Issue 5

AUGUST—OCTOBER, 2017

RESEARCH NEWSLETTER

Research Cell, 2nd Floor, Pharmacy Building, Sumandeep Vidyapeeth

It is our pleasure to release 5th issue of Research Newsletter. The theme of the present issue is 'Research Study Design and its importance in framing of an appropriate proposal and its perfect execution'.

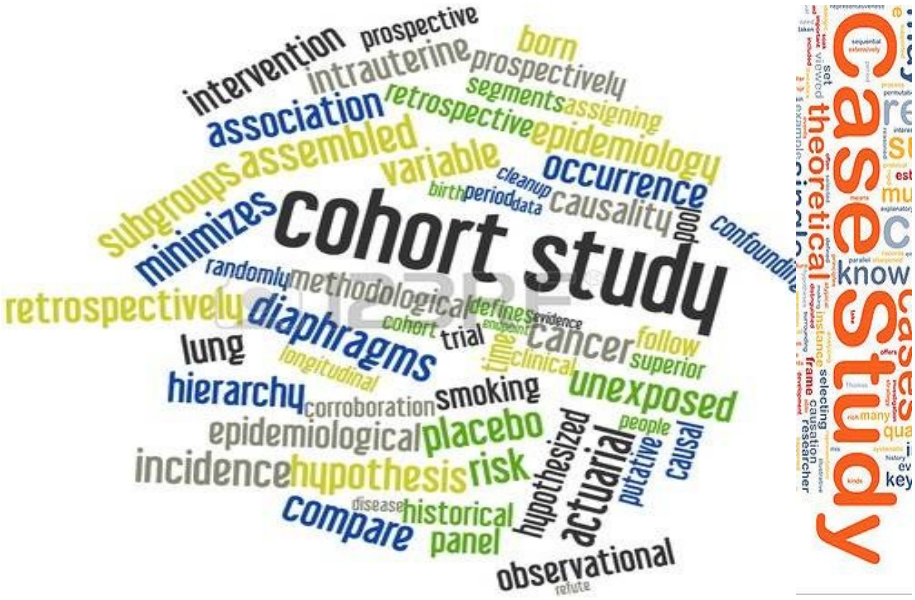
Research Study Design is a very crucial aspect, needed to be clarified before finalizing the proposal and initiating the research work.

Research Cell of Sumandeep Vidyapeeth is sincerely thankful to Dr. Niraj Pandit, Professor & Head, Department of Community Medicine, SBKS MI&RC and Deputy Director, Research Cell, for his exclusive interview on the theme which will be helpful in providing a more comprehensive understanding of the research design problems in order to develop systematic plan turning to a high quality research.

Research Cell aims to nurture research culture in all the constituent institutes of Sumandeep Vidyapeeth by guiding and providing assistance to all the researchers. The Cell believes that the students, faculty and clinicians should come forward with hypothesis based research project in order to produce some innovations leading to the patent filing.

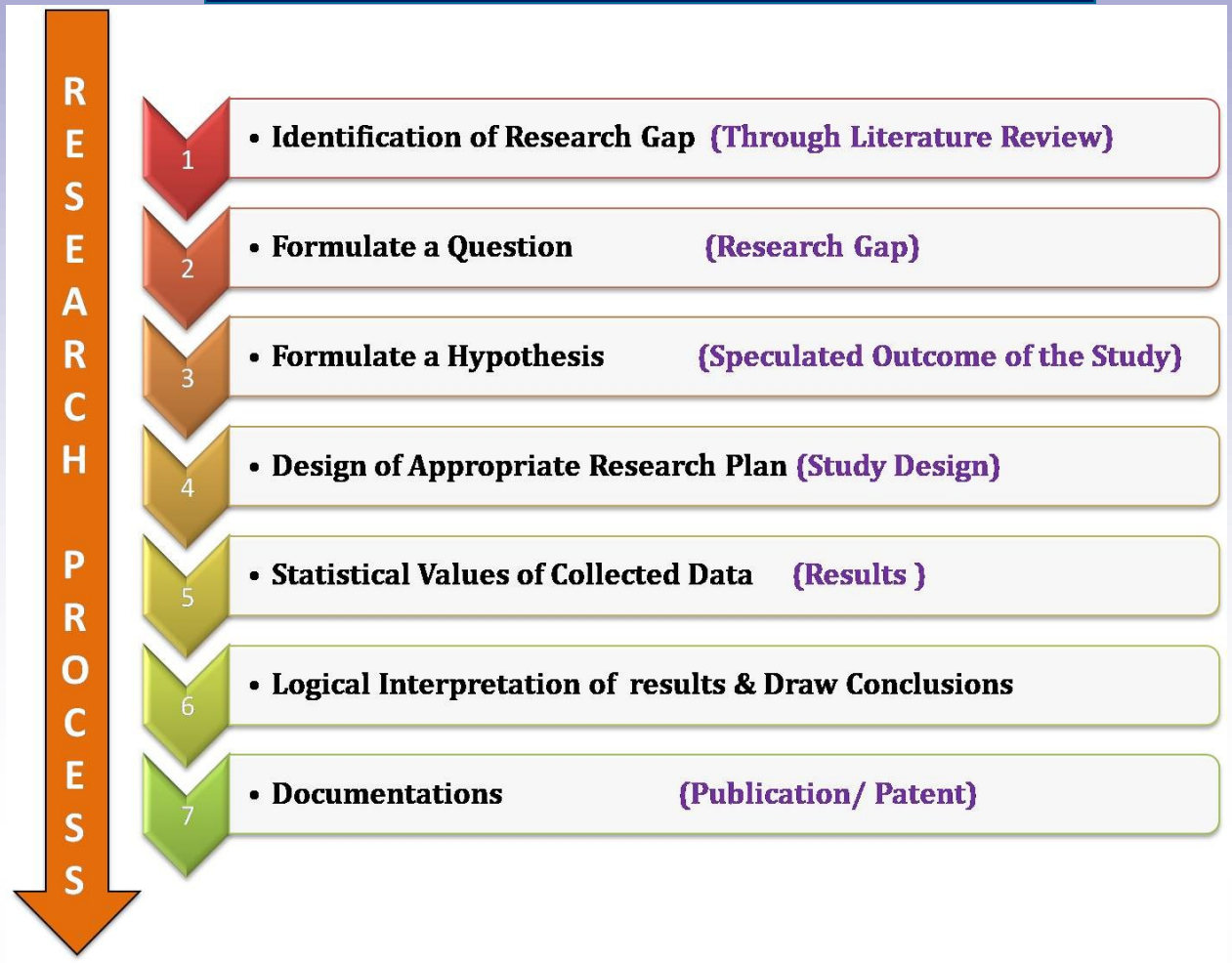
Research Cell feels that this issue of Newsletter will update our faculty and researchers with regard to its activities and research design. Suggestions are always welcome to make this communication more meaningful.

- Director Research



INSIDE THIS ISSUE

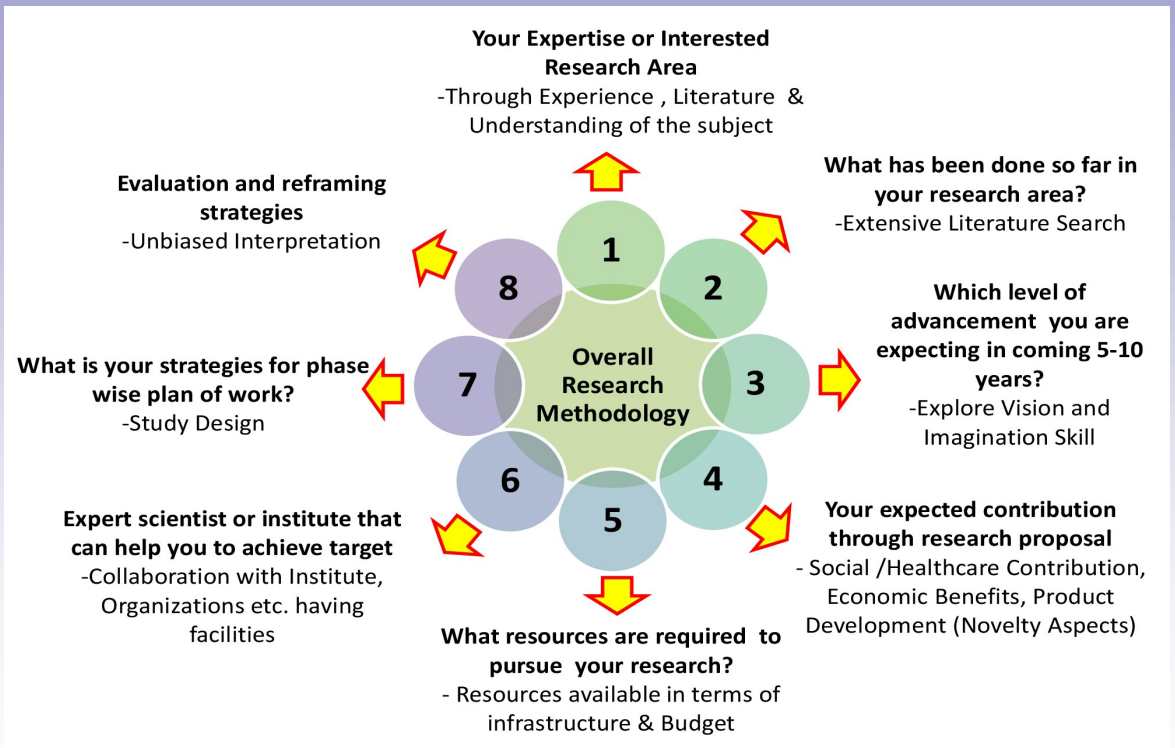
OVERALL EXPRESSION OF RESEARCH METHODOLOGY



