OPPERTUNISTIC HYPERTENSION SCREENING IN RURAL HEALTH POPULATION OF UMAR ABAD TEHSIL KHAREZAT DISRTRICT PISHIN BALOCHISTAN. A CROSS SECTIONAL STUDY

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Abstract:
*Objective: To improve the information about hypertension control in the adult population. **Material and Methods:** This was descriptive cross-sectional survey based study conducted at rural healthcare centre, Umar Abad, tehsil, karezat, district, Pishin, Balochis tan, Pakistan. Information was collected from the outpatients who visit the rural health center, throughout the examination span, age ranging from (≥18 years) old giving the hypertension by filling self-administrated surveys. The data was collected by two research assistants. Blood pressure was measured by auscultation, using the standardized sphygmomanometer. Blood pressure was measured in the desk posture by a fitting sized handcuff around the arm. Related sample Friedman's two-way analysis of variance by rank test was performed and (p<0.005) considered as sufficient. The data interpreted and analyzed. **Result:** The total 198 study respondents were seeing out of which males was 143 (72.2%) and females was 55 (27.2%). Most of the respondents were in the age group between 18-25 years were 92 (46.5%). Respondents were replies yes 143 (72.2%) to the question "Have you ever had your blood pressure taken?", the 81 (40.9%) of the respondents replied, "not before today" to statement "When were you diagnosed to have hypertension?". **Conclusion:** This investigation was inferred that the woman's respondents were on more risk than men's. In any case, most of the examination respondents were not hypertensive and they have not determined to have hypertension before and the greater part of the hypertensive respondents didn't know about their hypertension.*
Keywords: *Hypertension, screening, rural healthcare center, Pishin, Balochistan.*

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INTRODUCTION:

Hypertension is one of the main risk factors in the worldwide weight of disorder, with most hypertensive people living in the developing world [1, 2]. There are various simple to-utilize and ease analytic gadgets for identifying hypertension [3, 4], by way of well as harmless and effective low-cost treatments for profitable hypertension management [1, 5, 6], indeed, even in low-asset settings; yet numerous people with brought pulse up in creating nations are ignorant of their condition. Such ignorance constitutes a noteworthy obstruction to hypertension treatment and control and puts these people at expanded hazard for cardio vascular illness and passing [7-10].While there has all the earmarks of being no all-around acknowledged concession to how to best expand hypertension mindfulness in a basic yet dependable way, past examinations have proposed that an absence of routine circulatory strain checking amid formal human services visits might be a vital purpose behind the frequently low levels of hypertension mindfulness in the developing world [11]. Public health organizations in numerous created nations prescribe routine entrepreneurial screening for hypertension amid standard medicinal services visits [12, 13], frequently accomplishing generally high rates of analysis and treatment accordingly [14-16]. By differentiate, routine crafty hypertension screening amid medicinal services visits is considerably less normal in creating nations, where levels of hypertension mindfulness, treatment, and control are regularly much lower. In the meantime, the capability of routine deft screening for expanding hypertension mindfulness in creating nation settings appears to be to a great extent obscure [17, 18].

Hypertension has been generally considered in group studies, however broadly illustrative appraisals are accessible just in a couple of nations. The commonness of hypertension in grown-ups was evaluated to be 23% and 18% in urban and country regions separately in the national wellbeing study of Pakistan, led amid 1990-1994 [19]. Hypertension was emphatically connected with higher financial status in both urban and provincial regions. In grown-ups in Sri Lanka the commonness of hypertension was assessed to be 17% in urban and 8% in country areas. Several investigations crosswise over India additionally report a higher predominance in grown-ups in urban contrasted and provincial regions (20-40% vs 12-17%) [20-22].

There is no such examination led in endeavors to control HTN in the proposed territory and to expand open learning and mindfulness, particularly about the

dangers related with uncontrolled in the rustic regions.

MATERIAL AND METHODS:

Study Design
This was descriptive cross-sectional survey based study.

Study Setting
The study was conducted at rural health center, Umar Abad, tehsil Karezat, district Pishin Balochistan, Pakistan.

Duration of Study
The study duration was September-November 2017.

Data Collection
Information was gathered from the out patients who visit the rural health center, Umar Abad, district Pishin throughout the examination span, age extending from ≥18 years old giving the hypertension by filling self-administrated surveys.

Study Population
The male and female adult population (>18 years) going to the everyday outpatient department of rural health center Umar Abad, region Pishin, Balochistan were focused in this investigation.

