Energy Conservation for Wireless Adhoc Network

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Abstract

This Paperpresents, the system is to design a framework of power efficient routing protocol that can setup the routing path moretimely by deriving a new link cost model to account for energy utilization due to signaling packets at MAC layer. In order to check the preciseness of the proposed algorithm, the performance analysis will be done on evaluating routing setup time, density, packet size, energy consumed per packet, and arrival rate. To propose a routing scheme based on node characteristic for optimal routing and proposing communication scheduling scheme to optimize the power consumption. With the incorporation of these proposals in MANET it is focused to improve the overall power saving to increase network life time.

Keyword: Ad hoc networks,MAC layer, MANET, Dynamic Source, Energy Coding,and Energy-Efficient Routing.

1. Introduction

Mobile devices plus wireless network interfaces can become a necessary a part of future computing atmosphere consisting of infra-structured and infrastructure-less mobile networks. Wireless native space network supported IEEE 802.11 technology is that the most prevailing infra-structured mobile network, wherever a mobile node communicates with a hard and fast base station, and therefore a wireless link is restricted to at least one hop between the node and also the base station. Mobile impromptu network (MANET) is associate infrastructure-less multihop network wherever every node communicates with different nodes directly or indirectly through intermediate nodes. Thus, all nodes in an exceedingly Manet essentially operate as mobile routers collaborating in some routing protocol needed for deciding and maintaining the routes. Since MANETs area unit infrastructure-less, self-organizing, chop-chop deployable wireless networks, they\'re extremely appropriate for applications involving special out of doors events, communications in regions with no wireless infrastructure, emergencies and natural disasters, and military operations.

The routing protocols planned for MANETs area unit typically classified as table-driven and on-demand driven supported the temporal order of once the routes area unit updated. With table-driven routing protocols, every node makes an attempt to take care of consistent, up-to-date routing info to each different node within the network. This is often exhausted response to changes within the network by having every node update its routing table and propagate the updates to its neighboring nodes. Thus, it\'s proactive within the sense that once a packet must be forwarded the route is already famed and might be straightaway used as is that the case for wired networks, the routing table is made exploitation either link-state or distance vector algorithms containing a listing of all the destinations, succeeding hop, and also the range of hops to every destination. Several routing protocols together with Destination-Sequenced Distance Vector and camera lens State Routing protocol belong to the

present class, and that they disagree within the range of routing tables manipulated and also the strategies wont to exchange and maintain routing tables. With on-demand driven routing, routes area unit discovered only if a supply node wishes them. Route discovery and route maintenance area unit 2 main procedures: The route discovery method involves causation route-request packets from a supply to its neighbor nodes that then forward the request to their neighbors, and so on. Once the route-. Request reaches the destination node, it responds by unicasting a route-reply packet back to the supply node via the neighbor from that it 1st received the route-request. Once the route-request reaches associate intermediate node that includes a sufficiently up-to-date route, it stops forwarding and sends a route-reply message back to the supply. Once the route is established, some sort of route maintenance method maintains it in every node's internal arrangement known as a route-cache, till the destination becomes inaccessible on the route. Note that every node learns the routing methods as time passes not solely as a supply or associate intermediate node however additionally as associate overhearing neighbor node. In distinction to table-driven routing protocols, not all up-to-date routes area unit maintained at each node. Dynamic supply Routing (DSR) and Ad-Hoc On-Demand Distance Vector (AODV) area unit samples of on-demand driven protocols.

In distinction to easily establishing correct and economical routes between try of nodes, one necessary goal of a routing protocol is to stay the network functioning as long as doable. As mentioned within the abstract, this goal is accomplished by minimizing mobile nodes' energy not solely throughout active communication however conjointly after them square measure inactive. Transmission power management and cargo distribution square measure 2 approaches to attenuate the active communication energy, and sleep power-down mode is employed to attenuate energy throughout inactivity.

