EPIDEMIOLOGY-I

TYBSc Paper IV Unit III
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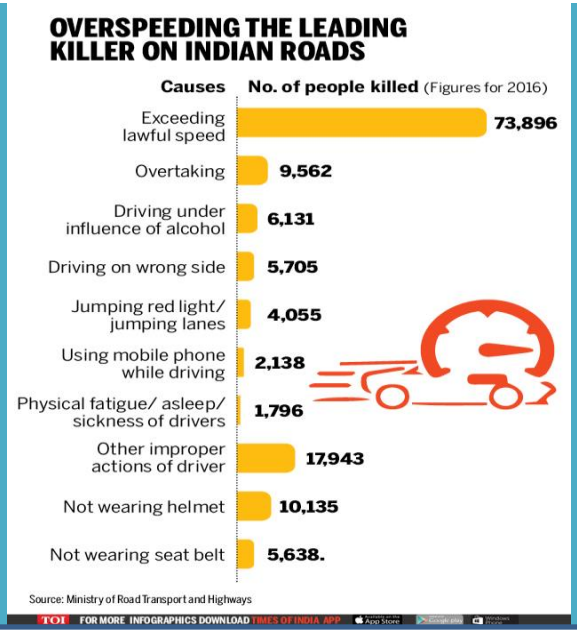
EPIDEMIOLOGY-I PAPER IV UNIT III

(15 LECTURES)

- Understanding Epidemiology with respect to disease frequency, distribution and determinants.
- Epidemiological approach and aims of epidemiology. Basic measurements in epidemiology, Tools of measurement.
- Epidemiologic methods: Observational studies and Experimental studies. Uses of epidemiology
- Infectious disease epidemiology
- Dynamics of disease transmission
- Disease prevention and control

ARTICLE FROM TIMES OF INDIA DATED 11TH SEPTEMPER 2018



https://timesofindia.indiatimes.com/india/india-way-off-road-safety-targets-for-2020-road-accidents-still-kill-over-a-lakh-a-year/articleshow/65765549.cms

Warming is increasing skin cancer

BY ROSS McGUINNESS

SKIN cancer is already increasing because of global warming and is set to get worse, scientists have claimed.

Rising temperatures are turning up the risk to those who spend too much time in the sun.

The same number of hours spent in the sunshine today is more harmful than a number of years ago, says a Dutch and Argentinian study of two previous surveys of non-malignant skin cancer.

The scientists warn that a rise in average summer temperatures of between two and four per cent could produce 'substantial increases' in the number of new cases of skin cancer.

The research was led by Dr Jan van der Leun from the energy consultants Ecofys in the Netherlands.

His team said ambient UV radiation accounted for about 80 per cent of the variation in skin cancer cases.

The other factors were temperature, the amount of time people spent in the sun and their genetic background. 'These figures would imply, for instance, that with a long-term increase of summer temperatures by two to four per cent we could end up with substantial increases in incidence of skin carcinomas,' the researchers told the Royal Society of Chemistry journal.

The types of skin cancer examined in the study are non-melanoma, meaning they are hardly ever fatal. There are up to 100,000 cases of non-melan in Britain every year.

Dr Lesley Walker, director o formation at Cancer Research U people to take care in the sun, adding: 'In the UK at least 75,000 cases of non-melanoma are registered every year, but that figure could be at least 100,000.

'As the registration process improves we can expect to see a big increase in this type of skin cancer.'