The success of a research project is largely determined at its initial planning stage. Successful studies need to address few important dimensions: innovative approach, logical hypothesis, reliable and replicable data and validity.

- Repetition of previously performed studies on proven facts and merely collection of data cannot be considered as research.
- To frame valuable research proposal, a researcher should thoroughly scrutinize the existing development of the subject via journals, reviews and research articles of quality level and then identify the research gap.
- Identification of actual 'Research Gap' ***(A research Gap is a missing element in the existing research literature, and you have to fill that gap with your research approach to make your discovery publishable)*** is the core of any research proposal.
- Next task of the researcher is to 'Develop Hypothesis' to resolve the identified research gap.
- A Central core of Research Methodology is Study Design.

ASK YOURSELF BEFORE PROCEEDING FOR RESEARCH WORK



STUDY DESIGN

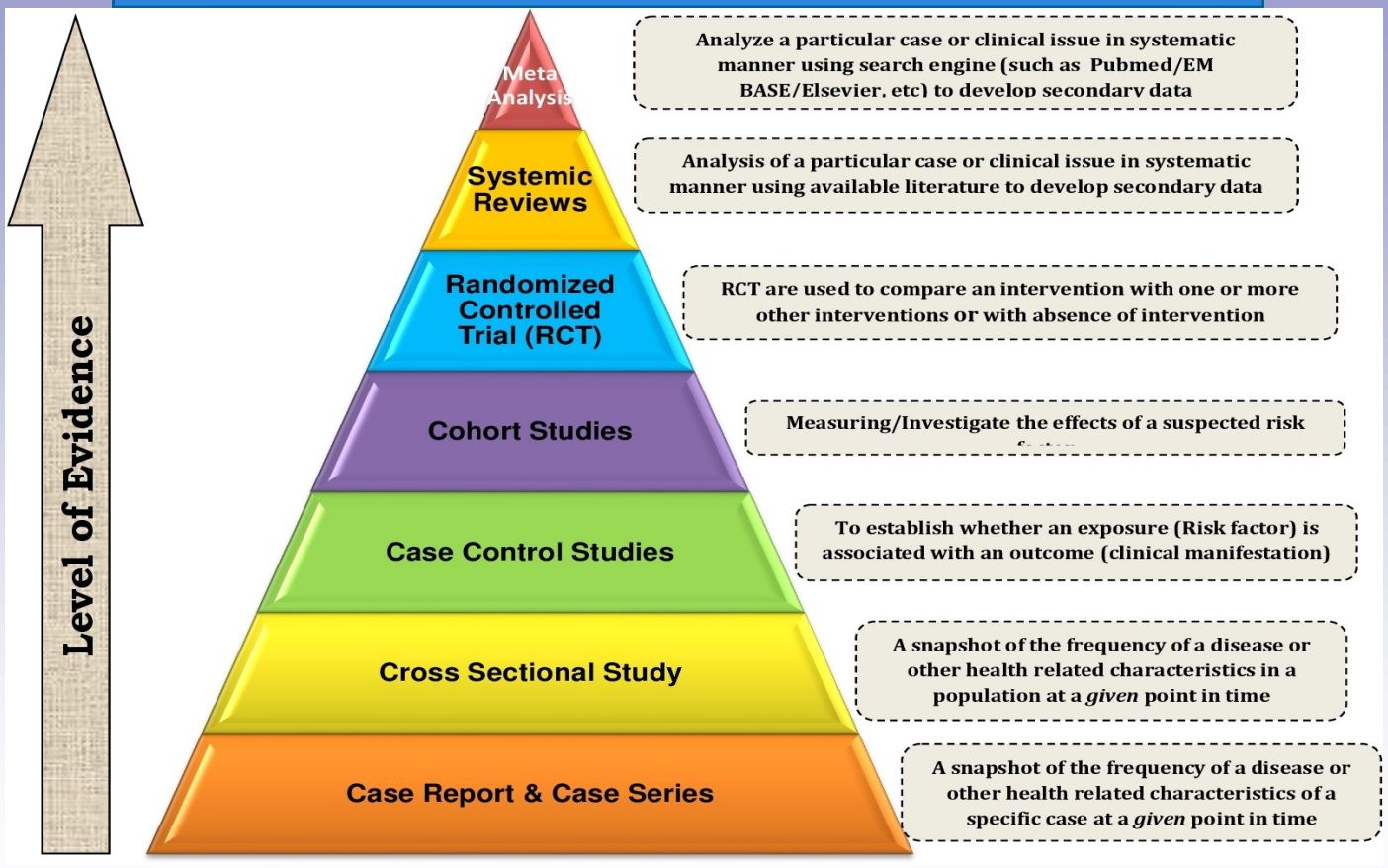
"Selection and design of any study has supreme importance in generating the best evidence to address clinical research problem"

Study design begins from a selection of right type of study which is mainly governed by 'The objectives of that study'. Data obtained from the project should be replicable, providing similar results if the same study parameters are applied. By another researchers at any point of time. Validity is concerned with the ability of the study to correctly answer the question it asks.

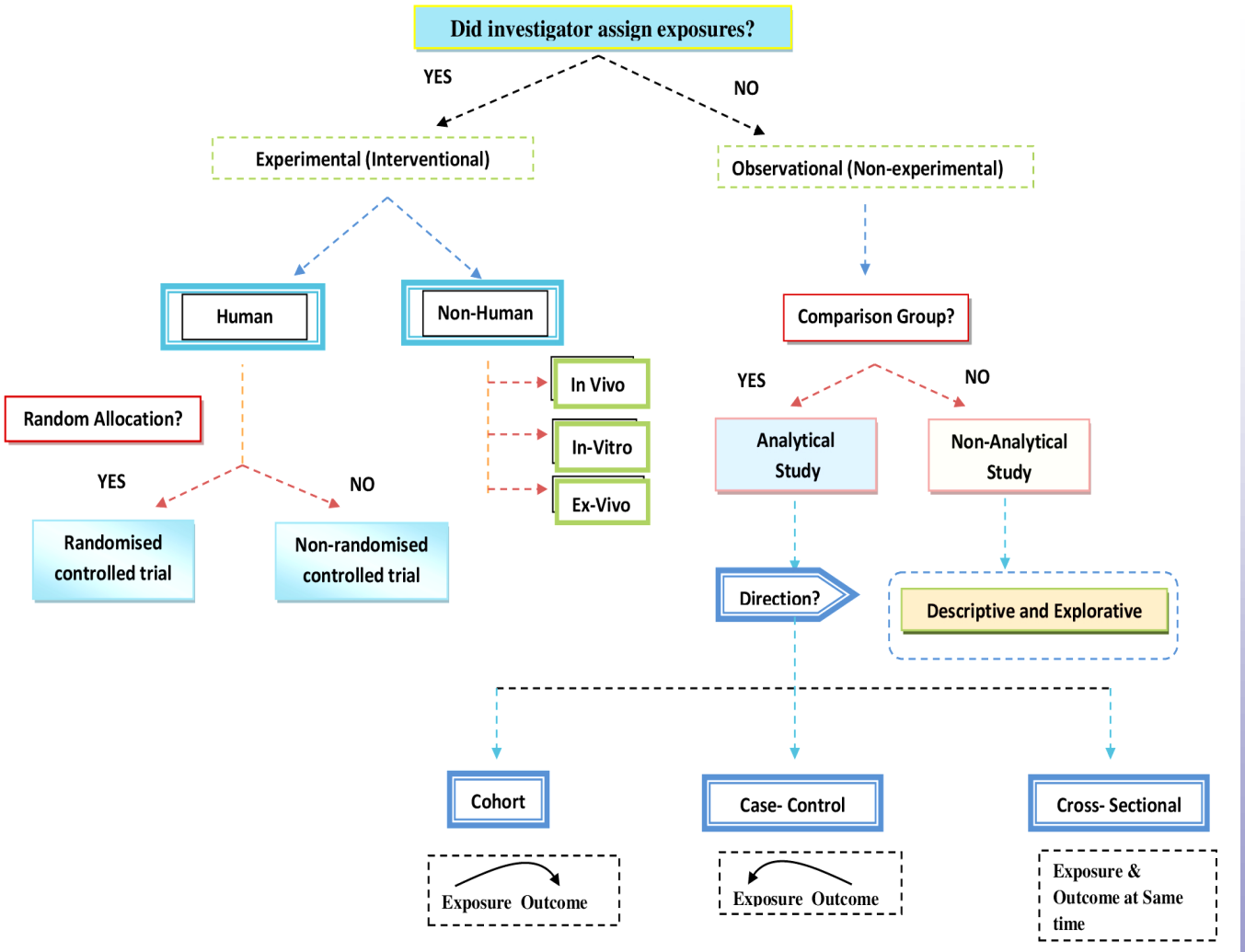
Potential problems and solutions in designing studies

