K.R. MANGALAM UNIVERSITY

THE COMPLETE WORLD OF EDUCATION

Case Study:- Addressing Hypertension in Berka Village

Village: - Berka, District Gurugram, Haryana

Faculty Co-Ordinators: -

Dr. Narender Yadav

Ms. Meher Priya

Ms. Sneha Anand

Convener: -

Prof. (Dr.) Hema Chaudhary

Dean SMAS

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Gauri Shankar

Abhijit

Human health and well-being are of paramount importance, as it directly impact the quality of life, longevity, and overall well-being of individuals and communities. Healthy individuals are more productive, both personally and professionally also good health allows individuals to engage fully in daily activities and pursue their goals. Poor health can lead to increased healthcare costs, reduced workforce productivity, and economic burden on families and societies. Physical health is closely linked to mental and emotional well-being. Good health reduces the risk of mental health disorders such as depression and anxiety and promotes resilience in coping with life's challenges. So, investing in health promotion and disease prevention can lead to cost savings and economic growth and promoting good health through preventive measures such as vaccinations, regular health check-ups, and lifestyle modifications can help prevent many diseases and health conditions, reducing the burden on healthcare systems and improving overall population health. In this KR Mangalam University is playing a significant role by making a positive impact on the health and well-being of their students, faculty, staff, and surrounding communities.



Photo 1: - Innovation in Motion – Faculty Guiding, Students Leading

With the objective of creating awareness about the good dietary habits, hypertension and lifestyle the SMAS dept of K.R. Mangalam University organized a Health Camp named as "**Addressing Hypertension in Rural Area - Berka**" for the villagers of Berka Gurugram district on dated 12/02/2025, 27/02/2025, 08/04/2025 & 28/05/2025. 147(Approx.) villagers participated in the health. Check-up camp and get their Hypertension tests performed. BP levels were checked by the members of the SMAS. Dr. Narender Yadav, Ms. Meher Priya Ms. Sneha Anand successfully coordinated the Camp under the guidance of Prof. Dr. Hema Chaudhary, Dean SMAS. The student volunteers from the 6th and 4th -semester B pharm efficiently made the health camp successful. Some of the villagers were found to be hypertensive. They were counselled by the Non-pharmacological Treatment, regarding lifestyle modification, and dietary habits in order to avoid increased blood pressure levels. They were also advised to follow regular exercises.



Photo 2:- Action Beyond the Classroom – Our Team's Commitment in Berka Village

Objectives:

The primary objectives of the hypertension camp were delineated as follows:

1. **Prevalence Assessment:** To determine the extent of hypertension within the Berka Village community.
2. **Community Education:** To raise awareness about hypertension, its causes, symptoms, and potential consequences.
3. **Screening and Counselling**: To conduct on-site screenings for hypertension and provide immediate guidance to individuals identified with the condition.
4. **Nutritional Empowerment**: To educate the community about the significance of a balanced diet in preventing and managing hypertension.

Methodology: -

1. **Planning and organization:** The organized plan coordinates the health camp, including choosing a suitable location, identifying healthcare providers, and arranging for medical supplies and equipment.

2. **Setting up the camp:** On the day of the camp, the organizers and healthcare providers arrived early to set up the necessary equipment, supplies, and signage. They also prepared registration forms and other paperwork.

3. **Registration and intake:** Participants were registered for the health camp and provided basic information about their health history and current symptoms. This information was used by the healthcare providers to assess their needs.

4. **Medical check-ups and consultations:** Participants then went for basic hypertension check-ups and consultations with healthcare providers, who were screened for common health problems and provided advice on healthy living.

Recommendations: Based on the findings, the following recommendations are proposed:

1. Health Awareness Campaigns: Conduct regular health awareness campaigns focusing on hypertension and promoting preventive measures.
2. Nutritional Programs: Implement nutritional programs to address deficiencies, including community gardens, cooking workshops, and awareness sessions on balanced diets.
3. Lifestyle Modification Initiatives: Introduce initiatives to promote physical activity, discourage unhealthy habits, and encourage a more health-conscious lifestyle.
4. Regular Health Checkups: Advocate for the importance of regular health checkups and establish a schedule for periodic health screenings in the village.

The health checkup camp conducted by the School of Medical & Allied Sciences in berka village had not only identified crucial health issues but also paved the way for collaborative efforts to enhance the overall health and well-being of the community.

As a healthcare initiative in continuation of the results of this activity, SMAS team further conducted hypertension checkup camp along with possible treatment majors for mitigating this health issue in the residents of the village community.



Photo 3: Coordinators of the Case Study Initiative



Photo 4: Our Case Study Leadership Team



Photo 5: Bridging Knowledge and Practice – A Dynamic Duo at Work



Photo 6: Students conducting hypertension screening during rural health outreach

Hypertension remains a significant health concern globally, affecting a large portion of the population, especially in rural areas with limited access to healthcare. Recognizing the gravity of the situation, the School of Medical and Allied Sciences took the initiative to organize a hypertension Camp at Berka village. The goal was to address the prevalence of hypertension, offer on-the-spot screenings, and provide comprehensive education to empower the community in managing and preventing this health condition. The case study on the hypertension camp provides a comprehensive exploration of a healthcare initiative aimed at addressing the pervasive issue of hypertension in a community setting. Hypertension, characterized by a high blood pressure level, poses a significant public health challenge globally, particularly in resource-limited areas. This

case study delves into the planning, execution, and outcomes of a hypertension Camp organized with the intent of screening, educating, and treating individuals affected by this condition. The camp's planning phase involved collaboration between healthcare professionals, community leaders, and local organizations. Comprehensive strategies were developed to ensure effective mobilization of resources, including medical personnel, diagnostic tools, and educational materials.

Identifying the target demographic was crucial, and efforts were made to reach vulnerable populations, such as pregnant women, children, and individuals with limited access to healthcare.

Hypertension, a condition characterized by high blood pressure, is a global health concern affecting individuals of all ages. This case study focuses on hypertension in a rural village, aiming to analyse its prevalence, causes, and potential interventions. Understanding the dynamics of hypertension in such settings is crucial for developing targeted strategies to improve the health and well-being of the community.

This case study aims to serve as a valuable resource for healthcare practitioners, policymakers, and researchers working towards sustainable health improvements in rural communities facing similar challenges.

The survey findings indicate a significant correlation between hypertension and insufficient intake of iron, folic acid, and vitamin B12, highlighting the pivotal role of nutrition in combating this health issue. The lack of access to clean water and sanitation facilities further increases the risk, leaving villagers continuously exposed to these infections. As a result, parasitic infections have become an indirect but important factor in The lack of access to clean water and sanitation facilities further increases the risk, leaving villagers continuously exposed to these.

