex, since only a small proportion of currently available drugs have been adequately evaluated in pregnant women and many others are clontraindicated. The commonly used antihypertensive drugs in pregnancy induced hypertension are methyldopa, labetalol, other beta blockers (acebutolol, metoprolol, pindolol andpropranolol) and calcium channel blockers nifedipine. The society of obstetrician and Gynaecologists of Canada has recommended labetalol, nifedipine and hydralazine as initial antihypertensive therapy for severe hypertension [16]. Most antihypertensive agents used in pregnancy are designated as “category C,” which states that human studies are lacking, animal studies are either positive for foetal risk or are lacking, and the drug should be given only if the potential benefits justify potential risk to foetus. this category can not be interpreted as any evidence of risk and is so broad to preclude usefulness in practice. Information is thus based on clinical cases, small studies and meta- analyses. [17]. A meta analysis of 24 trials (2449 women) in which different antihypertensive drugs were compared for treatment of severe hypertension in pregnancy concluded that there is insufficient data to favor one agent over other [18]. Also these studies were done by comparing two drugs or in same drug with two different stages forms or different route of administration, either with respect to efficacy or maternal outcome orfoetaloutcome etc. there are no studies available in which more than two different class of antihypertensive drugs were compared in the same setting with respect to control of blood pressure, maternal outcome, foetal outcome and side effects in mild and severe hypertension in pregnancy. there are few studies evaluating the efficacy of antihypertensive agents in pregnancy the efficacy of the drug in controlling the high blood pressure is important.many a time these drugs affect the uterine contraction there by using labour dysfunction resulting in operative deliveries. The effects of maternal antihypertensive drugs use during pregnancy on foetal growth and wellbeing remains uncertain. Meta- analysis of randomized clinical trials has highlighted the possible association between antihypertensive of randomized clinical trials has highlighted the possible association between antihypertensive therapy and both intrauterine growth restriction (IUGR) and small for gestational age (SGA) birth weight. Multiple drug therapy had the strongest association with these events. [19]. Thus there is a need to study in detail the antihypertensive efficacy and its effect on maternal the foetal outcome in the present study the drugs chosen were methyldopa, nifedipine and labetalol as they belong to different class based on their mode of action and are most recommended agents internationally. Hence the present study was under marken to compare these drugs with respect to efficacy in control of blood pressure, maternal outcome, perinatal outcome, and adverse effects in mild and severe hypertension in pregnancy.

Organoleptic Properties or Sensory Evaluation -: Food product company and Retailers use sensory evaluation because according to taste and texture they know the food quality organoleptic evaluation is an analysis method in which the human sense as a measurement tool and determine the food product example appearance, odour, texture, taste and smell sensory quality is the combination of Different sense of perception coming in to play in choosing and eating a food.

Objective

1. To study about the nutrients and organoleptic evaluation of lycopene in pregnant women.
2. To find out the sensory evaluation of prepared tomatoes product.

Methedology

Materials tomato soup powder purchased from a local market of Gorakhpur city the tomatoes of fine chopped and rice of cleanly washed and sun dried for making the powder.

Tomato Soup Powder Preparation-:the required sample for the product development are fresh raw tomatoes, first of all washed of clean tomatoes, then peeled of tomatoes and chopped in to cut pieces,sun drying form powder, green

chilli, black paper, sugar, turmeric powder and ordinary salt. Collection of the ingridients raw sample raw tomato powder green chilli, black paper, sugar, turmeric powder and ordinary salt). Which purchased from local market of Gorakhpur area and processing of raw ingredients raw sample of the tomatoes, green chili, black paper, sugar, turmeric powder, and ordinary salt collected from local market of Gorakhpur. Sundried the small pieces of tomatoes washed to remove moisture content. Ther used mixer grinder to make fine powder added some black paper, green chili, pinch sugar, turmeric powder and according to taste salt. Mixed all the ingredient properly packed in to appropriate container to prevent from moisture and maintain shelf life and long term storage of tomato soup powder.
Tomatoes soup where prepared according to the normal method with slight modification the formula the tomato soup is shown in tablet Table 1 flow chart of techniques used in powder preparation.