Ding dong! Avon is

https://skyvisorinternational.wordpress.com/2014/06/24/recent-article-say-it-all/

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Original Article

An epidemiological survey: Effect of predisposing factors for PCOS in Indian urban and rural population

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ABSTRACT

Study objective: Polycystic ovarian syndrome (PCOS) is a common multifaceted disorder found among females of the reproductive age presenting major clinical conditions of hirsutism, oligomenorrhea and infertility. Socioeconomic studies from India have observed PCOS as a lifestyle disorder highly prevalent among middle and high income urban population as compared to rural population. A large ethnographic study that identifies the prevalence of PCOS among different socioeconomic groups would be greatly helpful to reiterate women about lifestyle modifications.
Design: Cross – sectional survey study.
Setting: Random from the general population.
Materials and methods: A survey was taken up by 502 young women (between 18 and 24 years) from Chennai and collectively 566 girls from Thiruvallur and Dindugal districts to represent urban and rural population respectively. The responses were entered into an excel workbook and were analyzed statistically for correlation of influencing parameters and manifestation of the disorder.
Main outcome measures: From our survey, we have identified a PCOS prevalence rate of 6% in south India, according to the Rotterdam criteria. We have observed that the odds of urban women prone to acquiring PCOS are 0.1 times higher than women in rural India.
Major conclusions: Family history was found to have a strong association in incidence and manifestation of the disorder. Stress was found to set off the symptoms pertaining to PCOS. We also noticed that the awareness, among the rural population especially, was very minimum and thus they were not oblivious of diagnosis.

1. Introduction

World Health Organization (WHO) estimates that PCOS has affected 116 million women (3.4%) worldwide in 2012 [1]. Globally, prevalence estimates of PCOS are highly variable, ranging from 2.2% to as high as 26%. In India, experts claim 10% of the women to be affected by PCOS and yet no proper published statistical data on the prevalence of PCOS in India is available.

Polycystic ovary syndrome (PCOS) is currently known to be a genetically complex endocrine disorder of uncertain aetiology with a complicated pathophysiology. Until now, the diagnostic criteria for PCOS have been offered by three groups (Fig.1): the National Institutes of Health/National Institute of Child Health and Human Disease (NIH/NICHD) [2], the European Society for Human Reproduction and Embryology/American Society for Reproductive Medicine (ESHRE/ASRM) or the 'Rotterdam Criteria' [3]; and the Androgen Excess and PCOS Society [4]. Consideration of different endocrine or clinical criterion for each diagnosis of PCOS can influence the incidence and prevalence rate estimation of PCOS, thereby masking the gravity of the problem [5].

Although many studies argue PCOS as a lifestyle disorder associated with modernization of living, they fail to include and com-

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Editorial

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Mental Health and Psychological Intervention Amid COVID-19 Outbreak: Perspectives from South Korea

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The 2019 novel coronavirus (2019-nCoV, COVID-19) has been identified as the pathogen behind the pneumonia outbreak in Wuhan, Hubei Province, China, on December 8, 2019. In South Korea, the country's first patient (who flew in from Wuhan) was identified on January 20, 2020.[1] Until February 17, the number of confirmed cases remained relatively stable, with 30 diagnosed patients; however, the situation changed drastically after identification of the 31st patient, and the number of confirmed cases jumped to 2,022 by February 28.

The South Korean government and the Korea Centers for Disease Control and Prevention (K-CDC) regularly report the daily status of new patients, as well as their physical condition and the places they recently visited, in order to ensure people remain well-informed about the epidemic status.

With a significant volume of news coming from various sources, there have been rising concerns of "fake news" related to COVID-19. People constantly consume news to stay updated, and may experience high anxiety while doing so. In addition, the source of infection remains uncertain in some cases, while travel bans and instructions to quarantine travellers and citizens have also been issued; such factors may drive people to feel that "there is no safe place," which can amplify public anxiety. This could lead to more severe consequences; for instance, a woman committed suicide[2] after suspecting herself to be infected after a recent trip to China (autopsy later revealed that the woman tested negative for the virus).

The K-CDC has distributed leaflets to the public and continues to issue guidelines for preventing COVID-19.[3] The Korean Neuropsychiatric Association has also published guidelines[4] targeting five population domains: the public, parents of young children, quarantined people, medical professionals who treat COVID-19 patients, and other medical practitioners. These guidelines, released by the Ministry of Health and Welfare, suggest perceiving an anxiety response to an outbreak as normal and refraining from the act of avoiding specific groups. They also highlight the need to rely on credible information.