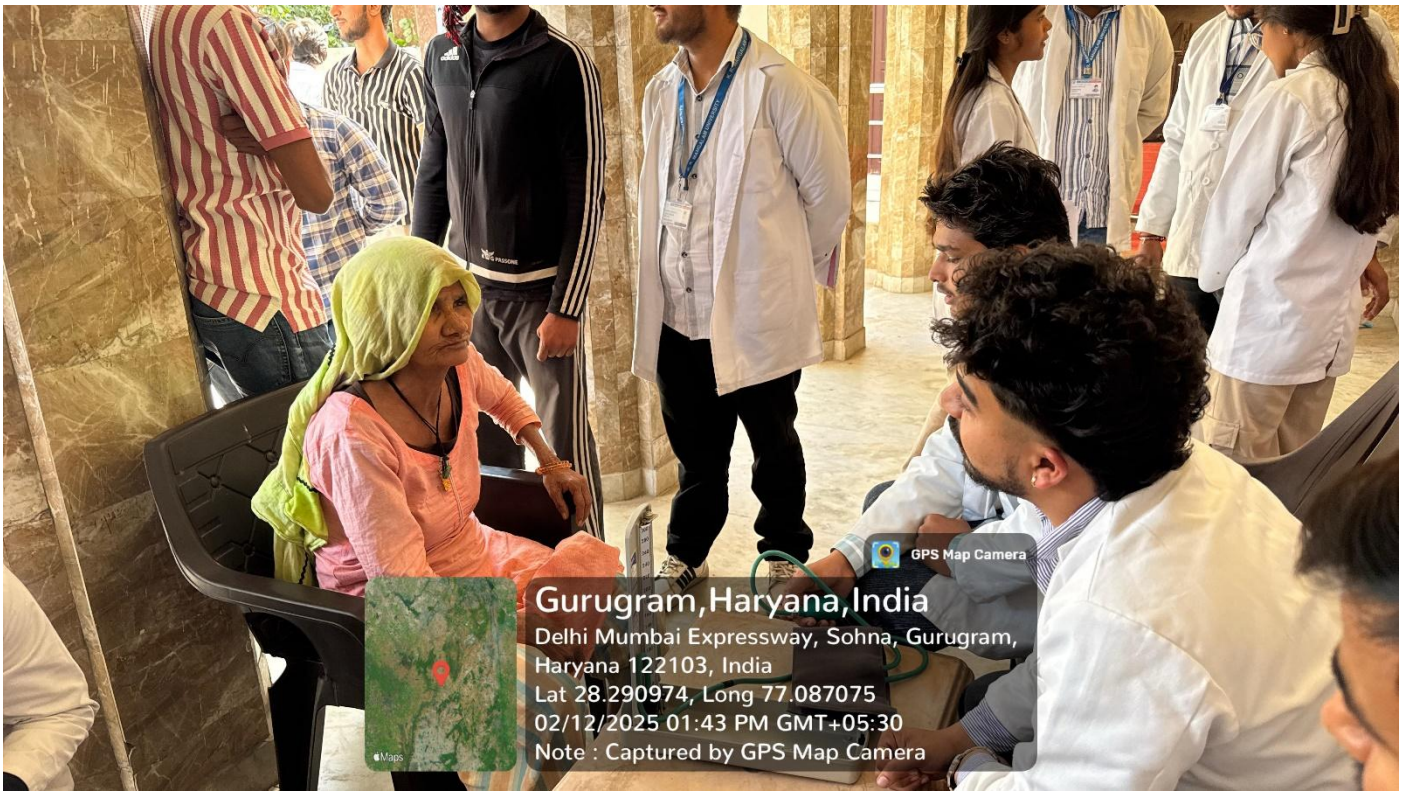


Photo 7: Community health check-up camp at Sohna, Gurugram – reaching rural lives with care.

Preliminary surveys were conducted in village Berka to understand the community's existing knowledge and the specific health needs related to Berka. The emphasis on understanding the community's existing knowledge implies recognition of the importance of building upon existing awareness and tailoring interventions accordingly. The specificity of the focus on health needs related to hypertension, suggests a targeted approach to address a particular health concern within the community. By delving into the community's understanding of hypertension, these surveys likely employed various research methods to capture insights, such as interviews, questionnaires, or observational studies. This process not only identifies gaps in knowledge but also serves as a precursor to developing informed strategies and interventions. Overall, the phrase encapsulates a thoughtful and systematic approach to addressing the health needs of the community, with a particular emphasis on hypertension, laying the groundwork for subsequent actions and initiatives based on a nuanced understanding of the community's existing knowledge and specific health needs. The village is a microcosm of interconnected lives where the well-being of individuals is intricately tied to the cycles of agricultural productivity. Despite its inherent charm, the community grapples with an undercurrent of health issues, with hypertension, emerging as a silent yet pervasive challenge. As the village seeks to flourish in the 21st century, the burden of hypertension casts a shadow on the potential for holistic growth and development. The prevalence rates reveal not just the scale of the issue but also the potential long-term consequences for the community's health and socio-economic development. Children experiencing hypertension may face developmental delays, impacting their cognitive abilities and educational attainment. In women, hypertension during pregnancy can lead to complications, affecting both maternal and fetal health.



Photo : Community health check-up camp at Sohna, Gurugram – reaching rural lives with care.

Recognizing the multifaceted nature of hypertension is crucial for devising effective strategies tailored to the unique challenges faced by the village. Parasitic infections, prevalent in the region due to water sources contaminated with agricultural runoff, contribute to the high incidence of hypertension. The lack of access to clean water and sanitation facilities exacerbates the villagers' vulnerability to these infections. Additionally, cultural practices related to dietary taboos and traditional beliefs about health contribute to suboptimal nutritional practices, further compounding the hypertension challenge.

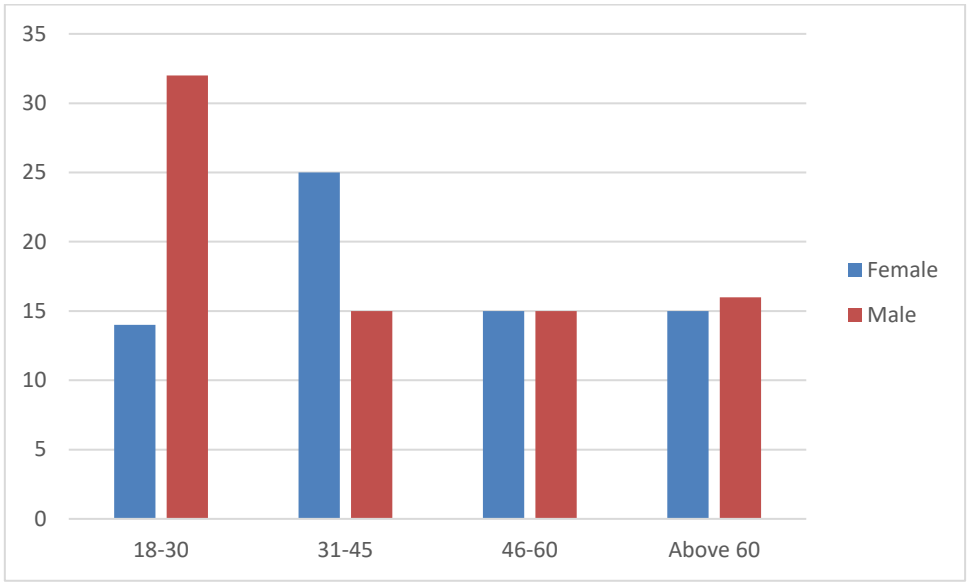
Table 1: Details of participants with their Hypertension in blood before non-pharmacological intervention