4. Result and Discussions

The result obtained experiment are presented and discussed under suitable headings In view of available relevant.

1. Sensory Analysis of Tomatoes powder-: sensory characteristics were determined on Hedonic scale. the results of sensory evaluation judged 5 panelist indicated that there were significant differences among powder for all attributes, as shown in following tables. Colour and appearance profile of sample T1&T2 Received the suggest score then order powder tomatoes. Overall acceptability was calculated considering the average of all the organoleptic parameters and it was observed that sample T1waspreffered by the judges. T1 received the lightest overall impression scores compared to other types of powder. for other sensory attributesie. Overall flavor, over all texture and over all colour

- Body and texture
- Colour and appearance
- Flavor and Test
- Overall acceptability

The total average and standard deviation of individual product was calculated individual marking
From each of panel members for different parameters have been mentioned below. Parameter 1.Flavour and Taste

Table 1: Individual Markings for Flavour and Taste

Panelist	T1	T2	T3
Members 1	9	7	9
Members 2	9	8	6
Members 3	9	7	6
Members 4	9	9	8
Members 5	9	8	9
Total	45	41	34

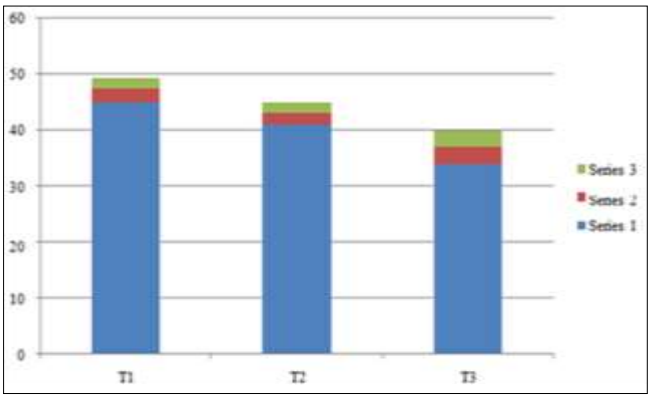

Fig 1

The above mentioned score represent.indivisualmarkjings members on the Basis of flavor and test the maximum average scored is 34 by T3 (control) While maximum is of T1 (WBF: FSF: 20:45: In average) with an average of 45.

Parameter 2- Body and Texture

Table 2: Individual Marking for body and texture Tomato Soup powder product

Panelist	T1	T2	T3
Members 1	9	7	8
Members 2	9	8	7
Members 3	9	8	7
Members 4	9	9	7
Members 5	9	8	7
Total	45	40	36

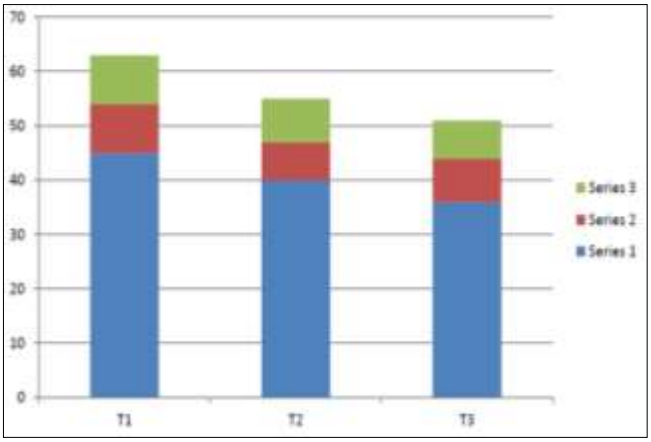

Fig 2

The above mentioned score represent indivisual markings on the basis of body and texture the minimum average scored is36 by T2 (control) while maximum is of T1 (WBF: FSF: 20:45 In percentage)with an average of 45.