The first metric is helpful to produce the min-power path through that the general energy consumption for delivering a packet is reduced. Here, every wireless link is annotated with the link value in terms of transmission energy over the link and also the min-power path is that the one that minimizes the total of the link prices on the trail. However, a routing formula exploitation this metric could lead to unbalanced energy defrayment among mobile nodes. Once some explicit mobile nodes square measure below the belt burdened to support several packet-relaying functions, they consume a lot of battery energy and stop running prior different nodes disrupting the general practicality of the unexpected network. Thus, maximizing the network life (the second metric shown above) may be aa lot of elementary goal of AN energy economical routing algorithm: Given different routing ways, choose the one which will lead to the longest network operation time.

II. Existing System

For the belief of economical cryptography in MANETs for extended life varied approaches were created in past. In existing minimum energy routing protocols, sign packets are usually transmitted at the most power to scale back the hidden terminal drawback as a results of victimization uneven transmission powers from totally different neighboring nodes. The sign packet that experiences a lot of Collisions, for instance, the RTS packet in 802.11, would consume vital quantity of power. While not taking under consideration the energy used for sign, the trail discovered might consume energy than a path elect supported a more correct energy consumption model. Additionally, most of literature work targeted solely on the event of recent link price metric. Once a replacement link price comes, the normal shortest path routing protocols, like Ad-Hoc on Demand Distance Vector (AODV) and Dynamic supply Routing (DSR) protocols, are changed to go looking for the minimum price path. However, such simple modification would result in many issues. First, the routing overhead

in route discovery part is incredibly high, that not solely consumes a major quantity of energy however additionally results in an extended path setup delay. Second, the route maintenance theme employed in standard shortest path routing protocol isn\'t appropriate for maintaining energy economical path during a mobile setting. Most existing works are targeted on link-level physical layer problems, like outage chance and outage capability. Consequently, the impacts of cooperative communications on network-level higher layer problems, like topology management, routing and network capability, are for the most part unheeded. Indeed, most of current works on wireless networks commit to produce, adapt, and manage a network on a maze of point-to-point non-cooperative wireless links. Such architectures is seen as complicated networks of straightforward links. Some disadvantages:

Low Network capability, Communications are targeted on physical layer problems, like decreasing outage chance and increasing outage capability, that are solely link-wide metrics.

III.Proposed Method

Routing is one in every of the key problems in MANETs thanks to their extremely dynamic and distributed nature. Specifically, energy economical routing could also be the foremost vital criterion for MANETs since mobile nodes are going to be powered by batteries with restricted capability. Equipment failure of a mobile node not solely have an effect on the node itself however conjointly its ability to forward packets on behalf of others and therefore the network period of time. For this reason, several analysis efforts are dedicated to developing energy aware routing protocols. An in depth discussion on the issues in ancient energy-efficient routing protocols is highlighted. A replacement link value model to account for energy consumption thanks to signal packets at waterproof layer springs then the system can give the schemes for estimating the parameters needed for hard the link value. Supported the new energy consumption model, a Progressive Energy-Efficient Routing (PEER) protocol is projected for a lot of timely path setup, and for economical path maintenance. Contrary to traditional energy-efficient routing protocols that try and realize the optimum path throughout route discovery section and maintain the route reactively, PEER searches for the lot of energy-efficient path increasingly and maintains the route ceaselessly. Notably, a path highest to the foremost energy economical path is established between the supply and therefore the destination quickly, then the transmission path adapts whenever necessary with very little overhead to confirm a lot of energy-efficient transmissions all the time.

Advantages:

i. Optimize the ability utilization to boost the node period of time
ii. Improve the network capability in MANETs.
iii. Dynamic approach pattern and dynamic network while not a set infrastructure.
iv. There are a supply, a destination and several other relay nodes.
v. Cooperation will profit not solely the physical layer, however the entire network in severaldifferent aspects

IV. Ad Hoc Routing Schemes.

Since analysis on impromptu routing began with packet radio networks, varied protocols are projected [7]. These protocols have to be compelled to agitate the wireless medium, i.e. low information measure, high error rates and burst losses, in addition because the limitations obligatory by impromptu networks like often ever-changing topology and low power devices. Finally, the

protocols have to be compelled to scale well to an outsized variety of nodes within the network. Considering the character of the protocols, they\'ll be categorized into proactive and reactive protocols.

