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Exploring non-communicable diseases among rural women- knowledge, attitudes and barriers to early detection and prevention

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ABSTRACT

Introduction

The majority of yearly fatalities are caused by non-communicable diseases (NCDs), which provide a serious threat to global health, especially in middle- and low-income nations. In order to evaluate the knowledge, attitudes, and challenges around prevalent NCDs such as stroke, diabetes, and hypertension, as well as their awareness of a health program for the early detection and management of these disorders, this study focused on rural women in Jawan Village, India. METHODS: From June to August of 2023, 200 female residents of Jawan Village, India, between the ages of 30 and 60, participated in this cross-sectional survey. Data on sociodemographic characteristics, risk factors, NCD preventive knowledge, lifestyle variables, and obstacles to accessing healthcare were gathered using a pre-designed questionnaire. Descriptive statistics and pertinent statistical tests were used to evaluate the data. RESULTS: The study's findings demonstrated the participants' ignorance about NCDs, risk factors, and preventative measures. A lot of people had no idea what diabetes (9.5%), stroke (31%), or hypertension (10) % were. There were many unhealthy lifestyle choices, with junk food (once a week intake 63%) and physical inactivity (51.5%) being two major issues. Moreover, salt consumption went beyond advised limits (6.40±2.76 grams per day), increasing the risk of NCDs. A considerable segment of the research participants was not cognizant of an early NCD screening and management health program by the government. Numerous variables were found to be obstacles to receiving healthcare, such as time constraints and household duties.

Keywords: non communicable diseases, rural women, knowledge, lifestyle, healthcare access

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INTRODUCTION

According to WHO, Non- communicable diseases have a chronic course, which may not be noticed at earlier stages, but when detected, an intervention becomes imperative. These diseases often have a complex interplay of environmental, genetic, physiological and behavioural factors at hand which come into play for causation of NCDs. Noncommunicable diseases (NCDs) account for 41 million annual deaths, or 74% of all fatalities worldwide (1). Of these deaths, the majority ~80% deaths are reported from middle- and low-income countries because of rapid development and economic growth in these countries, along with increase in life expectancy, increased interconnection which makes it easier for rural populations to adapt urban lifestyles without moving to cities (2).Due to the chronic nature of noncommunicable diseases (NCDs) and the high expenses of long-term care, patients and their families may incur catastrophic health costs, furthering their poverty and enforcing social inequality, which is more noticeable in the context of rural communities (2) (3). People's exposure to disease and risks for poor health are affected by the interaction of biological variables and gender norms, roles, and relationships. This disparity becomes more apparent in terms of gender inequality in access to healthcare. Beyond the realm of health, social, economic, and environmental issues like poverty, education, work, and physical security have a substantial impact on health which is a significant factor of health in India and many other countries.

Many social well-being measures, including literacy rates and media availability, place women below men (4). In context of women, specifically, various factors come into play regarding access to healthcare, like lack of sufficient time to visit a healthcare facility, bad experience with healthcare facility or staff, lack of support from husband or family, lower education level, limited access to modern technology, to name a few (4) (5). Women's ability to control their health may also be severely hampered by the lack of financial or general decision-making power they may have in the home. Nearly half of the 19 million fatalities annually attributed to NCDs, which affect two out of every three women, are caused by cardiovascular diseases (CVDs) (6). In order to reduce inequities, it is necessary to determine the burden of NCDs among women, especially regarding knowledge and risk factors. This study was therefore conducted among females of rural area to find out the knowledge about risk factors and prevention of such NCDs with the objective to: assess rural women's knowledge, attitudes, and barriers regarding common noncommunicable illnesses (NCDs) like stroke, diabetes and hypertension along with information of a health program for early identification and management of such conditions.

METHOD

This cross-sectional study was conducted in Jawan, Aligarh which is a village as well as a block located roughly 14 kms from Aligarh city. The Rural Health Training Centre (RHTC) of the Community Medicine Department is a medical facility that serves the needs of the rural population in terms of healthcare. Apart from this, the village also has a Community Health Centre (CHC) which takes care of the medical needs of the people. Families registered with the Rural Health Training Centre receive services either for free or at a minimal cost. The current research included 200 resident females from the block through purposive sampling, between the age group of 30-60 years during June to August, 2023. Females already suffering from one or other non-communicable diseases, and not giving consent to participate were not included in the study. The data was collected through a predesigned questionnaire adopted from a previous study on rural females (7). The questionnaire consisted of three sections- one for socio demographic information of the study participants along with anthropometric indices, second part consisted of information regarding risk factors and prevention of stroke, diabetes and hypertension, while third part included information about physical activity and barriers to access healthcare for non-communicable diseases. The questionnaire was checked for validity and reliability through a pilot study before administering to the study population. Ethical clearance was obtained prior to the study from the Institutional Ethics committee (IECJNMC/954). The participants of the study were assured about the confidentiality of the information and their identity during the examination and interview.The collected data was entered in IBM SPSS 20.0 and was analysed by descriptive analysis and relevant statistical tests were applied wherever required.