Sr.	Problems	Solutions
1	Research question is too broad/general	Narrow the question, use smaller set of variables
2	Not enough subjects available	Broaden inclusion criteria, increase study period
3	Methods beyond investigator's skill level	Collaborate, consult, learn
4	Too expensive	Consider less expensive alternatives, smaller study, less follow up
5	Question not novel enough	Consult & discuss with mentors/peers, modify research question
6	Uncertain ethical suitability	Consult with SVIEC, modify research question/design
7	Vague study plan	Extensive literature and consultation with institutional research body and, time to time revision
8	Proposal confusing/ unclear	Write proposal in a point-by-point manner for specificity

Strength of Study Design: The Evidence Pyramid



Classification of Study Design



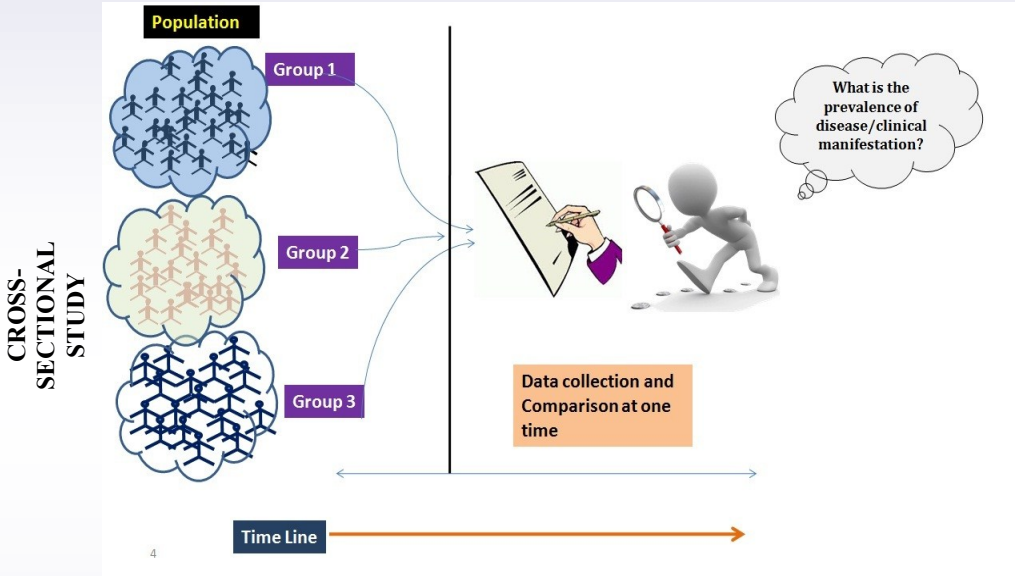
1. CROSS-SECTIONAL STUDY

In a cross-sectional survey, a sample of individuals is selected from a previously defined population and contacted at a particular point in time to obtain simultaneous information on both the exposure (s) and outcome (s) of interest.

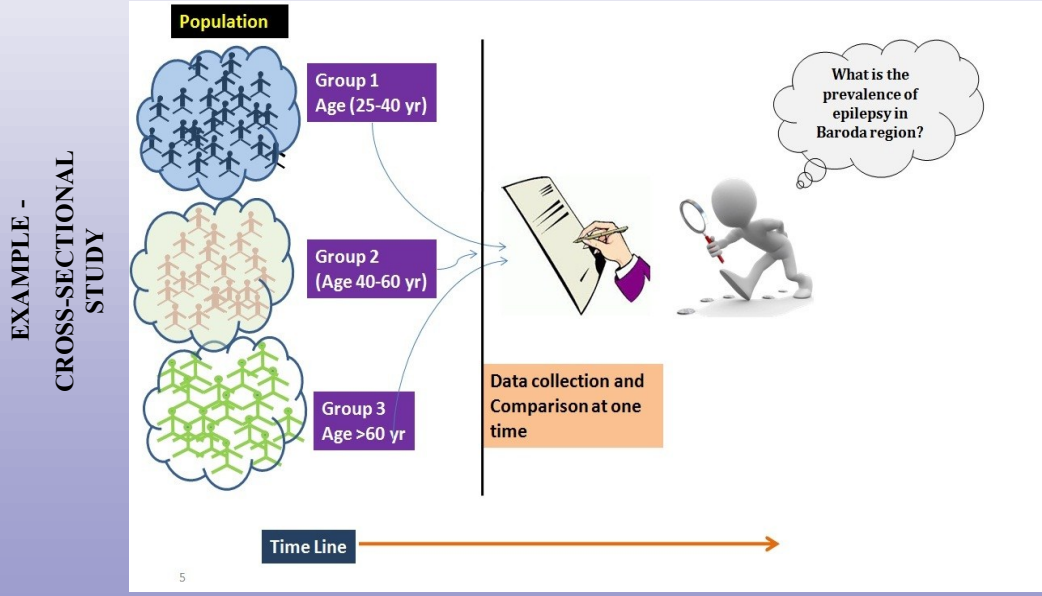
Key points

Cross-sectional studies are-

- The best way to determine the prevalence
- Are relatively quick
- Can study multiple outcomes
- Do not themselves differentiate between cause and effect or the sequence of events



In the below example of a cross-sectional study, a sample of individuals is selected from a previously defined groups of population (i.e. 3-groups; according to age) and obtain simultaneously information of the exposures (such as **headache, blood composition, socio-economy level**) and outcome of interest (i.e. **Epilepsy**) at a particular point in time.