Sampling Technique
The non-random consecutive sampling technique was used.

Sample Size Calculation

Sample size was calculated through an equation, past examination prevalence rate of 35 %.

$$n = \frac{z^2(p)(1-q)}{e^2}$$

$$n = \frac{(1.96)^2(0.35)\,(1-0.65)}{(0.05)^2}$$
$$n = 189$$

By addition 5% rejection rate the sample size was **(n= 198).**

Where n = sample size, z^2 = the abscissa of the normal curve that cuts off an area at the tails (1-α equal the desired confidence level, e.g. 90%), i.e. 1.96, p = the prevalence, q = 1-p and e^2 = margin of error.

Inclusion Criteria

The male and female population who going to visit outpatient division of RHC, Umar Abad, district Pishin, Balochistan, age going from 18-60

years were considered.

Exclusion Criteria

The patients with critical condition, pregnant women and Afghan citizens were excluded.

Data Collection Instrument

A recognized survey farm was utilized for information accumulation. This survey farm has two areas as takes after;

Section- 1 (General Information)

The segment has general data of the examination respondents. In this area 11 questions were used. which covers the data about sex, age (years), address, marital status, employment status, level of education, height, weight, systolic blood pressure (taken two times), diastolic blood pressure (taken two times).

Section-2 (Hypertension Questionnaire)

This section covers 16 hypertension questions see table-4.

Data Collection Reliability and Validity

Questionnaire was approved for the benefit of its substance unwavering quality and validity by a board contained of 3 M.Phil. specialists in comparative fields.

Pilot Test

The pilot test was performed, 10% sample size population taken from patients going to the RHC, Umar Abad before beginning the investigation which was same statistic qualities, prohibited from study. Consequence of pilot test was examined by utilizing SPSS-22.

Data Collection Procedure

The data was taken on standardized self-designed survey form. The data collected by 02 research assistants. Data collectors were rented and trained by the main researchers to collect the data. The written/verbal consent was taken before data collection from the concerned authorities and all the study respondents who agree to take part. Blood pressure was measured by auscultation, using the standardized sphygmomanometer. All the contestants demanded to take rest for five minutes. Blood pressure measured in the desk posture by a fitting sized handcuff around the arm. Two distinct interpretations were taken at a break of at least five minutes. Systolic blood pressure was measured at appearance of the Korotkov's sounds (Phase I) and

diastolic blood pressure taken at the point of disappearance of the sounds (Phase IV). The hypertension related questions were asked and noted the responses of all the study respondent in survey form and organized the data.

Data Analysis

Finalized survey form was patterned for mistakes, corrected and ready. SPSS-22 was used for data analysis. Frequencies, percentages and mean±standard deviation were calculated for categorical variables. Related sample Friedman's two-way analysis of variance by rank test was performed and (p<0.005) considered as significant. Data was interpreted and analyzed.

RESULTS:

The demographic characteristics of study participants as presented in table-1; the total 198 study respondents were considering out of which males was 143 (72.2%) and females was 55 (27.2%). Most of the study respondents were in the age group between 18-25 years were 92 (46.5%), followed by 26-35 years were 46 (23.7%), 36-45 years were 40 (20.8%), 46-55 years were 17 (8.6%) and >65 years were 3 (1.5%). Most of the study respondents were single 102 (51.5%), married were 95 (48.0%) and widow was 1 (0.5%). The employee status of study respondents, most were government employee 56 (28.3%), followed by, self-employed were 40 (20.2%), housewives was 28 (14.1%), farmers was 8 (4.04%), other; students were 65 (32.8%) and 1 (0.5%) was driver. The education level of most of the study respondents was higher secondary education 74 (37.4%), secondary education was 51 (28.8%), university education was 39 (19.7%), primary education was 31 (10.6%) and no formal education was 13 (6.6%).