S. No.	Name	Age (In Years)	Gender	Height (CMS)	Weight (kg)	Body mass index (BMI)	Systolic Blood Pressure (mmHg):	Diastolic Blood Pressure (mmHg):
1	Anandi Devi	Above 60	Female	156	66	27.1	120	100
2	Paras Thakur	18-30	Male	174	63	20.8	125	89
3	Hrishi Prakash	18-30	Male	176	72	23.2	122	81
4	Ankush	18-30	Male	170	64	22.1	125	85
5	Mannat Kaur	18-30	Female	155	70	29.1	142	105
6	Abhijit Pandey	18-30	Male	179	83	25.9	140	90
7	Akash Kumar	18-30	Male	171	71	24.3	135	85
8	Rachit jasrotia	18-30	Male	178	98	30.9	135	85
9	Gauri Shankar	18-30	Male	178	70	22.1	140	85
10	Yash Rajdev	18-30	Male	177.8	90	28.5	120	80
11	Satvati	31-45	Female	155	70	29.1	142	105
12	Sparsh Bhargav	18-30	Male	177	74	23.6	135	85
13	Kehkasha Praveen	18-30	Female	157	47	19.1	119	84
14	Yogesh	18-30	Male	170	71	24.6	140	80
15	Lakshay Sharma	18-30	Male	172	84	28.4	122	78
16	Sachin	18-30	Male	172	71	24.0	120	80
17	Dinesh Yadav	18-30	Male	162	62	23.6	125	86
18	Bagh Singh	46-60	Male	159	58	22.9	133	90
19	Dinesh	18-30	Male	175	80	26.1	131	90
20	Sunder	31-45	Male	150	67	29.8	115	75
21	Joginder	46-60	Male	174	72	23.8	135	85
22	Dharm singh	31-45	Male	168	56.8	20.1	140	100
23	Priyansh	18-30	Male	162	66	25.1	115	75
24	Parveen khatna	18-30	Male	162	80	30.5	130	95
25	Kunal khatna	18-30	Male	180	68	21.0	120	80
26	Marwaram	Above 60	Male	180	56	17.3	120	80
27	Vimal khatana	18-30	Male	160	50	19.5	130	80
28	Tejpal	Above 60	Male	150	44.6	19.8	120	80
29	Bhupinder	18-30	Male	180	76	23.5	125	80
30	Abhishek	18-30	Male	172	73	24.7	115	80

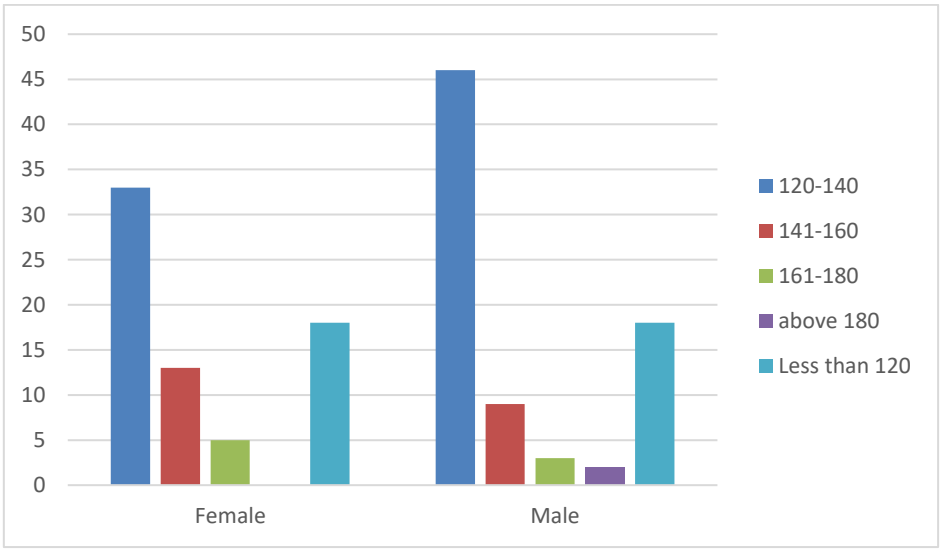
31	Ved rao	Above 60	Male	157	70	28.4	140	100
32	Vidya	46-60	Female	155	60	25.0	110	70
33	Parvesh	18-30	Male	190.5	75	20.7	110	70
34	Prince	31-45	Male	161	68	26.2	135	90
35	Budhvati	Above 60	Female	166	68	24.7	130	90
36	Dhanush	31-45	Female	161	76.7	29.6	125	80
37	Rohan	18-30	Male	172	70	23.7	135	89
38	Vicky	18-30	Male	190	67	18.6	130	85
39	Minakshi	31-45	Female	152.4	60	25.8	120	95
40	Rita	31-45	Female	162	65	24.8	135	85
41	Love	18-30	Male	170	50	17.3	120	80
42	Leela	Above 60	Female	150	36.5	16.2	105	70
43	Sandram	46-60	Male	170	79	27.3	130	90
44	Manjesh	18-30	Male	162	84	32.0	120	80
45	Keshav	18-30	Male	179.8	82	25.4	130	95
46	Kalavati	Above 60	Female	150	48	21.3	135	95
47	Shurub	18-30	Male	180	58	17.9	125	80
48	Inderesh devi	31-45	Female	171	51	17.4	121	81
49	Sanjay	46-60	Male	175	80	26.1	140	85
50	Sripal	31-45	Male	180	100	30.9	148	94
51	Ramesh	18-30	Male	160	70	27.3	125	71
52	Kamalesh	46-60	Female	151	60	26.3	180	100
53	Roshini	18-30	Female	150	50	22.2	122	85
54	Ram swaroop	18-30	Male	160	65	25.4	125	85
55	Anil	31-45	Male	161	60	23.1	114	76
56	Kusum	31-45	Female	152	45	19.5	162	109
57	Brahmanand	31-45	Male	155	80	33.3	122	89
58	Geeta	46-60	Female	180	70	21.6	135	95
59	Pooja	31-45	Female	130	50	29.6	119	71
60	Reema	18-30	Female	140	50	25.5	101	62
61	Pooja	31-45	Female	155	65	27.1	120	80
62	Angoori	Above 60	Female	150	60	26.7	145	85
63	Vinay kumar	31-45	Male	170	90	31.1	135	97
64	Ramvati	Above 60	Female	150	60	26.7	145	85
65	Sarika	18-30	Female	160	55	21.5	142	99
66	Bimla	Above 60	Female	155	60	25.0	128	70
67	Kamlesh	46-60	Female	150	64	28.4	130	55
68	Gajraj	Above 60	Male	160	70	27.3	172	99
69	Usha	31-45	Female	160	80	31.3	100	90
70	Santhosh	46-60	Female	160	90	35.2	130	90
71	Charan singh	Above 60	Male	150	50	22.2	152	80
72	Prem	46-60	Female	160	70	27.3	143	85
73	Dinesh	31-45	Male	160	60	23.4	155	105
74	Kamlesh	31-45	Female	150	55	24.4	135	55
75	Umesh	31-45	Female	155	67	27.9	120	80