(a). Proactive Routing Protocols:Proactive routing protocols have the characteristic of trying to keep up consistent up-to-date routing data from every node to each alternative node within the network.

.(b) Reactive Routing Protocols: In distinction to proactive routing protocols, reactive protocols produce routes only desired. This implies that a precise route discovery method creates routes associate in nursing this can be initiated solely on an as-needed basis. It is either supply initiated or destination-initiated. Source-initiated routing implies that it\'s the supply node that begins the invention method, whereas destination-initiated is that the opposite. Once a route has been established, the route discovery method ends, and a maintenance procedure preserves it till the route breaks down or is not any longer desired. Causing out positive reinforcements to extend the speed of a selected path. there\'s additionally a mechanism for negative reinforcements to alter high rate methods to low rate ones; these are used once a far better path emerges.

V. Energy Aware Routing

The potential problem in current protocols is that they findthe lowest energy route and use that for everycommunication. However, that is not the best thing to do fornetwork lifetime. Using a low energy path frequently leads toenergy depletion of the nodes along that path and in the worstcase may lead to network partition.To counteract this problem, we propose a new protocol thatwe call energy aware routing. The basic idea is that to increase the survivability of networks, it may be necessary touse sub-optimal paths occasionally. This ensures that theoptimal path does not get depleted and the network degradesgracefully as a whole rather than getting partitioned. Toachieve this, multiple paths are found between source anddestinations, and each path is assigned a probability of beingchosen, depending on the energy metric. Every time data is tobe sent from the source to destination, one of the paths israndomly chosen depending on the probabilities. This meansthat none of the paths is used all the time, preventing energydepletion. Also different paths are tried continuously,improving tolerance to nodes moving around the network.Energy aware routing is also a reactive routing protocol. Itis a destination-initiated protocol where the consumer of dataInitiates the route request and maintains the route subsequently. Thus, it is similar to diffusion in certain ways. Multiplepaths are maintained from source to destination. However,diffusion sends data along all the paths at regular intervals,while energy aware routing uses only one path at all times.But due to the probabilistic choice of routes, it cancontinuously evaluate different routes and choose theprobabilities accordingly. The protocol has three phases:

- **Setup phase** or interest propagation – Localizedflooding occurs to find all the routes from source todestination and their energy costs. This is whenrouting (interest) tables are built up.
- **Data Communication phase** or data propagation – Datais sent from source to destination, using theinformation from the earlier phase. This is when pathsare chosen probabilistically according to the energyCosts that were calculated earlier.
- **Route maintenance** – Route maintenance is minimal.Localized flooding is performed infrequently fromdestination to source to keep all the paths alive.

A. Setup part

1. The destination node initiates the affiliation by flooding the network within the direction of the

supply node. It conjointly sets the "Cost" field to zero before causation the request.
Cost(ND) =0.

2. Each intermediate node forwards the request solely tothe neighbors that area unit nearer to the supply node than oneself and farther aloof from the destination node. Therefore at a node metallic element, the request is distributed solely to a neighbor Garden State that satisfies:
3. On receiving the request, the energy metric for the neighbor that sent the request is computed and is adscititious to the whole price of the trail. Thus, if the request is distributed from node metallic element to node Garden State, calculates the value of the trail.
4. Ways that have a really high price area unit discarded and not adscititious to the forwarding table. Solely the neighbor's metallic element with ways of low price area unit adscititious to the forwarding table.
5. Node Nj State assigns a chance to every of the neighbors Ni metallic element within the forwarding table FTj, with the chance reciprocally proportional to the cost.
6. Thus, every node Nj State includes a variety of neighbors through that it will route packets to the destination. Nj State then calculates the common cost of reaching the destination victimization the neighbors within the forwarding table.
7. This cost ,cost (Nj) is about within the "Cost" field of the request packet and forwarded on towards the supply node as in Step of 2.