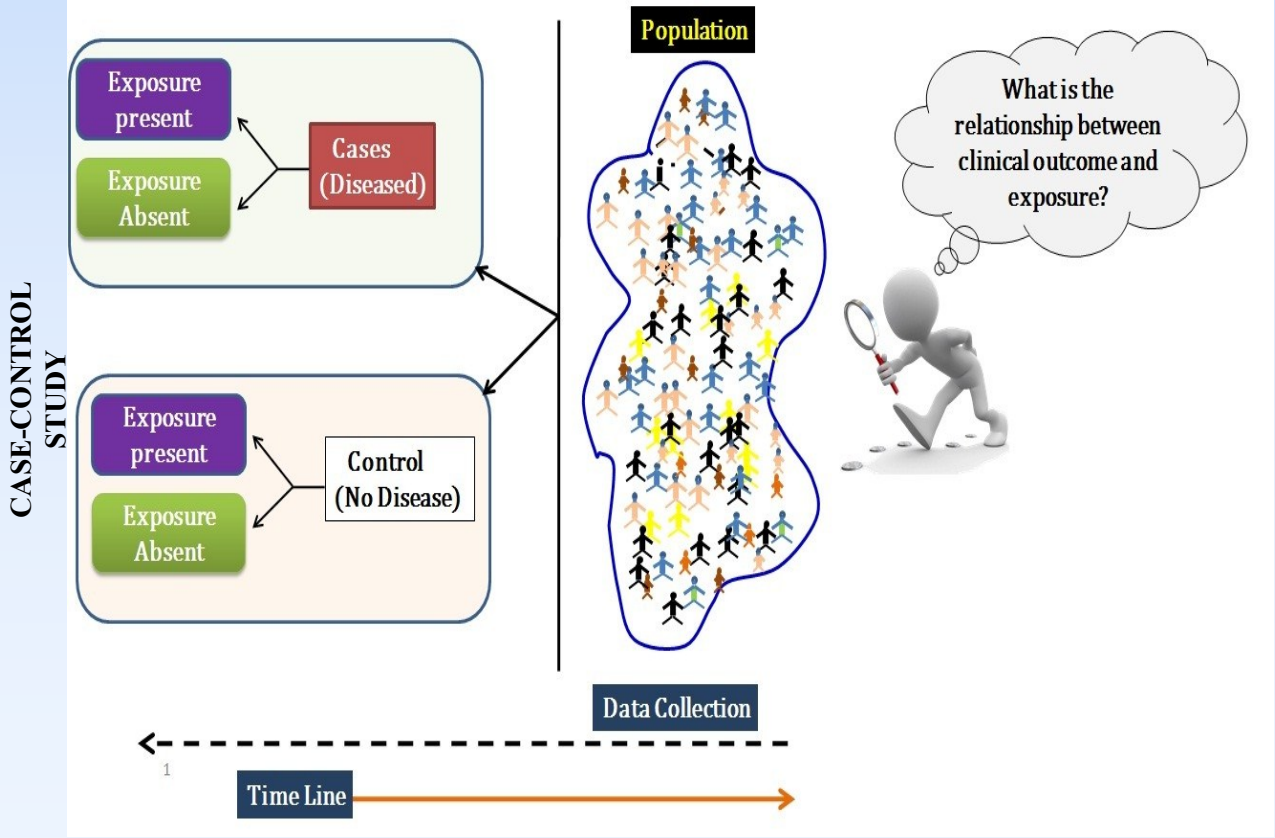
2. CASE-CONTROL STUDY

- Case-control studies are 'Retrospective Observational Studies' having better research level in comparison to the cross-sectional study. It means like a 'Detective' researcher begins at the end, with the disease and then works backward, to hunt for the possible causes.
- The starting point is the identification of 'cases' of the disease (or condition) of interest, and of suitable 'controls' without that disease (or condition). Cases and controls are then compared to assess whether there were any differences in their past exposure to putative risk factors. Case-control studies are much more practical for studying the cause of many chronic diseases.

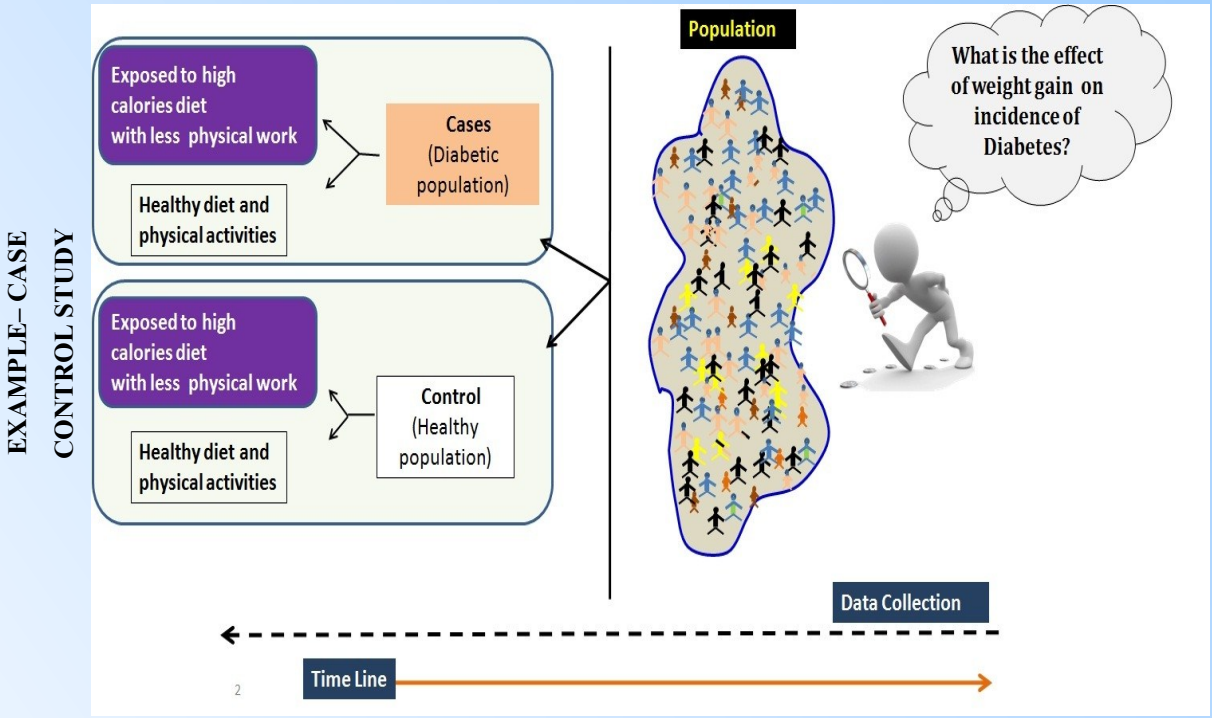
Key points

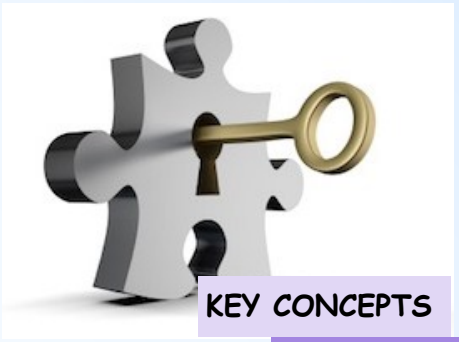
Case-control studies are -

- Simple to organize
- Retrospectively compare two groups
- Aim to identify predictors of an outcome
- Permit assessment of the influence of predictors on outcome via calculation of an odds ratio
- Useful for hypothesis generation
- Can only look at one outcome
- Bias is a major problem



In the below example, Researcher could identify a group of patients with **Diabetes** (i.e. cases) and identify a control group of patients who do not have Diabetes (with certain inclusion criteria). Enrollment is followed with a collection of information about **food habits and physical activities** of both groups through the questionnaire or any other means.





- *In Case-control study, the researcher can not calculate incidence thereby, unable to calculate risk ratio or risk difference. He /She can calculate only the odds ratio.*

3. COHORT STUDY

Cohort studies are observational studies in which Information is obtained to determine which members of the cohort (group) are exposed to the disease (factor of interest) over a period of time.

The starting point of the cohort study is the selection of a study population, or the entire population is then followed up by time and the incidence of the disease in the exposed individuals is compared with the incidence in those not exposed. This type of observational

Key points

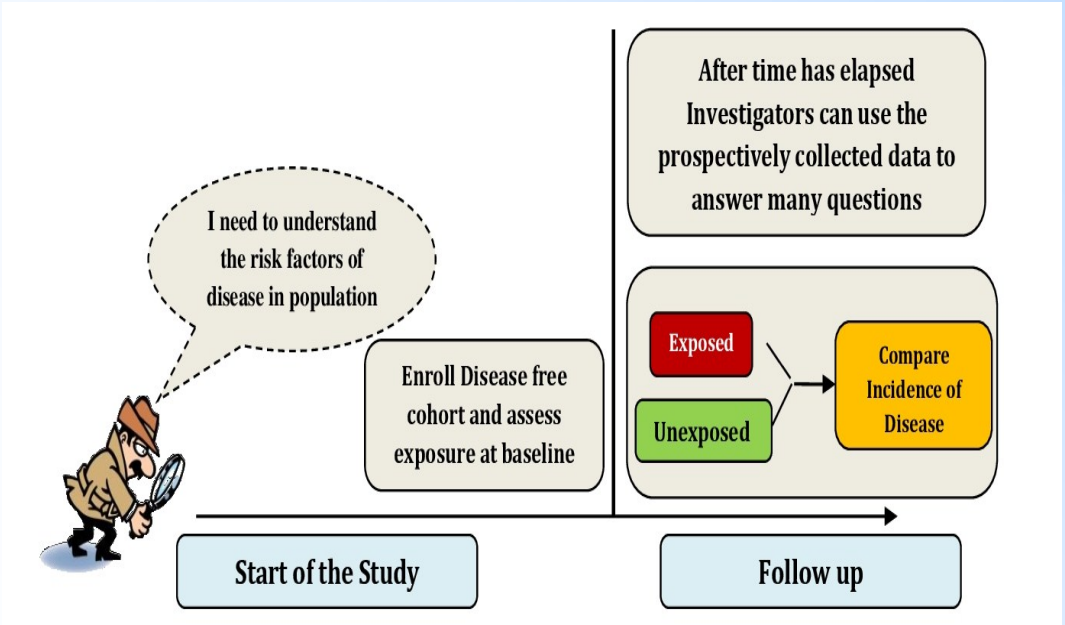
- Cohort studies describe incidence or natural history.
- They analyze predictors (risk factors) thereby enabling calculation of relative risk.
- Cohort studies measure events in temporal sequence thereby distinguishing causes from effects.
- Retrospective cohorts where available, are cheaper and quicker.
- Confounding variables are the major problem in analyzing cohort studies.
- Subject selection and loss to follow up is a major potential cause of bias.

