

Impact of Wheat Grass Products (Juice and Powder) on the Health of Adult Male and Female in Agra District.

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ABSTRACT

The greatest cereal-grass crop in the world is wheat, a member of the genus *triticum* and the *Gramineae* (*Poaceae*) family. It is a dense, dry grass with a bright green appearance that resembles hay or straw. Wheat grass contains several vitamins, minerals, amino acids, and essential enzymes that are crucial to human survival. The juice and powder versions of wheat grass have anti-inflammatory and antioxidant effects. Wheat grass juice promotes healthy tissue growth, red cell production, and illness prevention. This study was conducted on 50 respondents (male and female) in Agra District. A multistage stratified random sampling technique was used for selecting respondents for the present study. The finding revealed that majority of the respondents (52%) were in the age group of 25–35 years, liked the taste of wheat grass juice and powder (96%); felt energy all the time after taking wheat grass juice and powder; boosted energy and digestion (22%); and boosted metabolism and prevented the constipation problem and also increased hemoglobin (32%). In the male respondents, before consuming wheat grass products, the average BMI status, blood pressure, and hemoglobin level were 62.0, 120.8/80, 12.12 respectively, and after consuming wheat grass products, the average BMI status, blood pressure, and hemoglobin level were 62.4, 122.5/79.1, 12.21, respectively (P value = 0.05). For the female respondents, the average BMI status, blood pressure, and hemoglobin level were 59.3, 120.8/121.5, and 11.2 respectively before consuming wheat grass products and 59.2, 122.5/121.5, and 11.32 respectively after consuming wheat grass products (P value = 0.05). It indicates that the BMI status, blood pressure, and hemoglobin level were increased in male and female respondents after consuming wheat grass products. The benefits of wheat grass juice and powder on human health and disease prevention are significant.

Keywords : Wheatgrass, Juice, Powder, Hemoglobin, BMI, Blood pressure.

INTRODUCTION

Wheatgrass is an agropyre that belongs to the *Triticum aestivum* plant family and is high in nutrients. This superfood contains over 100 nutrients, including all vitamins A, C, E, and K, as well as a full range of B-complex vitamins. It also contains 17 essential amino acids and is one of the best sources of chlorophyll. It functions as a natural blood purifier. Wheatgrass contains a wide range of

antioxidants, including glutathione and vitamin C, which combat harmful free radicals, prevent oxidative stress, and prevent damage to cells. Wheatgrass juice, which is high in chlorophyll and vitamins, is also beneficial in lowering the risk of heart disease, cancer, arthritis, and neurodegenerative diseases. Currently, natural or organic bioactive substances found in herbs are regarded as an "alternative" kind of treatment. Wheatgrass is one of the herbal

and natural active components that are getting scientific recognition as “functional foods”. It is also becoming more widely available and well-liked as a study topic. The mature shoot of *Triticum aestivum* Linn, a member of the Gramineae family, is wheatgrass (Rana *et al.* 2011). Fortunately, wheatgrass is thought to have a high nutritional phytoactive component content that boosts the effectiveness of alternative medicine. It also possesses anti-inflammatory, antioxidant, immunomodulatory, anticarcinogenic, laxative, and anti-aging effects.

OBJECTIVES

1. To study the effect of wheatgrass products (juice and powder) on health (BMI, blood pressure, and blood hemoglobin level) for the

treatment.

2. To compare the health status before and after taking wheatgrass juice and powder.

MATERIALS AND METHODS

The present study was conducted in the urban area of Agra district. This study was conducted with 50 respondents (male and female). A multistage stratified random sampling technique was used for selecting respondents for the present study.

Firstly, the researcher recorded the interviewer's health status before giving wheat grass juice and powder, and then gave wheat grass juice (30 ml) and powder (5 gm) for 15 days and checked the health status. After this, same quantity of wheat grass juice and powder were given to the respondents for 30 days and checked the health status.

Table1 : Distribution of the respondents according to their BMI status on interview or before consumption of wheat grass juice and powder. n=50

Respondents	BMI status (before consumption of wheat grass juice and powder)								Total	
	Underweight		Normal		Overweight		Obesity		f	%
	f	%	f	%	f	%	f	%		
Male	0	0	7	14	3	6	1	2	11	22
Female	1	2	13	26	12	24	13	26	39	78
Total	1	2	20	40	15	30	14	28	50	100

RESULTS AND DISCUSSION

Table 1 highlights the distribution of the respondents according to their BMI status at the interview (before consumption of wheat grass juice and powder). Out of total respondents, the majority of them (40%) were normal, followed by 30 per cent overweight, 28 per cent obese, and very few (2%) were underweight. From the classification of BMI according to Brahman *et al.* (2005), it could be noted that the obese male and female subjects were in Grade I obesity (25–30).

Table 2 highlights the distribution of the respondents according to their BMI status after taking wheat grass products. Out of total respondents, the majority (58%) had a normal body mass index, followed by 32 per cent with an overweight body mass index, 14 per cent with obesity, and very few (2%) were underweight.

H0: There is no change in body mass index after giving wheat grass products.

H1: Body mass index changes after giving the wheat grass product.