76	Geeta	31-45	Female	160	67	26.2	127	89
77	Chaukhram	46-60	Male	150	75	33.3	164	88
78	Sadhana	18-30	Female	155	45	18.7	137	78
79	Rinku	31-45	Female	155	47	19.6	101	65
80	Antra	31-45	Female	160	55	21.5	125	83
81	Shila	Above 60	Female	170	60	20.8	139	95
82	Savitri	46-60	Female	155	60	25.0	135	90
83	Pooja	18-30	Female	162	55	21.0	120	80
84	Tejpal	Above 60	Male	160	55	21.5	135	85
85	kamlesh	18-30	Female	159	66	26.1	121	81
86	Santosh	31-45	Female	150	60	26.7	126	94
87	Bimlesh	18-30	Female	162	55	21.0	129	78
88	Dayavati	Above 60	Female	150	60	26.7	123	86
89	Keshvati	46-60	Female	162	67	25.5	137	94
90	Sundari	46-60	Female	155	57	23.7	102	90
91	Manta	31-45	Female	170	65	22.5	122	86
92	Dharmu	Above 60	Male	165	48	17.6	165	89
93	Laxhmi	31-45	Female	150	65	28.9	125	90
94	Shambir	Above 60	Male	159	60	23.7	159	98
95	Santram	46-60	Male	169	67	23.5	118	76
96	Sanjay	31-45	Male	168	70	24.8	150	99
97	Mewa Ram	Above 60	Male	151	56	24.6	135	82
98	Mitr Pal	31-45	Male	175	55	18.0	121	76
99	Budh Singh	46-60	Male	169	55	19.3	107	77
100	Jagdev	31-45	Male	158	73	29.2	150	100
101	Kavita	31-45	Female	155	80	33.3	129	80
102	Mamta	18-30	Female	159	50	19.8	146	89
103	Arvind	18-30	Male	173	94	31.4	138	94
104	Ishant	18-30	Male	169	80	28.0	146	92
105	Rina	31-45	Female	150	64	28.4	150	90
106	Udayveer	46-60	Male	160	55	21.5	152	96
107	Anita	31-45	Female	150	53	23.6	118	78
108	Akash	46-60	Male	155	80	33.3	129	80
109	Lakshay	Above 60	Male	160	65	25.4	144	84
110	Krishan	46-60	Male	168	57	20.2	176	106
111	Vijay pal	46-60	Male	155	80	33.3	129	80
112	Rajesh	Above 60	Male	162	58	22.1	132	66
113	Richpal singh	Above 60	Male	167	90	32.3	118	66
114	Gajraj	Above 60	Male	155	80	33.3	129	80
115	Phul singh	Above 60	Male	158	53	21.2	122	88
116	Ganesh	46-60	Male	155	80	33.3	129	80
117	Jogender	46-60	Male	169	62	21.7	121	86

118	Sukhbir	Above 60	Male	155	80	33.3	129	80
119	Mahinder	31-45	Male	155	80	33.3	129	80
120	Yogendari	46-60	Female	157	49	19.9	157	92
121	Shakina	18-30	Female	158	55	22.0	157	92
122	Aaditya Jain	18-30	Male	172	72	24.3	129	80
123	Sravani	18-30	Female	155	60	25.0	130	80
124	Rajwati	46-60	Female	150	50	22.2	124	89
125	Bimla	46-60	Female	157	55	22.3	171	108
126	Dhanesh	46-60	Female	160	65	25.4	148	108
127	Budhmati	Above 60	Female	151	65	28.5	110	65
128	Lachho devi	Above 60	Female	150	45	20.0	171	104
129	Maya devi	46-60	Female	152	60	26.0	140	85
130	Dinesh kumar	31-45	Male	150	82	36.4	134	96
131	Jyoti	18-30	Female	155	60	25.0	128	81
132	Savita	46-60	Female	160	55	21.5	121	71
133	Poonam	31-45	Female	164	83	30.9	116	73
134	Rekha	31-45	Female	150	50	22.2	126	87
135	Kamlesh	Above 60	Female	170	50	17.3	144	90
136	Jashrati	Above 60	Female	130	44	26.0	103	65
137	Suchit	46-60	Male	167	55	19.7	199	107
138	Bunty	31-45	Male	164	67	24.9	115	67
139	jagatram	Above 60	Male	160	55	21.5	120	71
140	Rajni	31-45	Female	158	64	25.6	126	80
141	Devki	31-45	Female	152	65	28.1	132	84
142	Kamlesh	Above 60	Female	160	55	21.5	173	101
143	Sanju	31-45	Female	155	65	27.1	120	74
144	Rakesh	31-45	Male	167	70	25.1	104	67
145	Aasha	18-30	Female	160	60	23.4	125	83
146	Ajab Singh	46-60	Male	175	85	27.8	122	78
147	Vimla	Above 60	Female	150	50	22.2	157	83



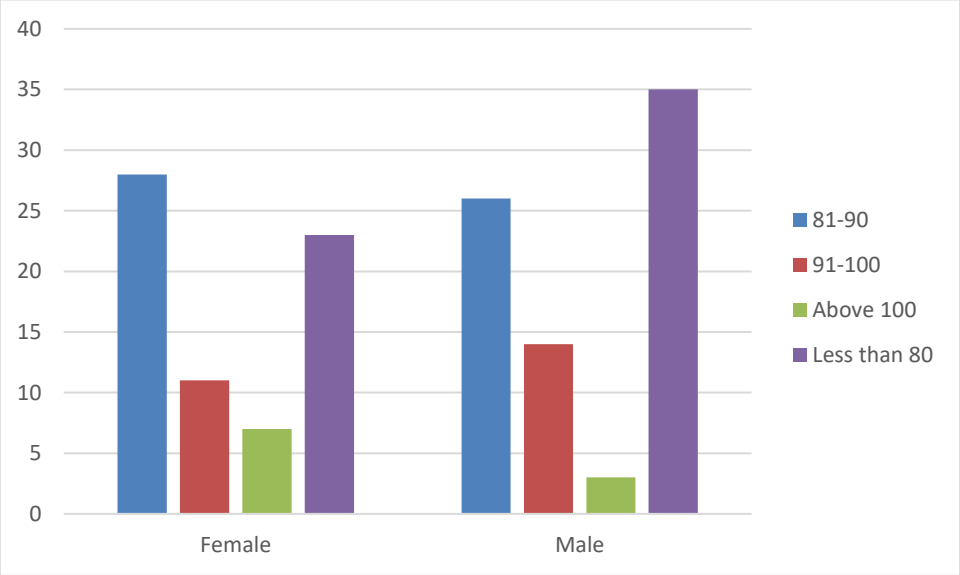
Graph 1 – Age and gender wise distribution of participants