B. electronic communication part

1. The supply node sends the info packet to any of the neighbors within the forwarding table, with the chance of the neighbor being chosen capable the chance within the forwarding table.
2. Every of the intermediate nodes forwards the info packet to a at random chosen neighbor in its forwarding table, with the chance of the neighbor being chosen capable the chance within the forwarding table.
3. This is often continuing until the info packet reaches the destination node.

VI. Simulations and Analysis.

As mentioned earlier, power-aware wireless ad hocrouting protocols are basically energy economical route choice ways designed on high of existingad hocnetwork routing protocols. The underlying ad hocrouting protocols give functionalities of periodical and distributed route re-computation to facilitate maintenance of optimality within the computed methods each at the time of path setup and once random communication traffics.

In the simulations that follow, Dynamic supply Routing (DSR) [7] is utilized because the base routing protocol. DSR is chosen as a result of it displays variety of fascinating options among well-liked ad hocrouting protocols, as well as Destination-Sequenced Distance-Vector routing (DSDV) [13], Temporally-Ordered Routing algorithmic rule (TORA) [12][11] and Ad-Hoc On Demand Distance Vector routing (AODV). DSR needs minimum routing overhead, and discovers routes terribly near the optimum. With increasing node quality, no important degradation of route optimality is incurred. It is ready to react quickly to network topological changes whereas still with success deliver information packets to their destinations. The packet delivery magnitude relation is freelance of the offered traffic load. In short, DSR performs alright in the least quality rates and movement speeds [2].

In power-aware protocols, prolonging network period of time is usually a horny primary goal.

The interpretation of network period of time, however, is state of affairs dependent. Some defines network period of time because the length of your time before the primary node battery runs into exhaustion. This is applicable once the network nodes are sparsely located, any node could be an important transceiver in providing network property. Some accumulates the time as long as there\'s one node operational. This is applicable once the facility usage is truthful enough among network nodes, therefore once the network nodes expire at similar time. Others considers node topology, network period of time is counted until k nodes having their batteries utterly drained, leading to network partition or communication failure.

Our simulation model has 5 major components: ad hocmobile network formation, packet delivery event generator, mobile nodes migration engine, routing protocol engine and statistics analyzer, as illustrated in Figure.

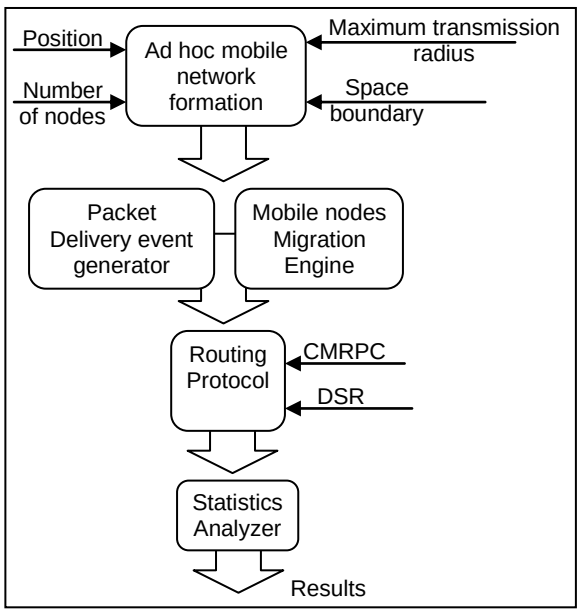

Fig 1.An Ad Hoc Mobile Network Simulation Model.

The module of Ad Hoc Mobile Network formation takes in parameters of the area boundary, range of network nodes, their positions in area and their most transmission radius. This module is enforced exploitation Tcl script.