The mean±standard deviation comparison of different age group with height, weight and blood pressure as presented in table-2; in the age group 18-25 years the study respondents were 92 and mean±standard deviation of height was 5.69±0.370, the mean±standard deviation of weight was 67.86±11.061, the mean±standard deviation of (S.B.P.1) was 117.72±14.907, the mean±standard deviation of (S.B.P.2) was 117.99±14.808, , the mean±standard deviation of (D.B.P.1) was 77.93±10.746 and the mean±standard deviation of (D.B.P.2) was 77.72±11.104. In the age group 26-35 years the study respondents were 46 and mean±standard deviation of height was 5.84±0.389, the mean±standard deviation of weight was 77.50±6.669, the mean±standard deviation of (S.B.P.1) was 130.22±9.065, the mean±standard deviation of (S.B.P.2) was 130.22±9.065, the

mean±standard deviation of (D.B.P.1) was 86.41±9.925 and the mean±standard deviation of (D.B.P.2) was 86.20±14.907. In the age group 36-45 years the study respondents were 40 and mean±standard deviation of height was 5.59±0.298, the mean±standard deviation of weight was 68.35±24.576, the mean±standard deviation of (S.B.P.1) was 128.50±13.691, the mean±standard deviation of (S.B.P.2) was 128.50±13.691, the mean±standard deviation of (D.B.P.1) was 89.50±6.385 and the mean±standard deviation of (D.B.P.2) was 90.25±9.470. In the age group 46-55 years the study respondents were 17 and mean±standard deviation of height was 5.79±0.353, the mean±standard deviation of weight was 77.94±3.344, the mean±standard deviation of (S.B.P.1) was 132.94±8.489, the mean±standard deviation of (S.B.P.2) was 132.94±8.489, the mean±standard deviation of (D.B.P.1) was 90.00±5.000 and the mean±standard deviation of (D.B.P.2) was 92.35±7.524. In the age group 56> years, the study respondents were 3 and mean±standard deviation of height was 5.33±0.058, the mean±standard deviation of weight was 82.67±6.506, the mean±standard deviation of (S.B.P.1) was 140.00±26.458, the mean±standard deviation of (S.B.P.2) was 140.00±26.458, the mean±standard deviation of (D.B.P.1) was 86.67±11.547 and the mean±standard deviation of (D.B.P.2) was 90.00±10.000.

Gender comparison with blood pressure as presented in table-3; In male respondents the mean±standard deviation of (S.B.P.1) was 121.19±15.221, the mean±standard deviation of (S.B.P.2) was 121.36±15.119, the mean±standard deviation of (D.B.P.1) was 80.42±10.804 and the mean±standard deviation of (D.B.P.2) was 80.63±11.701. In female respondents the mean±standard deviation of (S.B.P.1) was 132.91±8.316, the mean±standard deviation of (S.B.P.2) was 132.91±8.316, the mean±standard deviation of (D.B.P.1) was 91.18±5.179 and the mean±standard deviation of (D.B.P.2) was 91.55±7.927.

The hypertension questionnaires evaluation as presented in table-4; most of the respondents were replies yes 143 (72.2%) to the question "Have you ever had your blood pressure taken?", the 81 (40.9%) of the respondents replied "not before today" to statement "When were you diagnosed to have

your age when you were first diagnosed/announced as a case of high blood?", then most of the respondents replied N/A (not applicable) i.e. 87(43.9%), the statement "Have you ever been prescribed medication for hypertension by Doctor or Paramedics?", then most of the respondents replied "No" 106 (53.5%), the statement ". Have you taken prescribed medication for hypertension today or in previous days?" utmost respondents replied "No" 110 (55.6%). The statement "Have you ever suffered from any of the following conditions?", majority of respondents replied, "None of above" 70 (38.4%), most of the respondents replied "No" 130 (69.7%) to the statement "Have you ever smoked cigarette?", most of the respondents 48 (24.2%) were start smoking in age group between 11-20 years, replied to the statement "If the answer is yes, tell us at what age did you start smoking?". Most of the respondents 154 (77.8%) replied "No" to the statement "Are you a current smoker?", most respondents 19 (9.59%) replied that they quit smoking in <1 years to the statement "If the answer is yes, when did you quit smoking?", and the smoking time of the most respondents was <1year 14 (7.1%). When the question asked "On average how many cigarettes are you/have you been taking in a day?", the respondents 37 (18.68%) replied they smoked 1-9/day, when question asked about "What level of physical activities do you have while at work?", the 96 (48.5%) of respondents replied that they have "Light" physical activities, the most of the study respondents 108 (54.5%) replied "No" to the statements "Do you have any close relative who is/was suffering from hypertension?", the 49 (24.7%) respondents were relied "Father" and 49 (24.7%) replied "Mother" to the question when asked "If the answer is yes, who is this person?" and the respondents 125 (63.1%) replied "No" to the statement " Do you have any close relative who has died of any of the following conditions (Heart attack, Stroke)?".