Furthermore, quarantine and isolation of those suspected of contracting or carrying the virus could provoke substantial mental health problems; these situations are known to be linked to acute stress disorder, depression, post-traumatic stress disorder, insomnia, irritability, anger, and emotional exhaustion.[5] The National Center for Mental Health (NCMH) is offering psychological counselling for people who are quarantined in Daegu as well as those who have recently returned from Wuhan, and has released guidelines for people with symptoms of COVID-19. Similar to the Korean Neuropsychiatric Association, the NCMH is advising the public to cooperate with the quarantine authorities and build skills to relax during distress—the instructions focus on individual skills and knowledge.

Moreover, the Psychological Support Group Network of the Ministry of Health and Welfare provides information[6] on hotlines for the current mental health crisis; the response system is different for people with COVID-19 and their families versus

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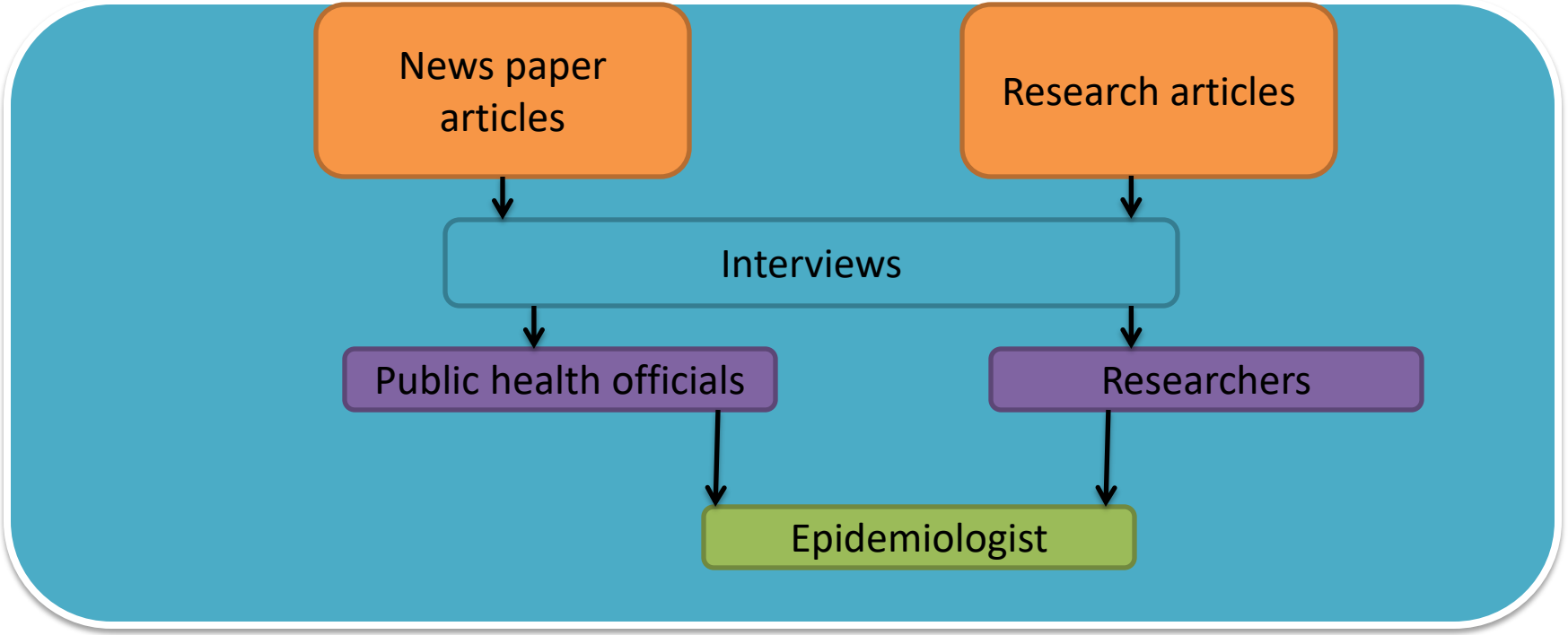
INTRODUCTION



Who are these Epidemiologists?