The network formation is that the simulation ground for packet delivery and mobile node migration events. The quantity of active human action flows will be varied and therefore the mobile nodes' migration speed and pause interval is node dependent. These are parameters inputted at simulation setup. Each events are generated exploitation Tcl script and are after handled by the routing protocol engine. The routing protocol engine employs CMRPC on high of DSR, during which CMRPC handles route choice, DSR manages route discovery, route maintenance, route refreshments and thru cooperating with waterproof and physical layers within the TCP/IP stack, it achieves reliable packet delivery. This module is complete through C++ codes. Once the routing protocol engine processes packet transmission or node migration events, statistics like energy consumption, node expiration ar recorded. it\'s the duty of the statistics instrument to look at the recorded information and extend attention-grabbing analysis results. The instrument is enforced exploitation each C++ code and

Tcl script. Our protocol analysis is predicated on the simulation of fifty every which way placed wireless nodes forming a billboard hoc network, moving inside a 670m by 670m flat area for 350 seconds of simulated time. The network contains twenty connections and therefore the nodes are on the move at a speed of most 20m/s with average pause time of 600s. Every node has Associate in Omni-Antenna on its device and therefore the physical radio characteristics of every wireless node are that it\'s initial energy capability of zero point five Joules and spends zero.3 Watts of energy every time once a packet transmitted and zero.6 Watts once a packet received. *Discussion on Simulation results* The Fig shows however the mean network time period is dynamic withdynamic threshold worth in CMRPC protocol. Intuitively, the larger is that the mean of time period the higher is protocol performance. because it is shown on the Fig the protocol is stable and acceptable once threshold worth is between 20%-45%. With low threshold values the protocol performs not thus stable, with high values the time period decreases. From the higher than follows the recommendation for sensible implementing power-aware CMRPC protocol. In shirt, the edge worth for protocol ought to be chosen in this space wherever mean time period worth is stable and high, so 20%-45%. The shows such behavior since the time period is that the operate of threshold value of CMRPC. The upper the edge, the upper the likelihood that the typical time period of the nodes can decrease.

The deviation of every node time period against the mean is shown on Fig. The deviation behavior pattern ends up in similar conclusions, the edge worth ought to be chosen about from 20%-40% since the less the deviation the higher is that the performance.

The changes in values planned in on the Fig and Fig are not thus important to the 2 reasons. The primary is that threshold once some worth is not enjoying vital role as a result of the underlying MRPC protocol (on above of that the CMRPC is implemented) continues to be performs fine. MRPC selects links with lower error rates and consequently, smaller energy expenditure on packet re-transmission. The second reason is that have important dynamic within the mean network time period worth and deviation the protocol ought to run long-standing to point out high distinction in behavior. We have a tendency to run our experiments for time of 350 sec. that is notterribly long compare to sensible operating time. Still the values of vary of 20-40% for threshold are noticeable, that offer the simplest performance together CMRPC with RPC.

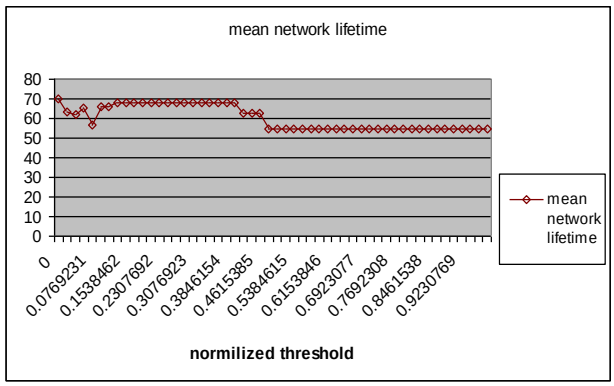

Fig 2:The expectation of network life time depending on CMRPC threshold.

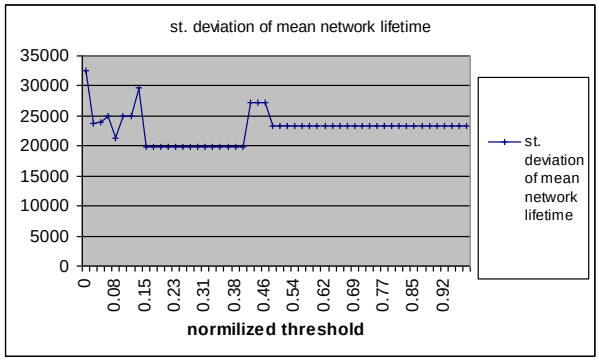

Fig: The standard deviation of expectation of network life time depending on CMRPC threshold.