Table 1: Demographic Characteristics of Study Respondents

Variables	Frequency	Percent
Gender		
Male	143	72.2
Female	55	27.8
Age Group		
18-25 years	92	46.5
26-35 years	46	23.7
36-45 years	40	20.2
46-55 years	17	8.6
>65 years	3	1.5
Marital Status		
Single	102	51.5
Married	95	48.0
Widow	1	0.5
Employee Status		
Government Employee	56	28.3
Self Employed	40	20.2
Housewife	28	14.1
Farmer	8	4.04
Other		
Student	65	32.8
Driver	1	0.5
Level of Education		
No Formal Education	13	6.6
Primary Education	21	10.6
Secondary Education	51	25.8
Higher Secondary Education	74	37.4
University Education	39	19.7

Related sample Friedman's two-way analysis of variance by rank (p<0.001)

Table 2: Comparison of Different Age Group with Height, Weight and Blood Pressure

Age Group		Height (m)	Weight (kg)	S.B.P.1 (mmHg)	S.B.P.2 (mmHg)	D.B.P.1 (mmHg)	D.B.P.2 (mmHg)
18-25 years	N	92	92	92	92	92	92
	Mean	5.69	67.86	117.72	117.99	77.93	77.72
	Std.	0.370	11.061	14.907	14.808	10.746	11.104
26-35 years	N	46	46	46	46	46	46
	Mean	5.84	77.50	130.22	130.22	86.41	86.20
	Std.	0.389	6.669	9.065	9.065	9.925	10.603
36-45 years	N	40	40	40	40	40	40
	Mean	5.59	68.35	128.50	128.50	89.50	90.25
	Std.	0.298	24.576	13.691	13.691	6.385	9.470
46-55 years	N	17	17	17	17	17	17
	Mean	5.79	77.94	132.94	132.94	90.00	92.35
	Std.	0.353	3.344	8.489	8.489	5.000	7.524
>56 years	N	3	3	3	3	3	3
	Mean	5.33	82.67	140.00	140.00	86.67	90.00
	Std.	0.058	6.506	26.458	26.458	11.547	10.000
Total	N	198	198	198	198	198	198
	Mean	5.70	71.29	124.44	124.57	83.41	83.66
	Std.	0.368	14.479	14.617	14.512	10.716	11.830

*S.B. P (Systolic blood Pressure), *D.B. P (Diastolic blood Pressure), *N (Numbers), *Std. (Standard deviation).

Table 3: Comparison of Gender with Blood Pressure

Gender		S.B.P.1 (mmHg)	S.B.P.2 (mmHg)	D.B.P.1 (mmHg)	D.B.P.2 (mmHg)
Male	N	143	143	143	143
	Mean	121.19	121.36	80.42	80.63
	Std. Deviation	15.221	15.119	10.804	11.701
Female	N	55	55	55	55
	Mean	132.91	132.91	91.18	91.55
	Std. Deviation	8.316	8.316	5.179	7.927
Total	N	198	198	198	198
	Mean	124.44	124.57	83.41	83.66
	Std. Deviation	14.617	14.512	10.716	11.830

Table 4: Hypertension Questionnaires Evaluation

Questions	Frequency	Percentage
Q1. Have you ever had your blood pressure taken?		
Yes	143	72.2
No	55	27.8
Q2. When were you diagnosed to have hypertension?		
<1month	25	12.6
1month-1year	52	26.3
>1year ago	40	20.2
Not before today	81	40.9
Q3. What was your age when you were first diagnosed/announced as a case of high blood?	31	15.7
18-25years	53	26.8
26-35years	19	9.6
36-45years	8	4.0
46-55years	87	43.9
N/A		
Q4. Have you ever been prescribed medication for Hypertension by Doctor or Paramedics?	92	46.5
Yes	106	53.5
No		
Q5. Have you taken prescribed medication for hypertension today or in previous days?	88	44.4
Yes	110	55.6
No		
Q6. Have you ever suffered from any of the following conditions?		
Diabetes Mellitus	8	4.0
High Cholesterol	25	12.6
TIA/ Stroke	1	0.5
Headache	50	25.3
Kidney Disease	30	15.3
Angina	8	4.0
None of above	76	38.4
Q7. Have you ever smoked cigarette?		
Yes	60	30.3
No	130	69.7
Q8. If the answer is yes, tell us at what age did you start smoking?		
<10 years	2	1.0
11-20 years	48	24.2
21-30 years	10	5.05
Q9. Are you a current smoker?		
Yes	44	22.2
No	154	77.8
Q10. If the answer is yes, when did you quit smoking?		
<1 year	19	9.59
1-10 years	18	9.09
>20 years	7	3.53