Reference Values

Blood Pressure Category	Systolic BP (mm Hg)
Normal	Less than 120
Elevated	120–129
Hypertension Stage 1	130–139
Hypertension Stage 2	140 or higher
Hypertensive Crisis	Higher than 180 (seek emergency care)

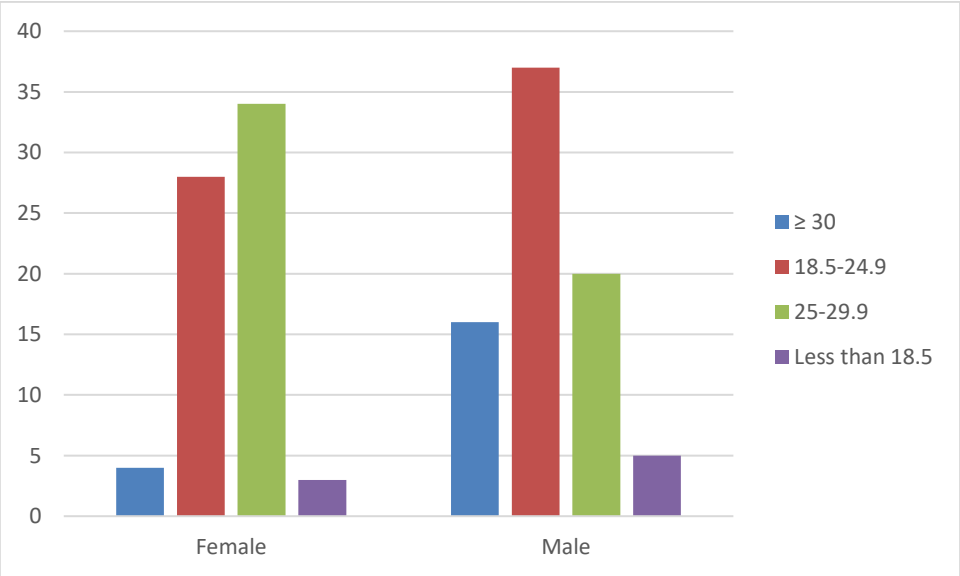
Graph 1 – Systolic Blood pressure in Male and Females before non pharmacological intervention



Reference Values

Blood Pressure Category	Diastolic BP (mm Hg)
Normal	Less than 80
Elevated	more than 80
Hypertension Stage 1	80–89
Hypertension Stage 2	90 or higher
Hypertensive Crisis	Higher than 120 (medical emergency)

Graph 2 - Diastolic Blood pressure in Male and Females before non pharmacological intervention



Reference Values

BMI Category	BMI Range (kg/m²)
Underweight	Less than 18.5

BMI Category	BMI Range (kg/m²)
Normal (Healthy Weight)	18.5 – 24.9
Overweight	25 – 29.9
Obesity Class I	30 – 34.9
Obesity Class II	35 – 39.9

Graph 3 – Body Mass index (BMIs) in Male and Females before non pharmacological intervention

Community Collaboration: Local leaders and community members were actively involved in the planning process to ensure cultural relevance and community acceptance. This collaborative approach recognizes that solving health challenges requires collective efforts and input from various community members, including individuals, healthcare providers, local leaders, and organizations. In the case study of hypertension, a community collaboration strategy involves bringing together different entities to work towards understanding, preventing, and addressing hypertension collectively. This approach acknowledges that the community itself plays a crucial role in identifying and implementing effective solutions because community members often possess valuable insights into local health practices, cultural nuances, and barriers to healthcare. The first step in community collaboration for hypertension might involve conducting preliminary surveys, as mentioned in your initial phrase.

These surveys can engage community members to gather information on their existing knowledge about hypertension, prevalent dietary practices, and healthcare-seeking behaviours. Collaboratively collecting this data helps create a comprehensive understanding of the specific challenges related to hypertension within the community. Once data is gathered, collaboration can extend to the design and implementation of interventions. This could include educational programs on nutrition, awareness campaigns, or even community-driven initiatives to improve access to iron-rich foods. Involving the community in decision-making processes ensures that interventions are culturally sensitive, relevant, and have a higher likelihood of being accepted and adopted. Healthcare providers and organizations can collaborate with community leaders to establish sustainable healthcare practices.

This might involve setting up regular health clinics, conducting workshops, or training local healthcare workers. Collaborative efforts can also extend to addressing socio-economic factors contributing to hypertension , such as poverty or lack of access to clean water. Additionally, community collaboration fosters a sense of ownership and empowerment among community members. When individuals actively participate in identifying problems and creating solutions, there is a greater commitment to sustaining positive health outcomes. This sense of ownership can lead to the establishment of community-led support networks, peer education programs, or other initiatives that promote ongoing health and well-being. Moreover, community collaboration involves continuous communication and feedback loops. Regular forums, meetings, or focus group discussions can facilitate an exchange of information between healthcare providers and community members, ensuring that interventions remain relevant and effective over time. This dynamic and iterative process acknowledges the evolving nature of community health needs and the importance of adapting strategies accordingly.

Screening Stations: Dedicated stations were set up conducting on-the-spot hypertension level tests. The designated locations or facilities where individuals undergo systematic assessments to identify and evaluate

their health status, particularly regarding hypertension. These stations serve as critical components in healthcare initiatives aimed at early detection, intervention, and management of hypertension within a community or population. The primary objective of screening stations in the case of hypertension is to identify individuals who may be at risk or already affected by this condition. hypertension, characterized by high blood pressure and high cholesterol, can have various causes, including nutritional deficiencies, chronic diseases, or genetic factors. Early detection through screening is essential for timely intervention, preventing complications, and promoting overall health and well-being. Screening stations typically employ simple and cost-effective methods to assess individuals for signs of hypertension. Common screening tools include sphygmomanometer to measure blood pressure levels, and other relevant indicators. These tests are often non-invasive and can be performed quickly, making screening stations efficient in reaching a large number of individuals within a community. Community-based screening stations are especially relevant in the context of hypertension, as they enable a proactive approach to public health. By strategically locating these stations in accessible areas, such as community centres, schools, or local healthcare facilities, healthcare providers can reach a diverse demographic and identify individuals who may not otherwise seek medical attention. In a case study, the implementation of screening stations could involve collaboration between healthcare professionals, community organizations, and local authorities. Community engagement is crucial to encourage individuals to participate in the screening process. Education and awareness campaigns might precede the establishment of screening stations to inform the community about the importance of hypertension screening, its implications, and the potential benefits of early detection. Moreover, screening stations offer an opportunity for health education and promotion. Individuals who undergo screening can receive information about the causes of hypertension, dietary recommendations, and lifestyle modifications to improve their overall health. This educational component contributes to empowering individuals to make informed decisions about their well-being and take preventive measures.