We have conferred during this paper descriptions of the varied power-aware metrics and power-aware routing protocols that area unit outstanding within the analysis community. those we\'ve got listed embody Minimum Total Transmission Power Routing (MTPR) and Conditional Min-Max Battery value Routing (CMMBCR) with the newest being Conditional most Residual Packet capability (CMRPC). Then we tend to conducted simulations on CMRPC to research the performance it provides on energy saving. The simulation suggests the edge price of CMRPC protocol to be set close to in vary of 20-40%. With such values the protocol shows its best performance thanks to the mixture of MRPC and minimum total energy routing.

Power-aware routing protocols area unit energy-saving ways designed at the network layer. although being effective in power saving, they\'re still restricted within the ability of maximising the full quantity of power savable. Incorporation of power saving ways designed at the waterproof and physical layers with the network layer ways area unit expected to bring enhancements. Therefore, by sound into correlating numerous energy-efficient metrics and logically combining cooperative multi-layer power-aware styles, enhancements in extending the operational lifespan of an advert hoc wireless network area unit doable.

VII. Conclusion

We have conferred during this paper, Power-aware routing protocols area unit energy-saving ways designed at the network layer descriptions of the varied power-aware metrics and power-aware routing protocols that area unit outstanding within the analysis community. those we\'ve got listed embody Minimum Total Transmission Power Routing (MTPR) and Conditional Min-Max Battery value Routing (CMMBCR) with the newest being Conditional most Residual Packet capability (CMRPC). Then we tend to conducted simulations on CMRPC to research the performance it provides on energy saving. The simulation suggests the edge price of CMRPC protocol to be set close to in vary of 20-40%. With such values the protocol shows its best performance thanks to the mixture of MRPC and minimum total energy routing.

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Measurement of Hospital Efficiency

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Abstract

In a time for rising demands for healthcare, focus on efficient operations in healthcare is becoming more imperative. There are several measures of efficiency. Typical example of efficiency is technical efficiency, referring to the effective use of resources in producing outputs for the decision making units. In literature, there have been several modeling and assessment approaches developed for measuring efficiency of health services. The main focus of this paper is given to data envelopment analysis technique which is one of the very popular assessment tools for measuring efficiency of decision making systems of organizations like hospitals. The use of this technique is supported with a case study of Private hospitals in Mumbai. The results of this study bring out the inefficiency in the use of inputs by the private hospitals. It also indicates that the efficient hospitals can serve as benchmarks for the inefficient hospitals to improve their efficiency scores.

Keywords: Efficiency, Healthcare, Decision Making Unit, Data Envelopment Analysis.

Introduction

In today's dynamic and rapidly changing socio-economic conditions, healthcare organizations have followed the similar goals like other organizations for achieving performance improvements. In recent years, efficiency has been one of the most important issues for hospitals which used limited resources for maximum value. Efficiency measurement represents a first step towards the evaluation of a coordinated healthcare system, and constitutes one of the basic means of audit for the rational distribution of human and economic resources (O' Neill, L et al, 2008). Over the past two decades, efficiency measurement has been one of the most intensely explored areas of health services research (Ruggiero, J, 2007).

Measurement of Efficiency

Economists have developed three main measures of efficiency. First, technical efficiency; refers to the maximum possible output from a given set of inputs. Within the context of healthcare services, technical efficiency refers to the physical relationship between the resources allocated (capital, labor and equipment) and certain health outcomes. These health outcomes may either be defined in terms of intermediate outputs like number of patients treated, patient- days, waiting time, etc. or final health outcomes such as lower mortality rates, longer life expectancy, etc.(Palmer, S. and Tolgerson, D.J., 1999). Second, allocative efficiency reflects the ability of an organization to use inputs in optimal proportions, given their respective prices and the production technology. Finally and when taken together, allocative efficiency and technical efficiency determine the degree of productive efficiency also identified as total economic efficiency (Worthington, A.C., 2004). Thus, if an organization utilizes its resources completely allocatively and technically efficiently, then it can be considered to have achieved total economic efficiency.

