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Determinants of tuberculosis treatment default in a rural area of north India: a qualitative study

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Introduction:
In spite of expanding RNTCP to treat 10 million tuberculosis (TB) patients, the rate of decline of incidence is too low to meet the targets set by the National Strategic Plan for TB Elimination, or the WHO End TB Strategy. TB incidence has fallen by an average of only 1.5% per year since 2000, far lower than the 4–5% annual decline required. One of the preventable adverse outcomes in TB treatment is treatment default—hence this study.

Aims and objectives:
To identify the determinants of treatment default in tuberculosis patients in tuberculosis unit (TU) Ballabgarh and TU Mohna, district Faridabad, Haryana through qualitative research method.

Materials and methods:
A community-based qualitative study was conducted in 2 TU’s of district Faridabad during April–June 2018.
Semi-structured interview schedules and focused group discussion (FGD) guides were developed in Hindi.
To achieve data saturation, 30 in-depth interviews of 20 TB patients who had defaulted, and 10 who had successfully completed treatment. Twenty-eight key-informant interviews were conducted with relevant stakeholders of the RNTCP in the district—District TBOfficer, Medical Officers (TBControl), Senior TBLaboratory Supervisor, Senior Treatment
Supervisors, Laboratory Technicians, TB Health Visitors, and DOTS providers. Four FGD's with DOTS providers and family members were conducted. Total recorded audio duration was 55 hours with an interview lasting 58 minutes, and an FGD 45 minutes. Transcription into Devanagari required 660 hours.

Manual analysis was performed in Hindi, ensuring no data was lost in translation. Broad domains and sub-domains were identified inductively, according to the grounded theory of qualitative research.

A health belief model was developed to explain treatment default. Profiles were constructed of the characteristics (of patient, and of the health system) that led to default.

**Results:**

On data triangulation, the most acutely perceived barriers to treatment completion were:
1. Misinterpretation of symptomatic relief as cure,
2. Harmful alcohol use,
3. Intolerable side effects, left unalleviated,
4. Lack of family support,
5. Poor quality of interaction with the health system.

The perceived benefits (of treatment completion) were:
1. Cure of the disease,
2. Decreased chance of relapse,
3. Ending of isolation from family.

Modifying variables (of the treatment outcome):
1. Sex: Male patients were considered more likely to default.
2. Socio-economic status: Poorer patients were likelier to default. Inability to afford an appropriate diet decreased ability to tolerate side effects.
3. Intermittent versus daily regimen: Patients who defaulted on the former and completed the latter attributed their successful outcome to the latter’s better side effect profile.

The cues to treatment compliance were:
1. Effective and repeated counselling of the patient and their families by health care providers.
2. Strong family support, and faith in the health system.

**Conclusion:** In India, this is the first community-based qualitative study on this subject of this scope. It covers all living treatment defaulters in the study period, along with relevant stakeholders. The results of this study may inform the development of a future health policy framework to eliminate treatment default.
Title: Knowledge and behaviours related to dietary salt and salt intake among women in an urban resettlement colony of Delhi: A cross-sectional study

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Abstract Body

Introduction: Sodium, an element needed for the normal human physiology is known to be associated with high blood pressure and other consequences if consumed in excess. To reduce blood pressure and risk of cardiovascular disease and stroke, the World Health Organisation (WHO) recommends a reduction in sodium intake to less than 2 g/day (i.e. 5g salt/day) in adults. Population knowledge and behaviours, are known to influence salt consumption.

Aims & Objectives: To assess the knowledge and behaviours related to salt consumption, sources of dietary sodium and to estimate the mean daily salt intake of women aged 20-59 years in an urban resettlement colony of Delhi.

Materials and methods: A community-based cross-sectional study was conducted in an urban resettlement colony of Delhi, among 450 randomly selected participants. The participants were interviewed with a pre-tested, semi-structured questionnaire which covered the following domains of basic socio-demographic details, lifestyle behaviours and questions on the knowledge, attitude and behaviours (KAB). The questions on KAB were adapted from the World Health Organisation /Pan American Health Organisation (WHO/PAHO) protocol for population level sodium determination and salt module of the WHO STEPS questionnaire. To assess the dietary sources of sodium, 24-hour dietary recall was taken in detail by the investigator. Standard measures were used to quantify the food items. Data were entered in the DietCal software which is a tool for dietary assessment that gives nutritive value of most of the food items based on the Indian Food Composition Tables 2017. To estimate the mean daily salt intake of this population, spot urine (early morning urine) sample was collected from the participants. The INTERSALT equation was used to estimate the 24 hour urine sodium from the spot urine sodium.
Results: The response rate for participation was 96.4% and for urine sample was 86%. The mean age of the participants was 34.5 (SD: 9.4) years. About 80% of the participants had studied up to high school certificate or more and majority of them were homemakers (71%). About 80% of the participants believed that high salt diet causes serious health problems and only five percent of the participants were aware of the existence of a recommendation for daily salt intake. Less than 20% of the participants took measures to control their salt intake. Vegetable-based dishes were found to be the major contributors to the daily salt intake followed by pulse-based and cereal-based dishes. This is due to the high quantity in which they are consumed. Food cooked at home contributed to 90% of the daily salt intake. The mean salt intake of the participants calculated using the INTERSALT equation was 7.6g/day (95% CI: 7.5-7.8). The salt intake of the participants varied significantly across categories of educational status, occupation, marital status, socio-economic status, blood pressure and waist circumference.