What do these Epidemiologists do?

What is Epidemiology?

EPIDEMIOLOGY

Greek Word: Epidemic

Epi= Among ,Upon

Demos= Study of Population or people

Logos= Scientific study

- Scientific study of disease pattern in human population
- In broad sense it is the study of effect of multiple factors on human population
- Multidisciplinary subject involving those of Physicians, Biologists, Public health experts, Health educators

EPIDEMIOLOGY

The science of mass phenomena of infectious disease or natural history of infectious diseases (Frost 1927)

The science of infective diseases, their prime causes, propagation and prevention (Stallbrass 1931)

EPIDEMIOLOGY

The study of disease as a mass phenomenon (Greenwood 1935)

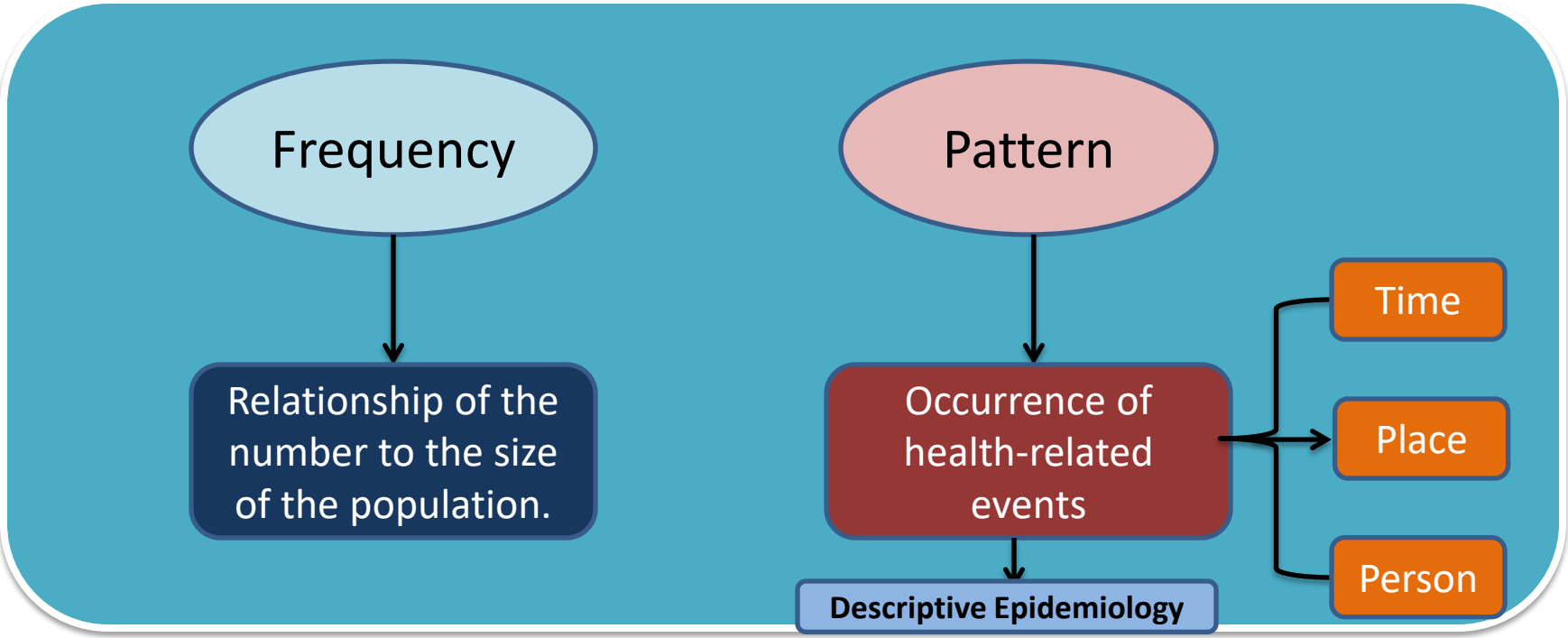
The study of condition known or reasonably supposed to influence the prevalence of disease (Lumsden 1936)