Cohort studies can be classified as prospective and retrospective based on when outcomes occurred in relation to the enrollment of the cohort.

1. Prospective Cohort

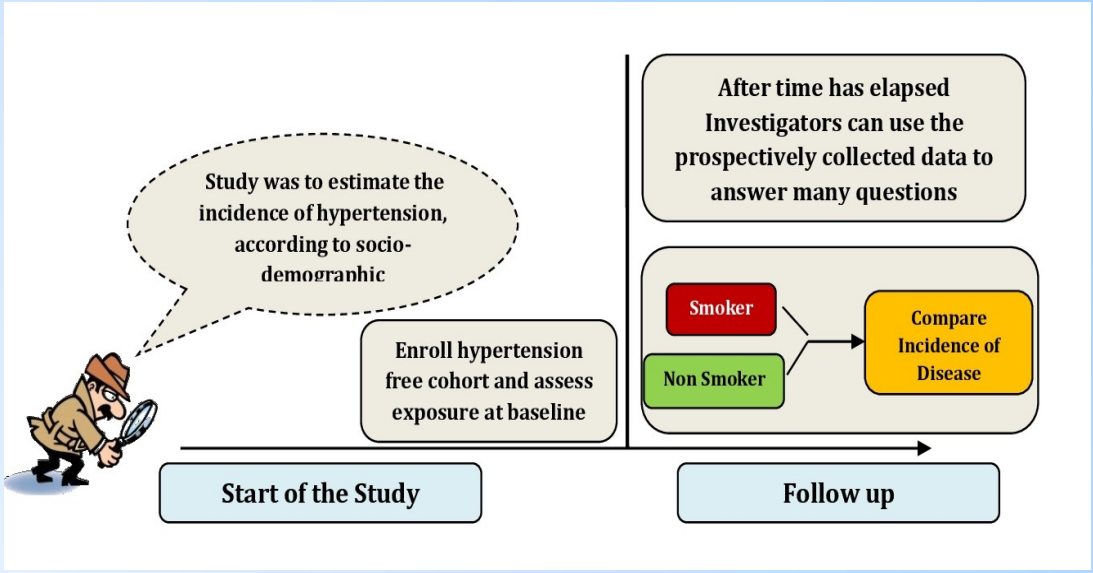
The investigators design the questions and data collection procedures carefully in order to obtain accurate information about exposures before disease develops in any of the subjects.

After baseline information is collected, subjects in a prospective cohort study are then followed "longitudinally," i.e. over a period of time, usually for years, to determine if and when they become diseased and whether their exposure status changes.

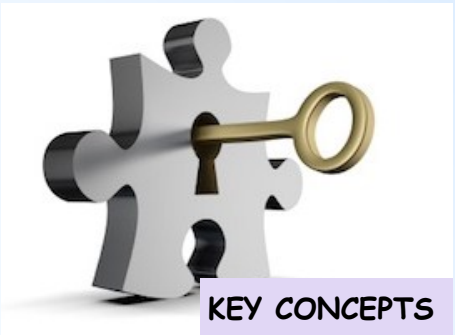


In the below given example, if a researcher wants to know whether **Smoking** leads to **Hypertension** or not. The best possible study design is cohort/longitudinal/ prospective studies. A researcher could then see whether the cases of hypertension arose among the people who smoke most often.

EXAMPLE-
PROSPECTIVE
COHORT



Technically, the researcher records the incidence of hypertension among those who smoke most often than non-smokers and compare this to the incidence in both cases. (Calculation of relative risk)

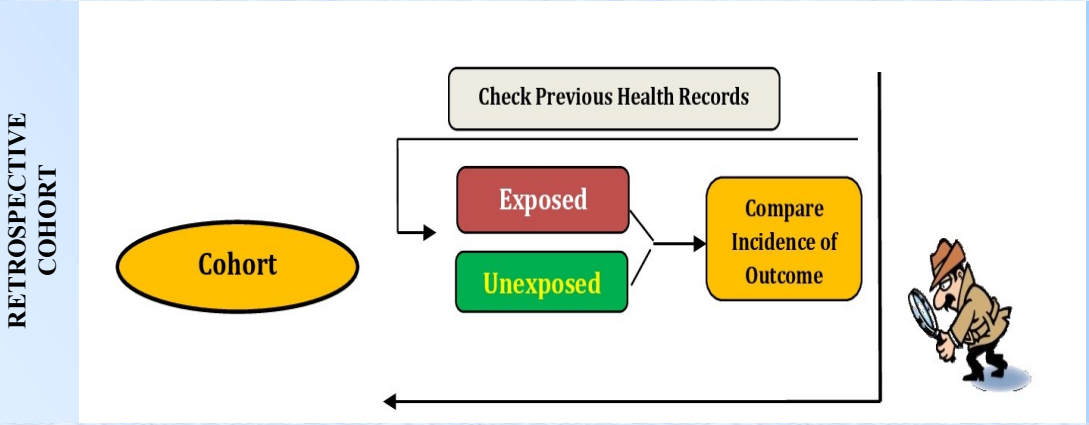


- *The distinguishing feature of a prospective cohort study is that at the time that the investigators begin enrolling subjects and collecting baseline exposure information, none of the subjects has developed any of the outcomes of interest.*

2. Retrospective Cohort

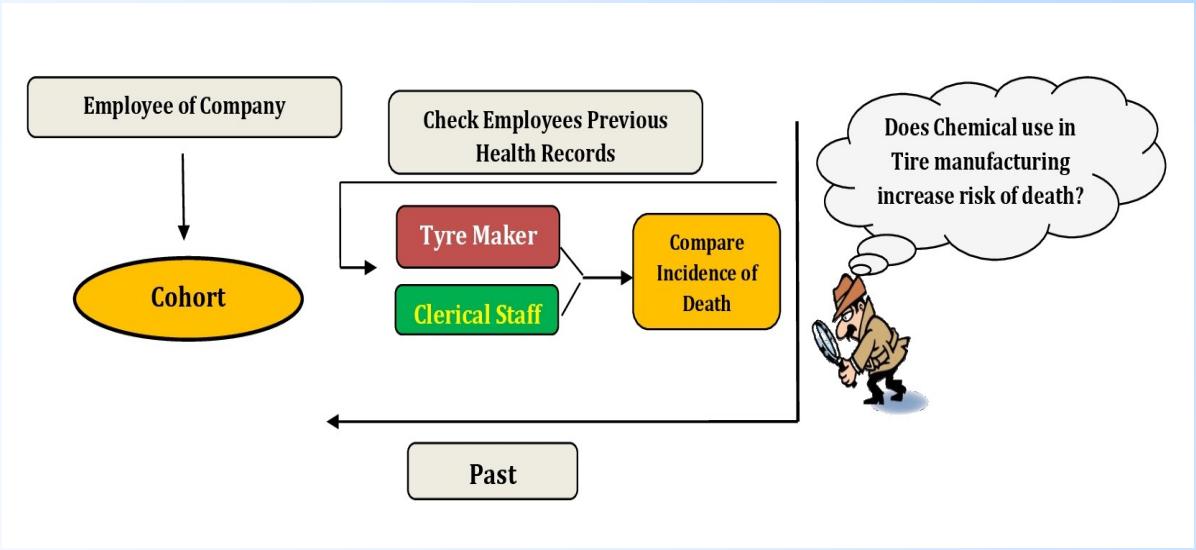
In contrast, retrospective studies are conceived after some people have already developed the outcomes of interest.

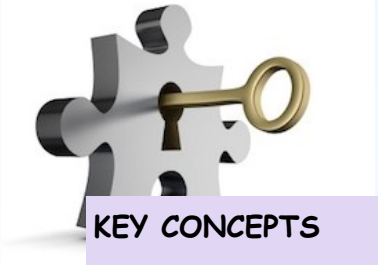
The investigators jump back in time to identify a cohort of individuals at a point in time before they have developed the outcomes of interest, and they try to establish their exposure status at that point in time. They then determine whether the subject subsequently developed the outcome of interest.