RESULTS

The mean age of the study participants was found to be 41.19± 10.7 years. The mean age at first child was reported to be 21.3±3.3 years. The mean BMI of the population at the time of study was found to be 24.97±4.57 kg/m^2. The mean systolic blood pressure was 121.81±17.10 mmHg, while the mean diastolic blood pressure was 77.69±9.61 mmHg. Majority of the females were found to be illiterate (42%, n=84), were home makers (80%, n=160), and belonged to lower middle class (37%, n= 34) as per Modified B.G. Prasad scale 2023 (8). The other socio demographic details of the study participants can be found in Table1.

Table 1: Other socio demographic details of the study participants.

Marital status	Frequency (n)	Percentage (%)
Married	192	96.0
Unmarried	1	0.5
Divorced/ widowed	7	3.5
Educational status		
Up to 5th	28	14.0
high school	53	26.5
intermediate	12	6.0
graduate and above	23	11.5
illiterate	84	42.0
Occupational status		
Home maker	160	80.0
working	40	20.0
Housing type		
Pucca	181	90.5
Semi pucca	12	6.0
Kutcha	7	3.5
Socio-economic class		
Upper class (I)	4	2.0
Upper middle class (II)	20	10.0
Middle class (III)	38	19.0
Lower middle class (IV)	74	37.0
Lower class (V)	64	32.0

In context of information regarding knowledge about risk factors of stroke, diabetes and hypertension and attitudes on the prevention of the same, the participants were asked questions based on 4-point Likert scale which ranged from not having heard about the term to being quite familiar with it in context of one or other family member or relative having suffered from such condition and is/was undergoing treatment for the same from a medical healthcare facility. (Figure 1)