The study of distribution, determinants and disease frequency in man (Mac, Mohan and Pugh)

EPIDEMIOLOGY

The study of **distribution** and **determinants** of **health related states or events** in **specified population** and **application** of the study in control of health problem (John M Last 1988)

DISTRIBUTION-- EPIDEMIOLOGY

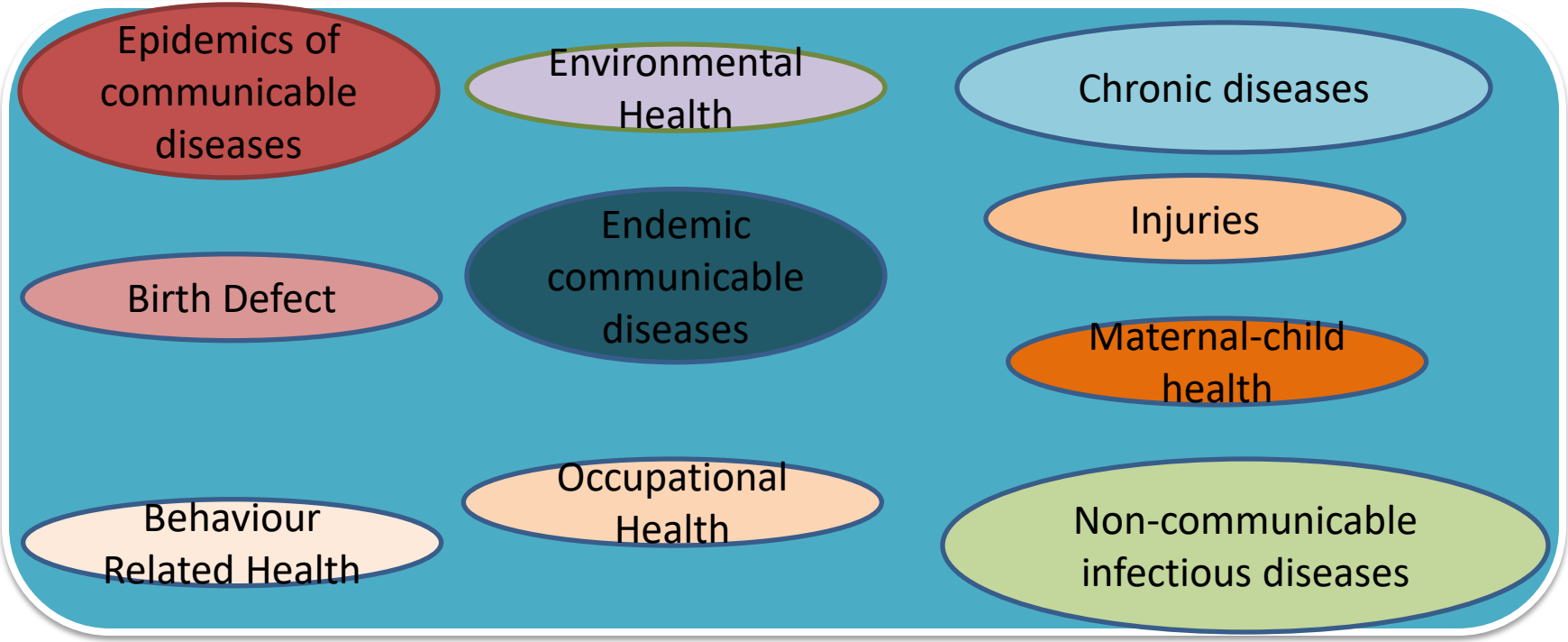


DETERMINANTS-- EPIDEMIOLOGY

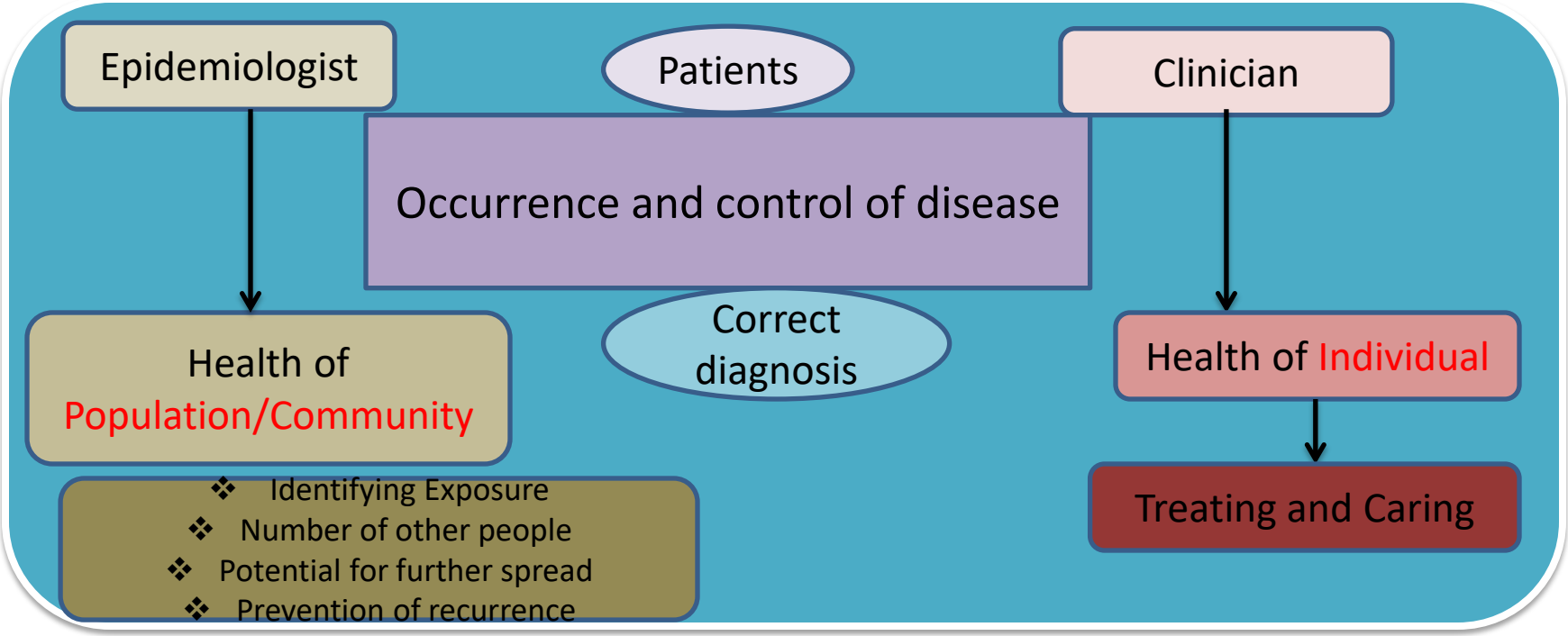
Causes and other factors that influence the occurrence of disease and other health-related events.