The data collected at screening stations can also inform public health initiatives and guide policymakers in developing targeted interventions. For instance, if a particular demographic group shows a higher prevalence of hypertension, resources can be directed towards tailored interventions, such as nutritional supplementation programs, educational campaigns, or improved access to healthcare services. Continuous monitoring and follow-up are integral to the effectiveness of screening stations. Individuals identified with hypertension or those at risk may be referred for further diagnostic tests and medical consultation. Follow-up mechanisms ensure that individuals receive appropriate care, treatment, and support to manage hypertension effectively.

Educational Workshops: Interactive workshops were organized to disseminate information on hypertension , covering its causes, symptoms, and preventive measures. The organized sessions are designed to provide information, raise awareness, and impart knowledge about hypertension, its causes, prevention, and management. These workshops serve as a crucial component of public health initiatives aimed at empowering communities to understand, prevent, and address hypertension effectively. The primary objective of educational workshops in the case of hypertension is to disseminate accurate and relevant information to the target audience, which may include individuals, families, or communities. hypertension educational workshops aim to increase awareness about these causes, the signs and symptoms of hypertension, and the importance of early detection and intervention. Community engagement is a key aspect of educational workshops. By involving the community in the learning process, these workshops can be tailored to the

specific needs, cultural context, and literacy levels of the target audience. Interactive sessions, discussions, and visual aids are often employed to enhance understanding and retention of crucial information
The content of educational workshops may cover a range of topics related to hypertension, including dietary practices for improving iron intake, the importance of a balanced diet, the role of vitamin supplements, and lifestyle modifications to reduce the risk of hypertension.

Workshops may also address misconceptions or cultural beliefs that could impact healthcare- seeking comportments related to hypertension. Furthermore, educational workshops provide a platform for healthcare professionals, nutritionists, and community leaders to share expertise and answer questions. This interactive exchange fosters a collaborative learning environment and promotes a sense of ownership and responsibility within the community. Individuals who attend these workshops are not just passive recipients of information; they become active participants in their own health and well-being. In a case study, the implementation of educational workshops could involve partnerships between healthcare organizations, local community leaders, and educational institutions. Workshops may be conducted in various settings, including schools, community centres, or healthcare facilities, to reach a broad and diverse audience. The success of educational workshops is often measured by changes in knowledge, attitudes, and behaviours within the community. Pre- and post-workshop assessments can gauge the effectiveness of the sessions, and feedback from participants can guide future improvements. Long-term success is also contingent on the sustainability of educational efforts, which may involve ongoing workshops, the development of educational materials, and the integration of hypertension education into existing community programs.

Nutritional Counselling: The specialized form of guidance provided by healthcare professionals to individuals or communities to address and prevent hypertension through dietary modifications and nutritional strategies. This personalized and educational approach aims to optimize nutritional intake, particularly focusing on essential nutrients like calcium, magnesium and certain vitamins like D,C,E is crucial for Blood pressure maintenance. The primary goal of nutritional counselling in the case of hypertension is to assess, educate, and guide individuals towards making informed dietary choices that promote optimal iron absorption and overall nutritional health. hypertension, often caused by insufficient calcium, magnesium and certain vitamins like D, C, E intake or poor absorption, can be effectively managed and prevented through dietary changes. Nutritional counselling sessions typically begin with an assessment of an individual's dietary habits, medical history, and potential risk factors for hypertension. Healthcare professionals, such as dietitians or nutritionists, work collaboratively with individuals to identify areas of nutritional deficiency and tailor dietary recommendations to meet specific needs. The dietary approaches to stop hypertension are often emphasizes fruits vegetables, low fat dairy and wholegrains by limiting sodium saturated and trans fats and sweets , during nutritional advising for hypertension. Additionally, counselling may include guidance on enhancing with sources of vitamin D, C, E avoiding inhibitors like excessive sodium, saturated and trans fat consumption during meals, and addressing potential dietary restrictions or preferences. Nutritional counselling is particularly beneficial in cases where individuals have specific dietary challenges or restrictions, such as vegetarian or vegan diets, which may require careful planning to ensure adequate nutrient intake. By providing personalized recommendations, counselling addresses the unique nutritional needs of each individual, increasing the likelihood of successful adherence to dietary changes. Educational materials, such as pamphlets or visual aids, may complement counseling sessions to reinforce key messages and make the information more accessible.

These materials can be culturally sensitive and adapted to the literacy levels of the target audience, ensuring that the information is effectively communicated. Follow-up sessions are integral to the success of nutritional counseling. Regular check-ins allow healthcare professionals to monitor progress, address challenges, and provide ongoing support. This continuous engagement helps individuals sustain positive dietary changes and contributes to long-term health benefits. The impact of nutritional counseling in addressing hypertension extends beyond the individual level. By promoting healthy eating practices within communities, these interventions contribute to broader public health goals. Successful nutritional counseling initiatives may lead to a reduction in the prevalence of hypertension, improved overall health outcomes, and a better understanding of the link between nutrition and well-being.

Content: The content of the hypertension camp was meticulously designed to address various facets of hypertension:

Understanding hypertension:

Hypertension is a chronic medical condition characterized by high levels of Blood pressure in the blood vessels, also known as is a condition where the force of blood pushing against the artery walls is consistently too high. It's a serious medical condition that can lead to severe health problems if left untreated. The combination of factors including: unhealthy diet, lack of physical activity, and excessive alcohol consumption.

Symptoms of Hypertension

Common symptoms include:

- Frequent urination
- Excessive thirst and hunger
- Unexplained weight loss
- Fatigue
- Blurred vision
- Slow-healing sores or frequent infections

Complications of Hypertension

If not well-managed, hypertension can lead to severe complications, such as:

- Cardiovascular disease: Increased risk of heart attack, stroke, and atherosclerosis.
- Neuropathy: Nerve damage, especially in the legs and feet, which can lead to amputation.
- Nephropathy: Kidney damage leading to kidney failure.
- Retinopathy: Eye damage that can lead to blindness.
- Foot damage: Due to poor blood flow and nerve damage, leading to infections and amputations.
- Skin conditions: Increased susceptibility to bacterial and fungal infections.