Conclusion: Salt intake is higher than the recommended level and is almost entirely at the domestic level. We should cut down the discretionary salt use to control the salt intake, for which behavioural change is a must.
Title: Assessment of menstrual hygiene management among rural adolescent girls of Haryana: A cross-sectional study

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Abstract

Introduction: Menstruation is a natural and beneficial biological phenomenon, yet its nature and challenges of hygienic management have many health and social implications, with both economic and environmental impacts. Menstrual Hygiene Management is a neglected and reluctant issue to be discussed in our country. Aims & objectives: This study aimed to assess the menstrual hygiene management among adolescent girls of rural Ballabgarh. Material and methods: A community-based cross-sectional study was done in the 28 villages of Intensified Rural Practice Area of Ballabgarh, Haryana. A random list of 400 adolescent girls were taken from the Health Information & Management System data (HMIS). Adolescent girls who attained menarche were included in the study. Participants that consented/ assented were interviewed using a semi-structured pre-tested schedule. Data collection was done during the month of November and December 2018.

Results: A total of 272 participants were enrolled in the study. Mean age of menarche was 13.2 years (SD -1.2). Only 34.6% of the participants were aware about menstruation before attaining menarche. A total of 143(52.6%) participants used sanitary napkins exclusively, 85.3% changed the absorbent (≥ 2 times per day) and 3% followed safe disposal methods for menstrual waste. Restrictions were practiced for religious activities (100%), dietary changes (13.6%), household activities (9.9%) and others like playing, travelling long distance, etc.
Conclusion: There was low level of awareness about menstruation among adolescent girls prior to menarche. Half of the participants had satisfactory hygiene management of usage of absorbents. Majority of them were practising unsafe disposal methods of menstrual waste. There were still socio-cultural restrictions prevailing in rural villages of Northern India.
Prevalence of hypertension among adolescents of rural North India: a cross sectional study

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Abstract

Introduction
Epidemiological and pathological evidence suggest that the precursors of cardiovascular disease originate in childhood but goes undetected unless specifically looked for it. Recognizing hypertension in adolescents would help in reducing the future disease burden and consequent complications. Majority of the studies in India to determine the hypertension among adolescents were school based, had many methodological issues and no data on prevalence of hypertension among adolescents from rural north India.

Aims and objectives
This study aimed to determine the prevalence and risk factors of hypertension among adolescents in a rural area in India.

Materials and methods
This study was conducted among 864 adolescents aged 10-19 years selected by a simple random sampling using the sampling frame of the Ballabgarh Health and Demographic Surveillance System (HDSS). A pretested, semi-structured, interview schedule was
administered after getting informed consent/assent from the parents and participants to collect data on risk factors of hypertension. Anthropometry and blood pressure were measured. Hypertension was defined as systolic Blood Pressure and/or diastolic Blood Pressure exceeding the 95th percentile for age, sex, and height according to National High Blood Pressure Education Program (NHBPEP) criteria. Bivariate analysis was done between the outcome variable and the independent variable and all the variables were added to the multivariable logistic regression model to identify the determinants of hypertension.

Results
A total of 864 adolescents aged 10-19 years were recruited with mean (SD) age 14 ± 2.6 years. The mean (SD) systolic blood pressure (SBP) of males was 113.8 ± 14.0 mmHg and that of females was 108.9 ±11.0 mmHg. The mean diastolic blood pressure (DBP) of males was 72.0 ±10.2 mmHg and that of females was 73.0 ±9.1 mmHg. The prevalence of hypertension among males and females were 20.4% (95% CI: 16.8-24.0) and 19.3% (95% CI: 15.2-23.2) respectively. The overall prevalence of hypertension was 19.9% (95% CI:17.2-22.6%). In Multivariable binary logistic regression, age (AOR: 0.8, 95%CI: 0.7-0.9) and male sex (AOR: 1.6, 95%CI: 1.003-2.545) were significantly associated with hypertension.

Conclusion
Almost one in five adolescents were found to have hypertension in this rural community-based study, which calls for focused actions.

Keywords
Adolescent; blood pressure; community; hypertension; prevalence; determinants; rural; India