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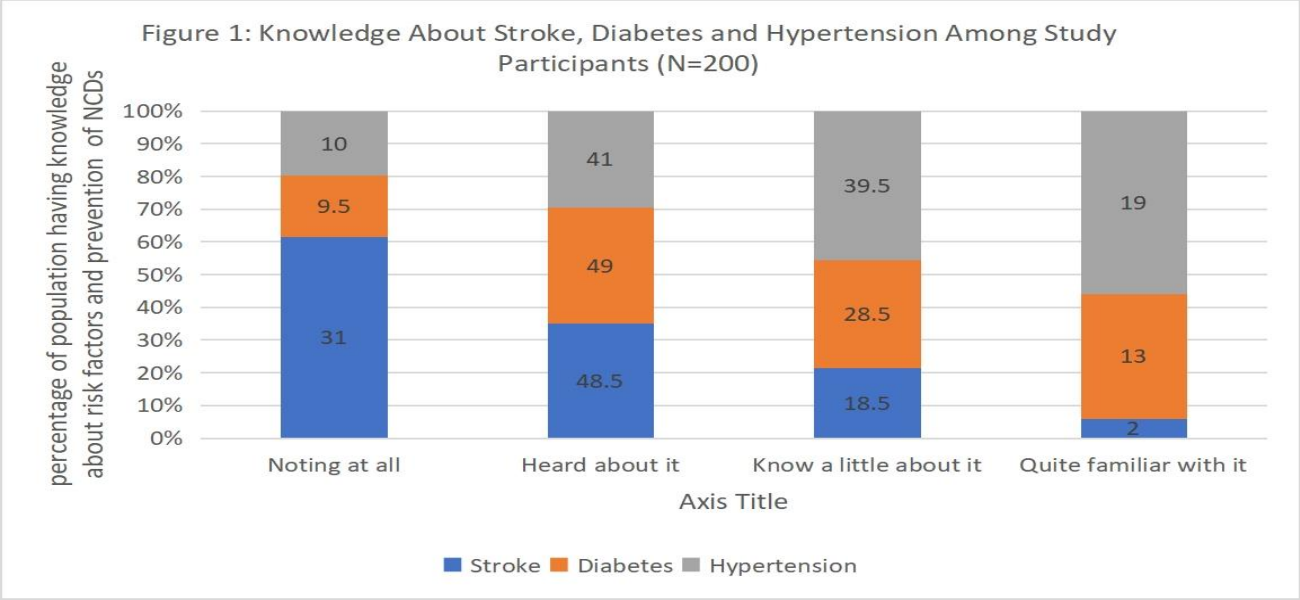
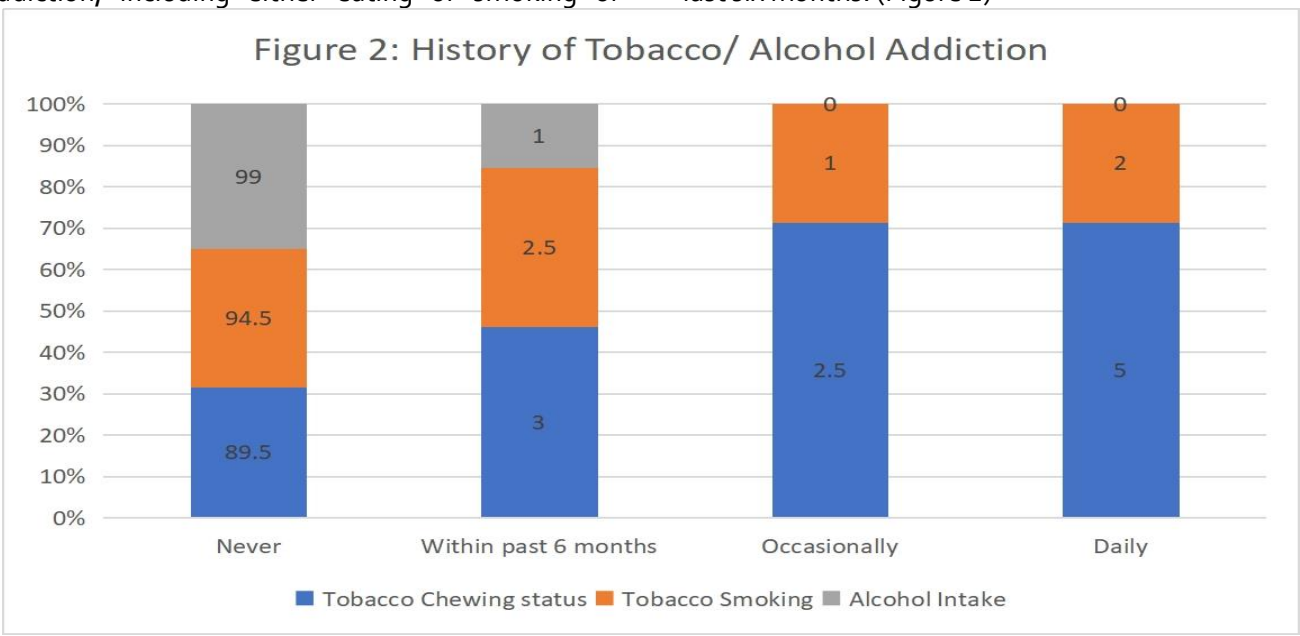


The participants were also asked about any history of addiction, including either eating or smoking of tobacco in any form, or intake of alcohol within the last six months. (Figure 2)



This following table 3 sheds light on the study subjects' understanding and attitudes on non-communicable diseases (NCDs), particularly those pertaining to blood pressure (BP), stroke, and diabetes (Table 2). The table shows that a sizable majority (79%) of the participants are aware of the value of routine blood pressure (BP) monitoring. However, the majority of participants (57.5%) were unsure of how often to monitor their blood pressure on a regular basis. However, a sizable portion (24.5%) checked it more frequently than once year, showing a proactive commitment to keeping track of their health. The data reveals that 27% of individuals agree that high blood pressure causes stroke, while 66.5% are uncertain and 6.5% disagree. This may indicate some scepticism or ignorance regarding this significant health connection. The table depicts that 35.5% of participants think modifying their diet is a preventive step when it comes to diabetes prevention. Similar numbers (39.5%) believe that taking medicine is a preventative measure. A much lesser percentage of individuals, however, indicated increasing their physical activity (11%), giving up smoking (6%), or doing nothing (6.5%) as preventive strategies

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. Table 2: Attitudes of participants regarding stroke, hypertension and diabetes