Management and Prevention

Prevention:

- Eat a healthy diet: Focus on fruits, vegetables, whole grains, lean proteins, and low-fat dairy. Limit sodium (salt), saturated fats, and processed foods. The DASH diet is especially recommended.
- Maintain a healthy weight: Achieving and maintaining a healthy body weight reduces the risk of developing high blood pressure.
- Be physically active: Engage in at least 150 minutes of moderate-intensity exercise per week, such as brisk walking, cycling, or swimming.
- Limit alcohol intake: Drink alcohol in moderation—up to one drink per day for women and two for men.
- Do not smoke: Avoid tobacco use, as smoking raises blood pressure and increases cardiovascular risk.
- Manage stress: Practice relaxation techniques such as meditation, deep breathing, or yoga to help lower stress levels.
- Get enough sleep: Aim for adequate, high-quality sleep each night**.**

Management :

- Lifestyle modifications: Continue with the preventive strategies above, as they are also key to managing high blood pressure.
- Regular monitoring: Check blood pressure regularly to track progress and ensure control.
- Medication adherence: Take prescribed antihypertensive medications as directed by your healthcare provider.
- Reduce sodium intake: Aim for less than 1,500 mg of sodium per day, especially if already hypertensive.
- Follow up with healthcare providers: Attend regular medical appointments to adjust treatment as needed and monitor for complications.
- Treat underlying conditions: Manage other health issues such as diabetes, high cholesterol, or kidney disease that can worsen hypertension

Understanding hypertension and its management is crucial for preventing complications and maintaining a high quality of life for those affected by the condition.

Access to Healthcare: Information on local healthcare facilities and the significance of regular health check-ups for overall well-being. the availability, affordability, and utilization of healthcare services and resources for the prevention, diagnosis, and management of hypertension within a specific community or population.

This multifaceted concept encompasses various factors, including physical accessibility, financial barriers, healthcare infrastructure, and community engagement. The availability of healthcare services is a fundamental component of access to healthcare. In the case of hypertension , this includes facilities offering diagnostic tests, medical consultations, and treatment options. A case study would examine the distribution of healthcare facilities within the community, assessing whether there are areas with limited access and identifying potential disparities in healthcare resource allocation. Physical accessibility is a critical aspect, as the geographical proximity of healthcare facilities influences an individual's ability to seek timely care. The case study might investigate the distance individuals have to travel to reach healthcare centres, considering the impact of transportation infrastructure on access. Barriers such as lack of transportation options or remote living conditions could affect the community's ability to access necessary healthcare services.

Financial barriers, including the cost of healthcare services, medications, and diagnostic tests, are significant factors influencing access to care. The case study would assess the community's socioeconomic status and its implications for healthcare affordability.

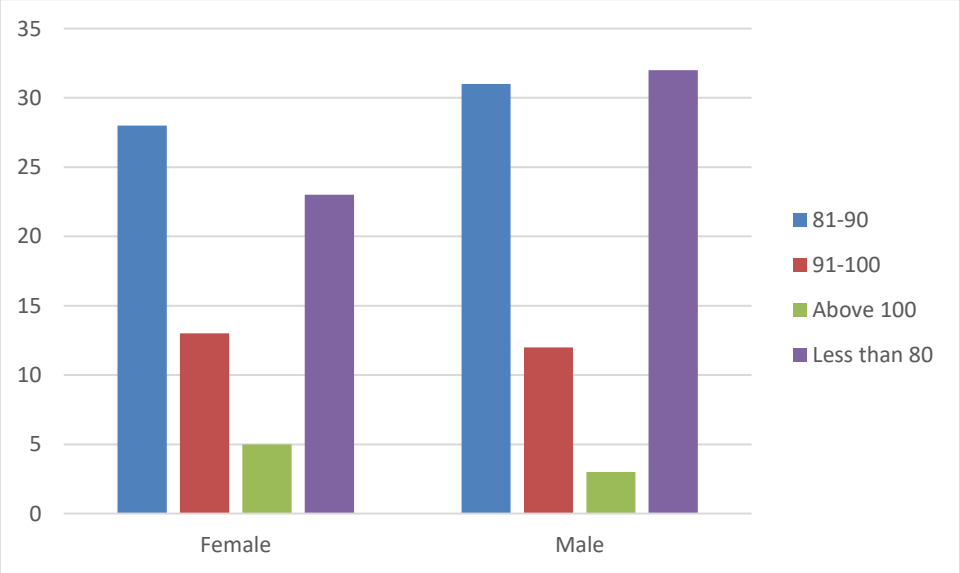
It might explore whether financial constraints disproportionately affect certain demographic groups within the community, potentially hindering their ability to seek necessary healthcare for hypertension. Health insurance coverage and social support programs could play a role in mitigating financial barriers. The case study would examine the prevalence of health insurance within the community and assess its effectiveness in facilitating access to hypertension -related healthcare services. Additionally, it might explore community awareness and utilization of available social support programs aimed at improving healthcare affordability. The quality and capacity of healthcare infrastructure are vital considerations in evaluating access to healthcare for hypertension. Adequate staffing, diagnostic equipment, and medical supplies contribute to the effectiveness of healthcare facilities. The case study might assess the community's perceptions of healthcare quality, wait times for services, and overall satisfaction with the available healthcare infrastructure. Community engagement also plays a role in determining access to healthcare. A case study would explore whether cultural beliefs, language barriers, or mistrust in healthcare systems impact the community's willingness to seek medical attention for hypertension. Community outreach and culturally sensitive healthcare practices could be integral components of addressing these barriers. The study might also investigate the role of community health workers or outreach programs in bridging gaps in access to healthcare. These initiatives can play a crucial role in reaching underserved populations, providing education, and facilitating connections to healthcare services. The impact of technology on access to healthcare is another dimension to consider. Telehealth services, mobile health applications, or other digital tools can potentially enhance healthcare accessibility. The case study would explore the utilization of such technologies within the community, considering factors like digital literacy and technological infrastructure.

Data Analysis:

Data analysis of the hypertension Camp revealed insightful patterns: a prevalence rate of %, demographic-specific trends, and areas of higher vulnerability. This information guides future interventions and underscores the camp's effectiveness in uncovering crucial health insights within the Berka Village.

Table 2: Details of participants that shows significant change with their Hypertension in blood after non-pharmacological intervention.