Table2 : Distribution of the respondents according to their BMI status after consumption of wheat grass products (juice and powder). n=50

Respondents	BMI status after taken consumption of wheat grass products <i>i.e.</i> juice and powder (after 30 days)								Total	
	Underweight		Normal		Overweight		Obesity			
	f	%	f	%	f	%	f	%	f	%
Male	0	0	7	14	3	6	1	2	11	22
Female	1	2	12	24	13	26	13	26	39	78
Total	1	2	19	38	16	32	14	24	50	100

Table 3: Difference in BMI before and after giving the wheat grass product among the male and female group . n=50

BMI	Male					Female				
	f	Mean	SD	T Value	P Value	f	Mean	SD	T Value	P Value
Before	11	62.0	5.82	0.07	0.1*	39	59.3	8.72	0.06	0.4*
After		62.4	5.68				59.2	7.83		

* Significant at 5% level

From the above Table 3, it is clear that the P value is < 0.05 , therefore the null hypothesis is rejected. It means that the body mass index

stabilizes significantly after giving the wheat grass product to the male and female group.

Table 4: Difference in blood pressure (Systolic) status before and after giving the wheat grass product among the selected group of male and female. n=50

Blood Pressure (Systolic)	Male					Female				
	f	Mean	SD	T-P	P Value	f	Mean	SD	T-P	P Value
Before	11	120.8	6.6	0.7	0.8**	39	120.8	6.6	0.4	0.2*
After		122.5	4.5				122.5	4.5		

H0: There is no change in blood pressure level after giving wheat grass products.

H1: Blood pressure level becomes normal after giving the wheat grass product.

In male group, the P value is > 0.05 ; therefore, the alternative hypothesis is accepted. It means that the blood pressure changes after giving the wheat grass product to the group of males. In the female group, the P value is < 0.05 , therefore the null hypothesis is rejected. It means that the blood pressure became significantly normal

after giving the wheat grass product to the group of males and the blood pressure changed after giving the wheat grass products to the female group.

Table 5: Difference in blood pressure status (diastolic) before and after giving the wheat grass product among the selected group of male and female. n=50

Blood Pressure (Diastolic)	Male					Female				
	f	Mean	SD	T Value	P Value	f	Mean	SD	T-P	P Value
Before	11	80	4.26	0.5	0.1*	39	121.5	8.1	0.3	0.7**
After		79.1	2.88				121.2	6.9		

** Significant at 5% level

* Significant at 5% level

H0: There is no change in body mass index after giving wheat grass products.

H1: Body mass index changes after giving the wheat grass product.

In the male group, the P value <0.05 , we may reject our null hypothesis. It means that the blood pressure changed after giving the wheat grass products to the female group. In the female group, it is clear that the P value is >0.05 ; therefore, we may accept

our alternative hypothesis. It means that the blood pressure changes after giving the wheat grass product to the group of females.

The present result are supported with results of Mathur *et.al.* (2017) that wheatgrass can be used for detoxifying the body and lowering blood pressure due to its high content of chlorophyll.

Table 6: Difference in hemoglobin levels before and after giving the wheat grass product among the selected group of male and female. n=50

Hb level	Male					Female				
	f	Mean	SD	T Value	P Value	f	Mean	SD	T Value	P Value
Before	11	12.12	0.90	0.26	0.03*	39	11.2	0.83	1.0	0*
After		12.21	0.87				11.32	0.82		

* Significant at 5% level

H0: There is no change in hemoglobin level after giving wheat grass products.

H1: The hemoglobin level increased after giving the wheat grass product.

In the male and female group, the P value is <0.05 , thus the null hypothesis is rejected. It means that the hemoglobin level increased significantly after giving the wheat grass product to the group of male and female group. Similar results are reported by Chauhan (2014). He found that wheat grass juice can also be used to detoxify an organism, improve blood by increasing

hemoglobin levels, or boost immunity levels. Mathur *et al.* (2017) found the similar result that blood hemoglobin levels are significantly influenced by wheat grass juice, which also aids in the treatment of anemia. None of the patients reported any negative effects from the juice. No side effect of juice was complained about by any of the subjects.

Table 7 shows the distribution of respondents based on their consumption of wheat grass products. All the respondents reported that wheat grass products helped in improving

Table 7: Distribution of the respondents according to perceived benefits of wheat grass products.
n=50

Benefit	Respondent							
	Male				Female			
	Yes		No		Yes		No	
	f	%	f	%	f	%	f	%
Increase haemoglobin	8	16	3	6	24	48	15	30
Help in digestion	11	22	0	0	39	78	0	0
Provide energy	11	22	0	0	39	78	0	0
Boost metabolism	8	16	3	6	23	46	16	32
Help in constipation	9	18	2	4	7	14	16	32
Help in weight loss	0	0	0	0	1	2	0	0

digestion and providing energy. Majority of the respondents reported that it is beneficial in increasing hemoglobin (64%), and boosting metabolism (62%). ThammanaMukthi et al. (2017) found similar result that wheat grass juice helps in improving digestion and is an effective skin cleanser. Wheatgrass juice removes heavy metals and is useful to treat various blood disorders.

CONCLUSION

It can be concluded that wheat grass products such as juice and powder provide many holistic benefits and also help in maintaining blood pressure, BMI, and hemoglobin levels. Thus, it can be said that wheatgrass products play an important role in human life and prevent health problems like ulcerative colitis, cancer, diabetes, obesity, skin problems, high blood pressure, etc.

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