Checking BP important	Frequency (n)	Percentage (%)
Yes	158	79.0
No	5	2.5
Don't know	37	18.5
Duration of checking BP regularly		
Don't know	115	57.5
Every 5 years	13	6.5
Once a year	23	11.5
More than once a year	49	24.5
High BP Causes stroke		
Disagree	13	6.5
Unsure	133	66.5
Agree	54	27.0
Methods to prevent diabetes		
Improve diet	71	35.5
Take medications	79	39.5
Do more exercise	22	11.0
Quit smoking	12	6.0
Nothing	13	6.5
Others	3	1.5

The questionnaire also included a section regarding information about their lifestyle. The mean salt intake among the population was recorded to be 6.40±2.76 grams per day, which is more than the values recommended by WHO to prevent NCDs. The following table includes information regarding junk food intake and physical activity habits (Table 3).

Table 3: Information regarding junk food intake and physical activity habits

Physical activity on a typical day	Frequency (n)	Percentage (%)
Physically inactive	103	51.5
Moderate (increases heart rate)	87	43.5
Vigorous (increases heart rate and respiratory rate)	10	5.0
Duration of physical activity in the last 5 days		
Less than 30 minutes	119	59.5
More than 30 minutes	62	31.0
Less than 75 minutes	8	4.0
More than 75 minutes	11	5.5
Frequency of junk food intake		
Once a week	126	63.0
Twice a week	59	29.5
Three or more times per week	12	6.0
Everyday	3	1.5
Nearest distance to junk food shop		
Just next door	51	25.5
Around 500 metres	80	40.0
1 km	16	8.0
More than 1 km	53	26.5

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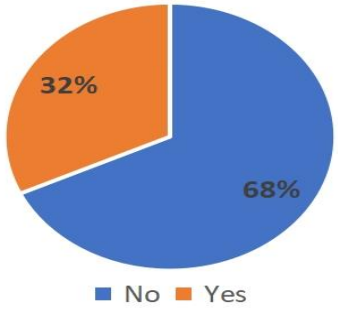
Perception of harmful effects of junk food on body		
Weight gain	60	30.0
Digestive problems	130	65.0
Diabetes or hypertension	4	2.0
Others	6	3.0
Frequency of chutney/ pickle intake with food		
Always with food	58	29.0
Once daily	11	5.5
Two to three times per week	43	21.5
Rarely, when I feel like	79	39.5
Never	9	4.5

The participants were also asked if they had any awareness regarding a health program which promotes early screening, detection and management of such non communicable diseases. More than two-thirds of the study population did not have any idea about such program being launched (n= 136, 68%) while only 32% females knew about it (Figure 3).

Figure 3: Awareness about availability of screening program for non communicable diseases by the government



The females were then asked about factors which resulted in their lack of access to healthcare which is reported in Table 4.

Table 4: Factors for lack of access to healthcare

Factors for lack of access to healthcare	Frequency (n)	Percentage (%)
Domestic responsibilities	122	61.0
Disability/injury	16	8.0
Young child at home	16	8.0
Work	10	5.0
Lack of time/ no autonomy	24	12.0
Feeling tired	7	3.5
Safety concerns	2	1.0
Unfavourable weather	3	1.5

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These findings suggest that there is a notable deficiency of knowledge on key health-related topics, such as the connection between hypertension and stroke and the accessibility of health services. Furthermore, this demographic may be at risk for health issues due to lifestyle choices such junk food consumption, physical inactivity, and salt intake.

DISCUSSION

In the study it is seen that the mean age of the participant was 41.19 (range: 30-60) years which is almost same as the finding of Alam et al (9), Ojo et al) (10) and Nujhat et al (11) who reported mean age of their participants as 44.3, 43.6 and 41.9 years respectively. The mean age at the first child was 21.3 years (range: 15-34) years and the BMI of the population was found to be 24.97±4.57 kg/m^2 which is nearly similar to the finding of the Irani et al (12) who found 22.2 ± 3.1 kg/m^2. In the present study most of the female were illiterate (42%, n=84) and were home makers (80%, n=160) by occupation which is same as the finding from similar study of Mahajan et al (7) in which he found 52% illiterate and 84.7% home maker. In our study belonging to the lower middle class 37% followed by 32% belonging to the lower class and 96% of the participants were married which is almost the same as the finding of Alam et al (9) in which he found 91.2% married.