In the below given example, suppose investigators wanted to test the hypothesis that working with the **chemicals** involved in tire manufacturing increases the risk of **death**. Since this is a fairly rare exposure, it would be advantageous to use a special exposure cohort such as employees of a large tire manufacturing factory. The employees who actually worked with chemicals used in the manufacturing process would be the exposed group.

The investigators are jumping back in time to identify the study cohort at a point in time before the outcome of interest (death) occurred.





- *The distinguishing feature of a retrospective cohort study is that the investigators conceive the study and begin identifying and enrolling subjects after outcomes have already occurred.*

From the View Point of Our Faculty

Personal Details

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Que.1: Why research study design is considered as a vital part of the research proposals?

Ans. 1: Research Study Design is the heart of research work. It can be referred as plan of work to be done or performed by a researcher and/or research team in systemic manner during the various stages of a research project.

With the help of the appropriate research design, one can very easily manage and operate research work. As research study design acts as a working plan, which is made by a researcher even before He/She starts data collection. By this, researcher gets a great help and guidance in achieving his aims and goals by using optimum resources like time, manpower and instruments.

Que.2: What are all the critical parameters which a researcher must consider while planning of research design?

Ans. 2: Before finalizing research study design, researcher must think about research problem(s) in his/her thrust area or research interest area. He/she needs to search all relevant present knowledge available for the same. Once research problem finalized, researcher should design proper research objectives and research hypotheses and research question. On the basis of research objective researcher will select appropriate study design like interventional (Randomized or Non Randomized) or observational (Cross Sectional, Case Control, Cohort) to achieve desired research outcome. Next step is sample size. Sample calculation & selection are also crucial part of the research work. While designing a research study researcher should think on sample selection methods and required sample size to achieve research objectives. At last but not the least, researcher must make good data collection method. As poorly and incomplete data collection will act as obstruction in achieving desired objectives.

Que.3: What are all the common issues which should be avoided by researchers while designing the research study design?

Ans. 3: While designing the research study, researcher needs to take care

of some key areas which may diminished the quality of research. As we have already discussed above about key points to be considered while designing research study, here I would like to enlighten some key areas which can negatively affect research study design. In my 15 years of research experience there were many **researcher came to me with poorly designed research question or problem; this is because of inadequate literature search. Inadequate search greatly affects design of research objective (s).** Thus new research will get confuse in selection of the appropriate research methodology. There may be chances that researcher may select inappropriate research methodology and that causes wastage of resources like money, instruments, stationery etc. So as conclusion I like to say that take time for designing research, do proper literature search, do brain storming with senior & colleague and plan your research.

Que.4: What are all criteria need to be considered while selecting 'Control' in various types of study design, especially in Case-Control Study?

Ans. 4: Case control study is very simple but with highest chance of error in study. Potential bias are like selection bias, observer bias, instrumentation bias and many more. So whenever one plans case-control study he/she has to conscious in selection of cases as well as control. Three aspects that must be considered in the selection of controls: **the study objectives, the confounding elimination and accuracy in selection of control**. So researcher needs to more conscious while conducting case-control study.

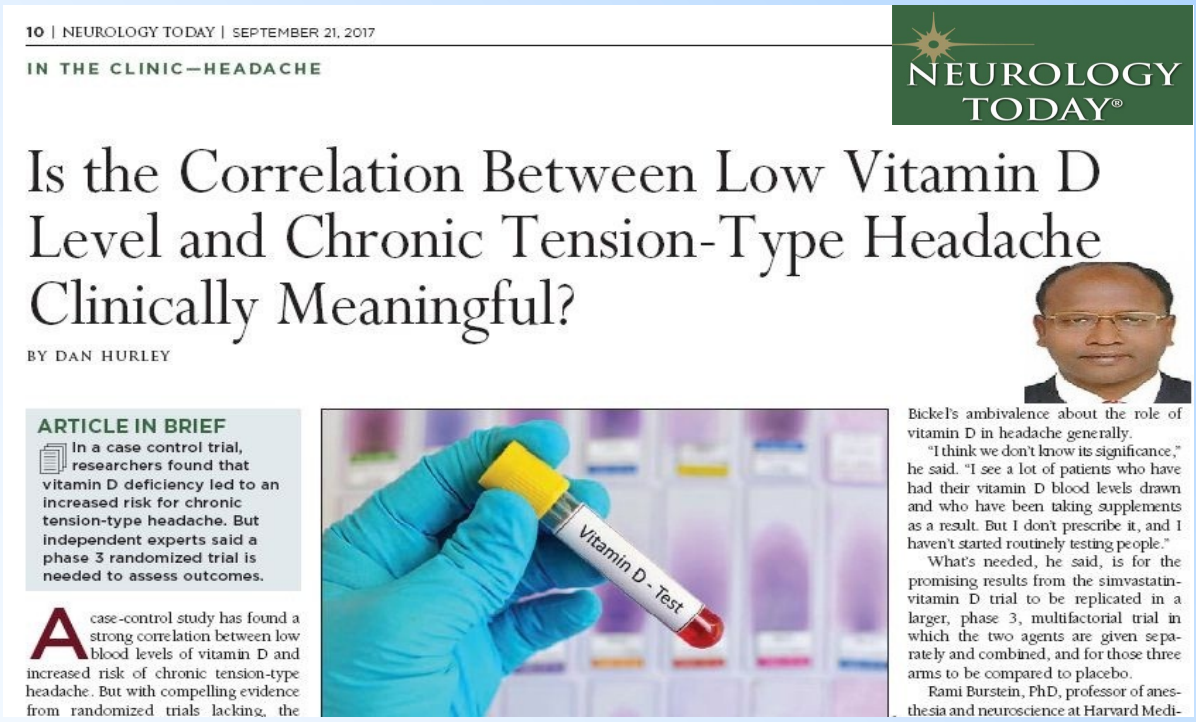
Que.5 'Ethical perspective of the research cannot be ignored'. Being an expert in an ethical subject, what are your views on those vital ethical aspects required to be focused on while planning study design?

Ans. 5: Ethical consideration is prime important in research. There is a big myth among medical fraternity that taking consent for patients care suffices the use of data for research. This is wrong. **Consent for patient care is different from consent for research**. For any type of research including case report to experimental study, researcher needs to take permission or consent of participant separately. While conducting research, researchers need to take call on benefits and harm to patients and community. Institutional ethics committee is the independent body, whose main function to look for right of participants and safety with risk- benefits analysis. So researcher needs to take permission of ethics committee before starting research on ground. Sumandeep Vidyapeeth has clear guideline on ethics and procedure for applying permission. Our SVIEC is registered with Central Drugs Standard Control Organization (CDSCO), as per Gazette Notification No. GSR 72 (E), dated 8th Feb 2013 and under Rule 122DD.

ACHIEVEMENT BY OUR FACULTY

HEARTLY CONGRATULATIONS

Dr. R. Balaraman, Professor, Dept. of Pharmacy, Sumandeep Vidyapeeth University has been conferred as **Fellow of Indian Pharmacological Society (FIPS)** at the Western Region Conference of Indian Pharmacological Society (WRIPSCON 2017), held on 19th August at Ahmadabad. In 2009, Dr Balaraman was also **conferred as Fellow of the Academy of Medical sciences (FAMS) by the National academy of Medical Sciences.** Both the awards were bestowed on him for his extensive research work in the field of diabetes, hypertension and on herbal medicines.



10 | NEUROLOGY TODAY | SEPTEMBER 21, 2017

IN THE CLINIC—HEADACHE

NEUROLOGY TODAY®

Is the Correlation Between Low Vitamin D Level and Chronic Tension-Type Headache Clinically Meaningful?

BY DAN HURLEY

ARTICLE IN BRIEF

In a case control trial, researchers found that vitamin D deficiency led to an increased risk for chronic tension-type headache. But independent experts said a phase 3 randomized trial is needed to assess outcomes.

A case-control study has found a strong correlation between low blood levels of vitamin D and increased risk of chronic tension-type headache. But with compelling evidence from randomized trials lacking, the

Bickel's ambivalence about the role of vitamin D in headache generally.

"I think we don't know its significance," he said. "I see a lot of patients who have had their vitamin D blood levels drawn and who have been taking supplements as a result. But I don't prescribe it, and I haven't started routinely testing people."

What's needed, he said, is for the promising results from the simvastatin-vitamin D trial to be replicated in a larger, phase 3, multifactorial trial in which the two agents are given separately and combined, and for those three arms to be compared to placebo.