Table 3: Individual Markings for Colour and Appearance

Panelist	T1	T2	T3
Members 1	9	9	7
Members 2	8	9	7
Members 3	9	8	7
Members 4	9	9	7
Members 5	9	9	7
Total	44	44	35

The above mentioned score represent indivisual markings by member on the basis of flavor and taste the minimum scored is 35 by T3 while maximum is of T2 (WBF;FSF::15:40 in percentage) T1 (WBF:FSF::20:45) with an average of 44.

Table 4: Individual Markings for Overall Acceptability

Panelist	T1	T2	T3
Members 1	9	9	7
Members 2	9	8	7
Members 3	9	8	7
Members 4	9	8	7
Members 5	9	9	7
Total	45	42	35

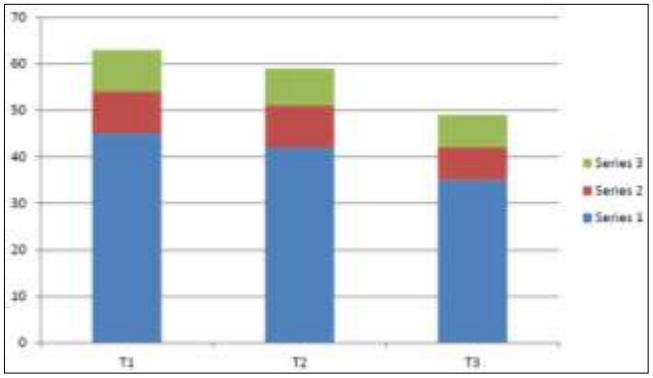

Fig 3

The above Mentioned score represent Indivisual marking by members on the basis of flavor and taste the minimum average scored is 35 by T2 (control) while maximum is of T1 (WBF:FSF::20 in percentage) with the average of 45.

Overall Calculation

Table 5: Indivisual Markings for overall Calculation

Panelist	A1	A2	A3
P1	45	41	34
P2	44	40	36
P3	44	44	35
P4	45	42	35
Overall	178	167	140
Average	45.5	41.75	35
S.D	1.68	1.61	1.47

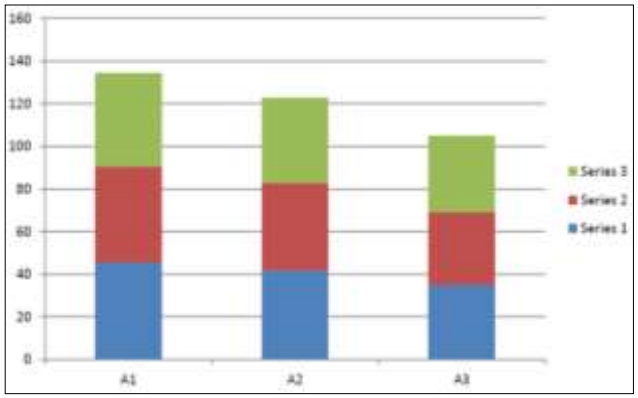

Fig 4

The Respective table which is drawn above shows the overall calculations of average marks given by each panelist in each parameter, with calculated average values & S.D of each sample on the basis of each of parameter.

Conclusion

Result & Discussion chapter in any research work must be compiling with summarization & conclusion section. So keeping this point this chapter showed every study. The prepared powder where further put forth for sensory evaluation using hedonic scale done by expertise committee of five members. the evaluation was done by analyze the acceptability of the developed product on the basis of four parameter ie. Body and texture, flavor & taste, colour, appearance, overall acceptability. That study showed this is possible to obtain highly acceptable powder in which nutrient content of iron per 100 gm was quite better to meet Recommended Dietary Allownces of vitamin c. it also provide good content of lycopene that has antioxidant potential.where as energy content (kcal/100g), protein25.5%, carbohydrate 71.45%, fiber 15.0%, vit B2 (0.5%), vitc 112%, iron 8%, sodium 3019%, vita (IU) 590%, sugar 12.33%, cholesterol ND, Beta Carotene 154%. were noticed.

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the challenging world of food science and technology.

To, conclude, I bow my head in reverence and submission to Almighty who bestowed the Strength to accomplish this task.

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