Q11. Smoking time in total (to be calculated by the interviewer		
<1 year	14	7.1
1-10 years	8	4.0
11-20 years	12	6.06
>20 years	10	5.1
Q12. On average how many cigarettes are you/have you been taking in a day?	37	18.68
1-9/day	7	3.5
10-19/day		
Q13. What level of physical activities do you have while at work?		
Light	96	48.5
Moderate	87	43.9
Heavy	15	7.6
Q14. Do you have any close relative who is/was suffering from hypertension?	108	54.5
Yes	90	45.5
No		
Q15. If the answer is yes, who is this person?		
Father	49	24.7
Mother	49	24.7
Father & Mother	1	0.5
Sibling	9	9 4.5
Q16. Do you have any close relative who has died of any of the following conditions (Heart attack, Stroke)?		
Yes	58	29.3
No	125	63.1
Not sure	15	7.6

*Related sample Friedman's Two-way analysis of variance by rank (p<0.001)

DISCUSSION:

A few examinations have exhibited sizable holes in hypertension mindfulness, treatment, and control crosswise over various wellbeing frameworks in both created and creating nations [23], including the SAGE nations [9, 10]. While these examinations identified low levels of mindfulness as a key obstruction to far reaching hypertension treatment and control, they regularly offered just restricted direction on the best way to expand hypertension mindfulness in a straightforward yet dependable way. The present examination upheld the consequence of past investigations directing in SAGE nations, because many of the investigation respondents were didn't have any thought regarding the hypertension screening and they were not analyzed previously.

In most creating nations hypertension is expanding in slant in both urban and provincial regions. The mindfulness, treatment, and ampleness of control of hypertension in this examination were low (was 45% in the elderly populace [24]. These outcomes may be because of a dominant part of more youthful 33.8%, 32.1%, and 12.5%, separately). In an examination in Kerala, it was 39%, 29%, and 10%, separately, in the urban elderly populace [25]. In another examination in Kerala, the mindfulness populace dwelling in country regions. Notwithstanding, very like the examinations directed in numerous creating nations, numerous variables assume a critical part for low attention to hypertension. In an investigation in USA, control was just in 24% of all hypertensives and 45% of the treated hypertensives [26].

In Assam around 4% of all hypertensives and 18.1% of treated controlled their circulatory strain [27]. Lower commonness rates have been accounted for in country territories, however with a consistent increment in rates seen since the 1960s. [28-31]. In the present investigation the rate un attention to finding hypertension was 40%, which bolstered the aftereffect of past examinations. The two guys and females circulatory strain were typical however a large portion of the female pulse higher than male, the circulatory strain between 132/92 mmHg (high ordinary). Most of the examination respondents of present study were non-smokers and huge numbers of respondents stopped smoking year earlier. At the point when the inquiry was gotten some information

about any hypertension confusions then a large part of the examination respondents was no inconvenience (38.4%). Greater part of the examination respondents (55.6%) were not endorsed any prescription identified with hypertension. The greater part of concentrate respondent said their folks were hypertensive (24.7%).

Recommendations

The training program identified with the hypertension mindfulness and learning must prescribed. Enhanced settings would likewise take into consideration a moderately straight forward progress from hypertension analysis to ensuing clinical care. Accordingly, this method may deliver significant upgrades in hypertension treatment and control, and additionally vast decreases in mortality, at a generally direct cost.

Limitation of Study

Present study has a few restrictions, we used respondents' self-administered questionnaire form and the result of this investigation is just constrained to the RHC Umar Abad, district Pishin, and does not speak to result of some other settings /therapeutic facility in the Pakistan.

CONCLUSION:

This investigation inferred that the woman's respondents were on more risk than men's. In any case, most of the examination respondents were not hypertensive and they have not determined to have hypertension before and the greater part of the hypertensive respondents didn't know about their hypertension. Besides, routine deft hypertension screening in official medicinal settings might be less demanding to actualized and more solid than other screening programs that can't impact the current foundations and human resource of authority therapeutic settings. Rural health workers can ready for discovery of hypertension, trailed by reinforcing of public health surveillance. Private professionals additionally should assume an essential part in entrepreneurial screening and treatment of this disease.

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