Rami Burstein, PhD, professor of anesthesia and neuroscience at Harvard Medi-

Neurology Today, The Official News Source of American Academy of Neurology (AAN; the world's largest professional association of neurologists) has published the finding of **Dr. Sanjay Prakash, Professor, Dept. of Neurology, SBKSMI&RC, SV** on Vitamin-D association with headache and its consequences titled "**Is the correlation between low vitamin D-level and chronic tension type headache clinically meaningful?"**

HEARTLY CONGRATULATIONS

Dr. Chirag Kapoor, Assistant Professor, Department of Orthopedics, SBKS MI & RC has got the Korean fellowship in "**Minimally Invasive Complex Trauma**" and **"Pelvis Acetabular Trauma Surgery"**, to work under the guidance of Prof. Dr. Chang-Wug OH, South Korea, from 29th August to 29th September, 2017.

Dr. Bhavna Dave, Professor & Head, Dept. of Pedodontics and Preventive Dentistry, KMSDCH received the **Best Paper Award** presented at 39th Annual Conference Indian Society of Pedodontics & Preventive Dentistry held at Sai Ramachandra University, Chennai (13-16 September, 2017).

The paper was entitled "*The prevalence of oral melanin pigmentation among children of 4-14 year of age and its association with passive smoking*".

Dr. Rajesh Maheshwari, Associate Professor, Dept. of Pharmacy, SV has been **awarded** life time member of the National Academy of Medical Science, India (MAMS) during the convocation at Shri Guru Ram Das Medical Institute, Amritsar on 28th October, 2017.

RESEARCH CELL UPDATES

1. Winners of the University Research Awards for the academic year 2016-17

Sr. No.	Institute	Awardees
1.	SBKS MI & RC	- Dr. Chirag Kapoor, Assistant Professor, Dept. of Orthopedics - Anjali Kukreja, UG Student
2.	KMSDCH	- Dr. Chandramani More, Professor & Head, Dept. of Oral Medicine and Maxillofacial Radiology
3.	College of Physio-therapy	- Prof. Dr. Lata Parmar, Professor & Principal
4.	Department of Pharmacy	- Dr. Nirmal V. Shah, Associate Professor - Pandya Kartik D, PG Student

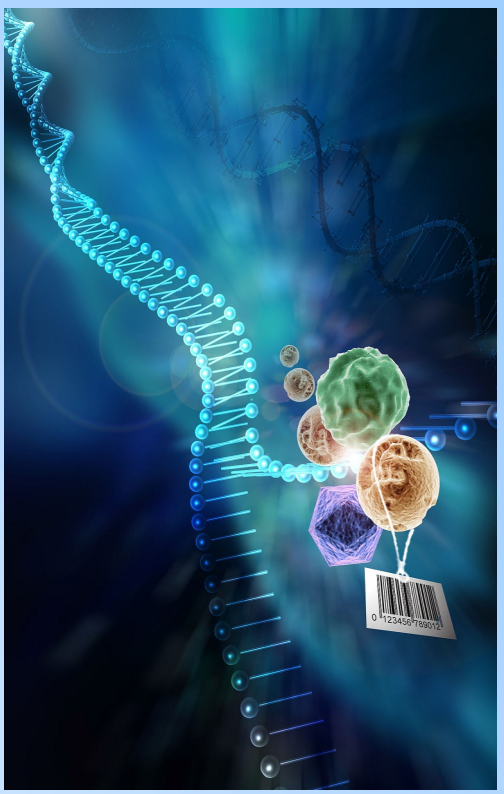
Special award for publishing article in highest impact factor journal, **Journal of Diabetes** (Thomson Reuter impact factor-3.039) is conferred upon **Dr. R. Balaraman, Professor, Department of Pharmacy.**

2. Training program conducted by SVIEC, Research Cell

- Sumandeep Vidyapeeth Institutional Ethics Committee (SVIEC) of Research Cell has conducted a one day Comprehensive Workshop cum Training program on ICH-GCP, Indian GCP, ICMR Schedule Y and its Amendments on 19th September 2017 at Demo Room, Department of Pathology, SBKS MI & RC for SVIEC members, HRRP Coordinators & Faculty of SBKS MI & RC.
- Mr. Ganjendra Chanchu, Head of Data Operation Unit, QED Clinical Services, Dr. Niraj Pandit, Member Secretary, SVIEC and Mrs. Nirali Chokshi, Assistant Professor, Department of Pharmacy were speakers of the workshop.

FOLLOW UP NEWS OF PREVIOUS RESEARCH THEMES

Haplobank: A biobank of reversible mutant embryonic stem cells



Genetic screens have revolutionized our understanding of biological processes and disease mechanisms. Haplobank can be used for screens to make entirely new insights into biology and health. Importantly, because gene knockouts can be repaired in our embryonic stem clones. This resource also enables well-controlled, robust and reproducible validation experiments. Josef Penninger, IMBA Director said that this is a critical point and contribution, given the current efforts to improve the rigor of scientific research. They screened candidate angiogenesis genes that were represented in Haplobank, and discovered multiple novel factors that affect blood vessel growth in organoids.

(https://www.imba.oeaw.ac.at/about-imba/general-news-press/haplobank-a-biobank-of-reversible-mutant-embryonic-stem-cells/)

New class of antibiotic found: Natural compound kills bacteria that are resistant to multiple antibiotics

The discovery of drug-resistance pathogens is pseudouridimycin (PUM). PUM is natural product comprising a formamidinylated, N-hydroxylates Gly-Gln dipeptide conjugated to 60-amino-pseudouridine. PUM potently and selectively inhibits bacterial RNAP in vitro, inhibits bacterial growth in culture and clears infection in a mouse model of Streptococcus pyogenes peritonitis. PUM inhibits RNAP through a binding site on RNAP and mechanism that differ from rifampin (Rif). PUM exhibits additive antibacterial activitywhen co-administered with Rif, exhibits no cross-resistance with Rif, and exhibits a spontaneous resistance rate an order-of-magnitude lower than half that of RIf. PUM is a highly promising lead for antibacterial therapy.

(https://www.nature.com/articles/nature14098)

BUZZ AROUND THE WORLD

Anti-inflammatory drug may lower heart attack risk

Denise Grady

A drug that fights inflammation can reduce the risk of heart attacks and strokes, and possibly lung cancer, in people who have already had one heart attack and are at high risk for another, a new study finds.

Researchers outside the study say the findings represent a major milestone — proof of a biologic concept that opens the door to new ways of treating and preventing cardiovascular disease in people who are still at risk despite standard therapies.

But experts cautioned te to heart and artery disease.

But as the drug suppresses part of the immune system, it increases the risk of infections, including fatal ones. Deaths from infection in the study appeared to match lives saved by the drug, so there was no difference in overall mortality between the groups that got the drug and the placebo.

There were 10,061 participants from 39 countries, with an average age of 61. A quarter were women, and 40% of all participants had diabetes.

They were picked at random to receive either a placebo or an injection of the drug every three months, in addition to

https://www.ncbi.nlm.nih.gov/pubmedhealth/behindtheheadlines/news/2017-08-30-anti-inflammatory-drug-may-help-prevent-heart-attacks-/

Indian doctor new WHO deputy director-general

Sushmi.Dey@timesgroup.com

New Delhi: Dr Soumya Swaminathan, director general of Indian Council of Medical Research (ICMR) and secretary to the department of Health Research in India, was appointed as the deputy director general programmes of the World Health Organization (WHO), in Geneva.

This is the second-highest position at the UN agency.

Dr Soumya Swaminathan is widely recognised for her research on tuberculosis

and as chairperson of the study group on the development of pre-school children, had submitted a report that formed the basis of the Integrated Child Development Services.

Swaminathan brings with her a vast experience spanned over three decades in clinical care and research. She also worked with Unicef from 2009 to 2011 as coordinator of the Unicef/UNDP/World Bank/WHO Special Programme for Re-

http://economictimes.indiatimes.com/nri/indian-doctor-soumya-swaminathan-new-who-deputy-director-general/articleshow/60934146.cms

The Nobel Prize in Physiology or Medicine 2017

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Jeffrey C. Hall

Prize share: 1/3

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Michael Rosbash

Prize share: 1/3

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Michael W. Young

Prize share: 1/3

2017 Nobel Prize in Physiology or Medicine was awarded to Jeffrey C. Hall, Michael Rosbash and Michael W. Young **for their elucidation of the molecular mechanisms controlling circadian rhythm.** Their pioneering work in *Drosophila* uncovered the internal oscillators, or clocks, that synchronize cellular metabolism and organism behavior to the light/dark cycle to generate biological rhythms with 24-hour periodicity.

https://www.nobelprize.org/nobel_prizes/medicine/laureates/2017/press.html

Scientist maps genes in lung cancer patients

Researchers, Docs Work Together At Tata Centres

TIMES NEWS NETWORK

Mumbai: When scientist Amit Dutt returned to Mumbai from Switzerland in 2010 after completing his second doctorate in genomics, there was limited information about the role of genetic mutations in lung cancer among Indians.