S. No.	Name	Age (In Years)	Gender	Height (cms)	Weight (kg)	Body mass index (BMI)	Systolic Blood Pressure (mmHg):	Diastolic Blood Pressure (mmHg):
1	Mannat kaur	18-30	Female	155	65	27.1	131	95
2	Abhijit pandey	18-30	Male	179	77	24.0	135	90
3	Rachit jasrotia	18-30	Male	178	88	27.8	129	89
4	Satvati	31-45	Female	155	67	27.9	137	92
5	Lakshay Sharma	18-30	Male	172	83	28.1	120	80
6	Dinesh	18-30	Male	175	78	25.5	125	85
7	Parveen khatana	18-30	Male	162	81	30.9	130	95
8	Ved rao	Above 60	Male	157	69	28.0	129	91
9	Prince	31-45	Male	161	68	26.2	128	87
10	Dhanush	31-45	Female	161	76	29.3	122	80
11	Sandram	46-60	Male	170	79	27.3	130	90
12	Keshav	18-30	Male	179.8	82	25.4	130	95
13	Shurub	18-30	Male	180	58	17.9	125	80
14	Santhosh	46-60	Female	160	91	35.5	129	90
15	Arvind	18-30	Male	173	87	29.1	127	89
16	Lakshay	Above 60	Male	160	65	25.4	144	84
17	Vijay pal	46-60	Male	155	77	32.0	125	81
18	Gajraj	Above 60	Male	155	76	31.6	122	80
19	Ganesh	46-60	Male	155	81	33.7	118	82
20	Sukhbir	Above 60	Male	155	83	34.5	124	80
21	Mahinder	31-45	Male	155	80	33.3	129	83

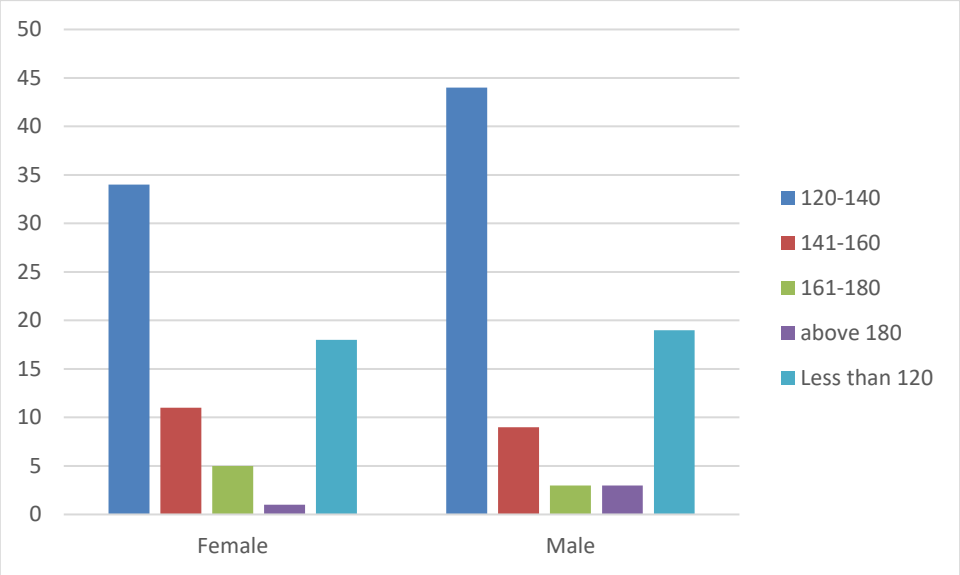


Reference Values

Blood Pressure Category	Diastolic BP (mm Hg)
Normal	Less than 80

Blood Pressure Category	Diastolic BP (mm Hg)
Elevated	more than 80
Hypertension Stage 1	80–89
Hypertension Stage 2	90 or higher
Hypertensive Crisis	Higher than 120 (medical emergency)

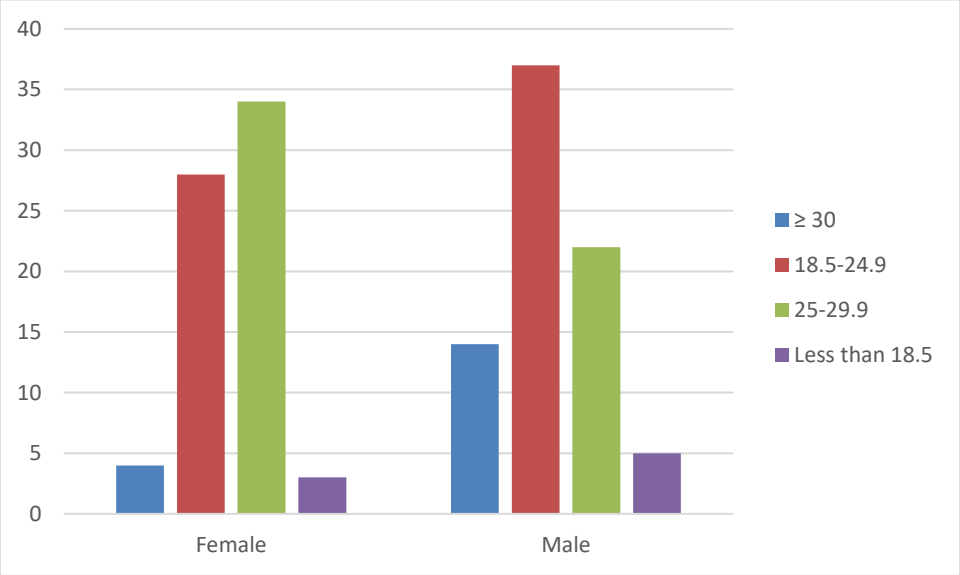
Graph 4 - Diastolic Blood pressure in Male and Females after pharmacological intervention



Reference Values

Blood Pressure Category	Systolic BP (mm Hg)
Normal	Less than 120
Elevated	120–129
Hypertension Stage 1	130–139
Hypertension Stage 2	140 or higher
Hypertensive Crisis	Higher than 180 (seek emergency care)

Graph 5 – Systolic Blood pressure in Male and Females after pharmacological intervention



Reference Values

BMI Category	BMI Range (kg/m²)
Underweight	Less than 18.5
Normal (Healthy Weight)	18.5 – 24.9
Overweight	25 – 29.9
Obesity Class I	30 – 34.9
Obesity Class II	35 – 39.9

Graph 6 – Body Mass index (BMIs) in Male and Females after non pharmacological intervention

Outcomes :

Prevalence Assessment:

- A total of 147 screened.
- Approximately 40% were found to have elevated blood pressure levels.
- Higher prevalence was observed in the elderly population and individuals with low physical activity levels.
- 21 participants (approximately 15 %) of total participants showed significant change in elevated Blood Pressure after non pharmacological intervention

Community Education:

- Conducted interactive awareness sessions using local language for better understanding.
- Educated community members on risk factors such as high salt intake, obesity, stress, and sedentary lifestyle.
- Many participants expressed willingness to adopt lifestyle changes.

Screening and Counselling:

- On-site BP measurements were done using digital sphygmomanometers.
- Individuals with high readings were counselled immediately, and some were referred to nearby healthcare facilities.
- Non- Pharmacological intervention such as diet, medication compliance and physical activity.

- Created a basic health record for future follow-up and community health planning.

Nutritional Empowerment:

- Sessions were conducted on low-sodium diets, seasonal fruits and vegetables, hydration, and home remedies.
- Local women, especially homemakers, were encouraged to modify cooking practices to reduce salt and oil.
- Participants showed interest in kitchen gardening and adopting heart-healthy diets.
- Reinforced the importance of daily physical activity alongside dietary changes.