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**Q1;**

1. **You want to carry out your bachelors research, what are the first five steps that you need to follow and why?**

**Answer:**

 **Five Main Steps for research and why?**

**Research**:

 It is the systematic investigation into study of materials sources in order to established facts and reach new conclusions.

**(1). Research Problem:**

 The research problem is about the area of concerns and questions or improvements whether it is in theoretical or practical points.

 Or

Research problem is actually a question which/that answer a particular issue.

**(2). Research project designing:**

 The creation of plan and comprehensive approach that how can we fixed or solve that problem and to determine that possible answer.

Moreover, we need to collect information for solving the issue and decide for research selection (Quantitative or Qualitative).

**(3). Data Collection:**

 After designing the research now, we need collection of data which may be collected in the form of old or preexisting literature or may be in the form of survey observations or questionnaires are also useful for collecting the data.

**(4). Data Analysis:**

 After collecting enough data and information for the research study now, that data will be analyzed so that research question can answer and according to researcher plan analyze it two or more time if the result are same or statistically significant then move to further studies and research.

**(5). Reporting research findings:**

 A research report is the result of investigation from which a decision will be obtained or to make decision.

Result findings can enhance through oral presentations using figures, tables and charts or graphs.

**Answer no 2**

**Literature review of Mycobacterium tuberculosis (MTB)**

**Literature Review:**

modality present to the discourse this difficult is PCR(14). the method of have been

widely tested for finding of Mycobacterium tuberculosis from sputum samples The first

two nucleic acid amplification based kits for laboratory identification to find M.

tuberculosis in sputum A quantity of nucleic acid-based amplification tests, most of them

based on PCR, has been established to finding of M. tuberculosis in medical specimens.

While significant information are currently obtainable happening their importance with

respiratory samples in analysis of lungs tuberculosis, slightly is known their part in

diagnosing MTB from specimens of CSF The test use for M. bacterium tuberculosis is

tuberculin skin test (TST) which affords indication by M tuberculosis contagion, is

extensively use to advance sustenance to medical and radiological observation by the

calculation of young children with supposed tuberculosis. Although, the compassion of

TST in youngsters with clear tuberculosis is below. It is the based on identification and

treatment of people infected by Mycobacterium tuberculosis (MTB) who are at greatest

risk for development to active disease(15). The second primary disadvantage of TST is its

little capacity an immune chromatographic assay (ICT) which helps the diagnosis of TB

by identifying the serum antibodies toward beside a targeted 38-kDa antigen in bacterium

tuberculosis has been defined (16).Finally this test involves of a insubstantial hinged

method having a nitro cellulose stripe and absorb entraps. Antigen concealed by M.

tuberculosis throughout an vigorous infection is powerless on the line which cross the

stripe. if serum or plasma is apply, it forward earlier the antigen border. When targeted

antibody toward the antigen is available it fixes to the borderline. Attached antibody is

identified from anti-human immunoglobulin G antibody attached to colloidal golden

substances that provide a pink line when combine to human antibody. The whole

procedure is complete within15 minutes and does not need any additional apparatus .The

test looks to be extremely specific in diagnosing active TB. Previous BCG vaccination,

latent infection with Tuberculosis, or a typical mycobacteria do not look to give false positive test results.

 According to (W Roberts at al 2006) in London on tuberculosis among prisoner , homeless and drugs are user according to him Tb is most common in drug user according to their survey 27 per 100000 in prisoner , 788 per 100000 homeless person and 354 per 100000 among drugs user. So TB is most common among drugs user because it mostly exposed to its risk factors (22).

Study conduced by (Rod well at al 2009) according to him drugs abuse have greater chance of TB then other community peoples . It is because their immune system were compromise and also expose to various rick factor The may be combine effected with other germ like HBS , HCV and HIV (23).

Study conducted in Rotterdam UK by ( Rob A.van Hest at al in 2005) according to TB is more common among Homeless person according to him 26 % ( 4 out of 23 ) and 27 % (4 out of 15 ) these are staff member of shelter houses for homeless person. So it may be acquired from the home persons (24).

Study conducted in Karachi by ( Badar fayaz zubari at al 2007) according to him HIV is also make favorable environment for TB infection 196 participant were test among these in 38 TB was detected . It because HIV make the immune system compromise because HIV mainly attack on Immune cells so the chance for TB increase(25).

Study conducted by (Amer H Khan at al 2015) Findings from the current study proved smoking to be one of the main factors associated with the occurrence is also a cause of lungs disease and exacerbate another lungs diseases (26)