It was known around 15% of the Caucasian patients of lung cancer had a particular gene mutation known as the epidermal growth factor receptor (EGFR). Japanese studies showed EGFR mutations in almost 50% of lung cancer patients, but no corresponding data was available for the Indian patient pool. As medicines to nullify the effects of the EGFR mutation were readily available, diagnosing the mutation would have helped faster treatment.

Dutt's first study after returning home found just that: between 23% to 25% of lung cancer patients here have the EGFR mutation. As scientist F grade with the Advanced Centre for Treatment, Research and Education in Cancer (ACTREC) – better known as the research wing of Parel's Tata Memorial Hospital – Dutt collaborated with medical oncologist Dr Kumar Prabash to study 1,000 patients to deduce this. It's not just Tata Memorial Hospital's doctors who have helped create its reputation as India's best cancer-care centre; its scientists too have contributed. Dutt was earlier this week named one of the young scientist to win the prestigious Shanti Swaroop Bhatnagar Award this year.

"Research has to translate into work done in clinics. This has been possible in Tata Me-

HOW LAB'S STUDY HAS HELPED

- A Tata Memorial Centre team of scientists and doctors found that the EGFR gene mutation, which is responsible for almost 50% of the lung cancers in East Asians, is responsible for 25% of the lung cancers in India
- The team used materials that are no longer under patents or proprietorships and devised a test to find the EGRF mutation, reducing the costs from $200-300 to $12-14 (between ₹800 and ₹1,100)
- The team found a novel mutation in the FGFR3 gene among Indians that is responsible for a certain kind of lung cancer
- The team is also studying other mutations present among Indian patients of lung cancer

http://epaperbeta.timesofindia.com/Article.aspx?eid=31804&articlexml=Scientist-maps-genes-in-lung-cancer-patients-29092017004018

'70% of Indian cancers preventable'

AIIMS Starts Special Clinic To Spread Awareness About Keeping Risk Factors At Bay

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New Delhi: Cancer continues to be dreaded because few realise that timely diagnosis and treatment can cure most types of tumours. Fewer still know that cancer can be prevented by healthy lifestyle. It is to make people aware of these that All India Institute of Medical Sciences started a cancer prevention clinic last week.

At the clinic, families of patients are counselled about the risk of familial cancers and screening tests available to diagnose them at an early stage to reduce mortality rates. They are also educated about the identified risk factors such as smoking, alcoholism or obesity for different cancers.

At present, doctors say survival rate for most cancers stagnates at 20% because a majority of the patients come when the disease is already in the advanced, or III and IV, stages.

"If cancer is detected early, 80% patients can be cured of the disease," asserted Dr GK Rath, chief of AIIMS' cancer centre, the

sant Kunj, whose brother-in-law died of esophageal cancer and another relative is suspected to be suffering from breast cancer, went to the centre to enquire whether she was at risk too. The doctors counselled her and advised her to undergo genetic tests. "If she proves positive for BRCA1 and BRCA2 gene mutation, then all family members may be advised to undergo age-specific cancer screening," said Dr Abhishek Shankar, assistant professor of preventive oncology, AIIMS.

Another patient came to the clinic with his father, who had undergone surgery for mouth cancer caused by tobacco consumption. The father told the doctors there, "My son also chews tobacco. Please counsel him. Tell him to stop this habit."

Only a week old, the cancer prevention clinic has already attracted over a dozen people. "We plan to offer preventive vaccination for cervical cancer, genetic tests for breast cancer and facilities to make early diagnoses. Also, we will provide counselling to create awareness," Dr Shankar said.

Doctors say the patient burden has increased multifold during this period, one reason being the cost of treatment. "Poor people cannot afford private treatment for a disease like cancer because it costs Rs 5 lakh-40 lakh."

A recent event organised by Indian Cancer Society (ICS) also highlighted how creating awareness about preventive measures could help fight the disease. "Once you get cancer, it is difficult to get cured.

It's better to understand the disease and keep it at bay," said Jyotsna Govil, vice-chairperson, ICS. According to a review on preventable cancers in India published by oncologists from AIIMS in an international journal, 70% of Indian cancers (40% tobacco-related, 20% infection-related and 10% others) are caused by potentially modifiable and preventable risk factors.

The American Cancer Society recommends that one should maintain a healthy weight throughout life by balancing food intake with physical activity and avoiding excessive weight gain. Experts also advise breastfeeding to reduce the risk of breast cancer. Stopping intake of tobacco-related products is considered top priority in keeping the disease at bay.

IT HELPS TO KNOW THE ENEMY TO BEAT IT

SPREADING ITS TENTACLES

45 lakh cancer patients in India

15 lakh new cases every year

7.5 lakh Indians die of cancer each year

20% of the patients can be cured now as diagnosis is delayed; early diagnosis can help cure 80% of the patients

70% of cancers (40% tobacco-related, 20% infection-related and 10% others) are caused by preventable risk factors

AIIMS has started preventive oncology clinic

- Aims to aware public, particularly those at high risk, about self-examination techniques, early detection and safe practices
- Will focus on educating family members of patients visiting the centre about familial cancers and those caused by modifiable risk factors
- Will create awareness about preventive vaccination, genetic tests and periodic screening for cancers

CAUSES AND PREVENTIONS

Tobacco: 30-60% cancer in men and 10-30% in women are tobacco-related. This includes cancer of lung, head and neck
PREVENTION | Quit tobacco consumption in any form

Alcohol: 4% of all cancers worldwide alcohol-related. It increases risk of cancer of mouth, pharynx, larynx and esophagus
PREVENTION | Limit alcohol intake

Infections: 20-25% of cancers of stomach, cervix and liver are often infection-related
PREVENTION | Practise safe sex; vaccination available for hepatitis and HPV infections

Physical inactivity, diet and obesity: At least six cancers – colorectal, breast, stomach, liver, kidney and endometrial – have direct links with these factors
PREVENTION | Maintain healthy weight, eat right and remain active

Genetic factors: Cancers of breast, colon and prostate run in the family
PREVENTION | Genetic tests are available to detect predisposition to breast cancer. For prostate and most other cancers, periodic screening is suggested for early diagnosis

https://timesofindia.indiatimes.com/city/delhi/70-of-indian-cancers-preventa-

Food deficiencies, TB India's most widespread diseases

Diabetes Affects 5% Indians, Cancer 0.15%

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It is common—and natural—to think of diseases in terms of death. Often, diseases are measured by death—so many people die of heart attacks, so many of dengue, etc. While this is important, there is another dimension not measured by body counts. It is the scale of suffering and pain that is felt by people who live with diseases.

How many people suffer from cancer in India or from tuberculosis (TB)? Which diseases are spreading more and which less? These too are important questions both for people and policy makers.

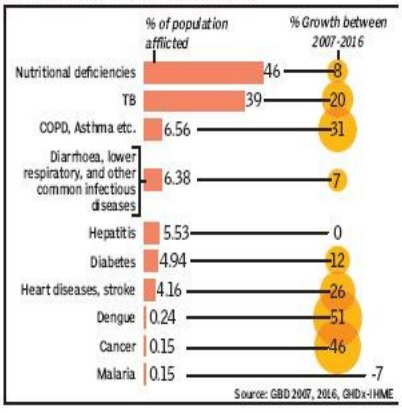
Talk to any middle class urban Indian and they will know of somebody who has had cancer. So, is cancer wildly spreading in India?

In the last decade, the number of people with cancer has increased by a phenomenal 46%, one of the fastest spreads. Part of it is due to much better identification, part because of longer life, and a part also because of lifestyle and diet choices.

But here's the thing: cancer affects just 0.15% of India's population and deaths due to it are just 8% of all deaths in 2016. It's deadly, it's spreading but cancer is nowhere near as prevalent as we perceive anecdotally.

▶Continued on P 8

HOW PREVALENT ARE SOME COMMON DISEASES?



http://epaperbeta.timesofindia.com/Article.aspx?eid=31804&articlexml=TB-affects-39-of-our-population-cancer-just-02102017001062

'Medicine needs research, and research needs people like you, Mrs Watts, to make sure they've got it right.'

OUR SPECIAL THANKS TO

MR. RONAK SHAH & MS. NIMISHA PATEL

FOR SUPPORT TO PREPARE THIS ISSUE

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