In our study we found that the approximately half of the female (49%) had knowledge and they heard about diabetes which is similar to the finding obtained by ICMR diabetes study phase 1 in Tamila Nadu and Maharashtra rural population where they had heard about the diabetes 55.8% and 45.2% respectively as reported by Deepa et al (13). Since most of the female in rural area had not good knowledge about the disease and according to a survey conducted between 2019 and 2021 in India, the prevalence of diabetes was slightly higher among women compared to men in the same age group (14) and also the impact of diabetes complication is more severe in women as compared to man (15). Educating the population about diabetes is the first step in preventing the disease and its early detection and thus preventing the complications.

In our study we found that 31% of the females know nothing about the stroke while in the similar study by Mahajan et al (7) in India they found that 65% have no knowledge about the stroke.In this study it was found that 10% of the female have no knowledge about the hypertension and also found that 9.5% were quite familiar with hypertension which is similar to the finding of Alam et al (9) in which he found that 10% had no knowledge and Ojo et al (10) who found that 10% are familiar with the disease.While the females were enquired about the risk factors of NCDs like eating or smoking of tobacco in any form, or intake of alcohol within the last six months maximum approximately 90% responded never chewed tobacco, 95% responded never smoked tobacco and 99% responded never taken alcohol which is almost same as the finding from the similar study conducted by Mahajan et al (7) where he found 95% never chewed tobacco, 97% never smoked tobacco and 94.2% never taken Alcohol.

While in our study it can be understood that a substantial population among the females understand the importance of checking their blood pressure, almost 60% were not sure how often it should be checked, which is similar to a study (7) conducted previously. Only one third of the total participants in our study were aware that hypertension might lead to stroke, as demonstrated by another study conducted on rural population (16). This brings home the point that even if people know about non communicable diseases, they might not always be aware of the complications arising from them. As for the prevention of diabetes, almost 40% of females thought that diabetes can only be treated with medications, the second highest proportion of the population were aware about making dietary changes to avert the problem. The same is reflected in another study which found that relatively little people knew that making lifestyle changes could prevent diabetes (7).

With 51.5% of the population not participating in any regular physical activity, the results show a worrying prevalence of physical inactivity. The majority exercised for less than 30 minutes over the course of the previous five days, with 5.0% engaging in vigorous physical activity and 43.5% in moderate exercise. A slightly higher prevalence of almost 60% was reported in a study conducted in West Bengal, India (17), which has a discordant result with our

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study. Consuming junk food is also prevalent; 63.0% of people eat it once a week or more. A large percentage of people reside close to junk food stores, which has an impact on consumption. Junk food is thought to have a variety of negative impacts, with 65.0% of people connecting it to stomach issues. The high intake of junk food among females in rural areas may be related to a number of variables, including cultural preferences, poor socioeconomic position, limited access to better choices, low understanding of health hazards, time restrictions, social influence, aggressive marketing, and emotional considerations. Domestic chores rank as the most common explanation (cited by 61.0% of respondents), indicating that caring responsibilities frequently prevent people from obtaining medical attention. Time restrictions and a lack of autonomy were also mentioned by a sizable percentage of respondents (12.0% and 3.5%, respectively) as hurdles. Having a little kid at home, being exhausted, and having a handicap or injury are a few other factors that make it difficult for people to get treatment. Although fewer respondents cited job, safety concerns, or adverse weather as contributing considerations, these answers together demonstrate the complex nature of barriers to healthcare access. Improved support for caregivers, flexible healthcare scheduling, and community-based initiatives to guarantee that everyone has access to basic medical care are some effective ways to get past these obstacles.

CONCLUSION

In conclusion, the study offers insightful information about the demographic and health-related traits of the sample group, which is mostly made up of females from rural areas. It demonstrates a significant lack of understanding on important health-related subjects, which is necessary for early identification and prevention, such as diabetes, stroke, and hypertension. A sizable segment of the populace is ignorant of these non-communicable diseases and the risk factors that go along with them. The data also shows that the participants' knowledge of a health program that encourages early screening and diagnosis of these illnesses is inadequate. Concern should also be expressed about the population's lifestyle choices, which include a high prevalence of junk food intake and physical inactivity. Concern should also be expressed about the population's lifestyle choices, which include a high prevalence of junk food intake and physical inactivity. A lack of knowledge about the health concerns connected with these practices, as well as cultural, socioeconomic, and accessibility factors, may contribute to the high incidence of physical inactivity and junk food consumption. Finally, the study identifies a number of obstacles to healthcare access, the most often mentioned of which being home duties. Overall, the results highlight the need for lifestyle modifications, educational and awareness campaigns, and increased healthcare accessible in order to address the health issues in this group, especially among rural females.

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