Analytical Epidemiology

HEALTH RELATED EVENTS-- EPIDEMIOLOGY



SPECIFIED POPULATION--EPIDEMIOLOGY



APPLICATION--EPIDEMIOLOGY

Epidemiology is not just study of health in population

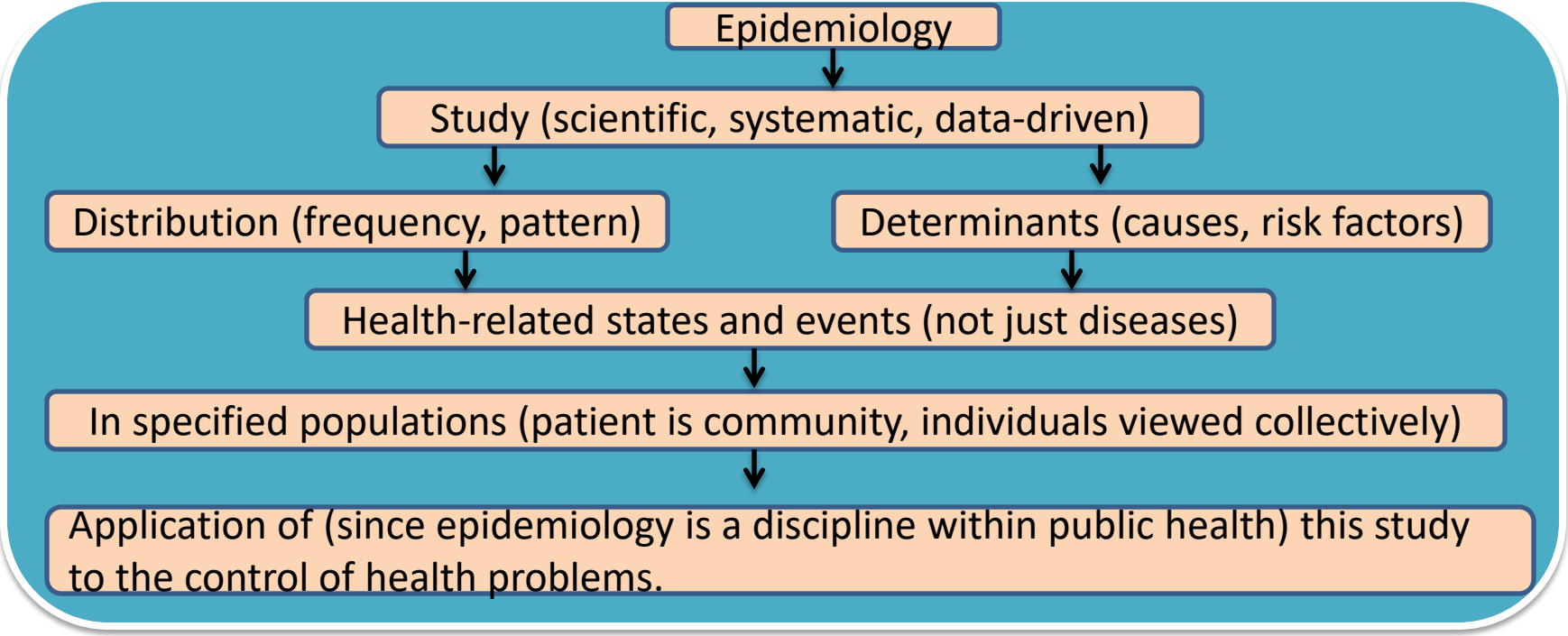
Involves applying knowledge gained by studied to Community based practices

- Using the scientific methods (Descriptive and analytic epidemiology)
- Experience and Judgment
- Proposing appropriate, practical, and acceptable public health interventions to control and prevent disease in the community.

APPLICATION--EPIDEMIOLOGY

- Epidemiology is a basic science of public health.
- This discipline is based on principles of statistics and research methodologies
- This discipline is designed to train professionals to apply the principles and methods of epidemiological investigation in a broad range of settings

LET'S SUMMARISE DEFINITION OF EPIDEMIOLOGY



AIMS OF EPIDEMIOLOGY

According to International Epidemiological Association (IEA)

To describe and analyse disease occurrence and distribution in human population

To identify etiological factors in the pathogenesis of the disease

To provide data essential to the planning , implementation and evaluation of services for prevention, control and treatment of diseases and to the setting of priorities among those services

AIMS OF EPIDEMIOLOGY

To eliminate and reduce health problem and its consequences

To promote health and well being of society as a whole