Data Envelopment Analysis to Measure Hospital Efficiency

In recent times, Data Envelopment Analysis (DEA) technique is popular in evaluating hospital efficiency because it is applicable to the multiple input-output that is essential for the nature of a health care system (Hollingsworth, 2003). DEA is one of the most applied techniques for evaluating hospital efficiency (Bakar, et al 2010, Linna, et al 2006).The first model of DEA was introduced Charnes, Cooper and Rhodes known as (CCR) model in 1978 which was actually an enhancement of Farrell

"border production function'' methodology to measure technical efficiency in 1957. In their originating study, Charnes, Cooper, and Rhodes (1978) described DEA as a 'mathematical programming model applied to observational data that provides a new way of obtaining empirical estimates of relations such as the production functions and/or efficient production possibility surfaces – that are cornerstones of modern economics'. Charnes and Cooper (1984) described a non parametric approach for institutions like hospitals, banks, etc. to measure efficiency and the technique is known as Data Envelopment Analysis (DEA). Later it was Banker who introduced the (BCR) model named after the three researchers (Banker, Charnes and Cooper) in 1984 and Kemerer used this approach in order to prove the existence of both rising and falling returns to scale.

There are numerous DEA models introduced to assess the efficiency of firms. In general, these models differ in their goal orientation (e.g. input-orientation vs. output orientation), disposability (e.g. strong vs. week), diversification and returns to scale (e.g. CRS vs. VRS). However, the most well-known models are the CCR developed by Charnes, Cooper and Rhodes and BCC developed by Banker, Charnes and Cooper.

DEA calculates the efficiency of a given organization in a group relative to the best performing organization in that group. These individual units analyzed are also referred to as Decision Making Units (DMUs) in DEA. The DMUs for which efficiency scores are measured can be a whole agency such as hospitals, or units within organizations such as separate wards in a hospital. By providing the observed efficiencies of individual organizations, DEA helps to identify efficient organizations benchmarks towards which performance can be targeted by the inefficient ones. The actual levels of input use or output production of efficient organizations (or a combination of efficient organizations) can serve as specific targets for less efficient organizations, while the processes of benchmark organizations can be promulgated for the information of managers of organizations aiming to improve performance.

DEA uses Linear Programming (LP) methods to establish the frontier from the sample data. The efficiency is then measured relative to the efficiency of all others in the sample, subject to the restriction that all DMUs lie on or below the frontier (Bjurek, et al, 1990). This is achieved by solving a series of LP problems.

This method is generally preferred for efficiency analysis in non-profit sector such as health institutions where, according to (Coelli, et al, 1998):

- Random noise is less of a problem.
- Multi-product output production is relevant.
- Price data are difficult to find.
- Setting behavior assumptions such as profit maximization or cost minimization as done with the cost/production function method is difficult.

The five key *advantages* of DEA technique for efficiency analysis can be summarized as:

- It readily analyzes multiple inputs-outputs at the same time.
- It captures more specific production characteristics of each unit (Ferrari, et al, 2006). DEA model calculates an efficiency score for each DMU. Efficiency scores of DMU's which are equal to 1 are called 'efficient' and less than 1 are called inefficient. (Zhu, 2003).
- Decision making units are directly compared against a peer or a combination of peers.
- It is underpinned by economic theory and methods.
- It focuses on relative and not absolute efficiency.

Certain Precautions while using DEA:

i) The impact of omitting important variables. Hence, careful specification of the model is a must.
ii) The impact of outliers that refers to an observation which appears to be inconsistent with the remainder of the set of data (V. Barnett and T. Lewis, 1995).When inputs are understated or

outputs are overstated it becomes an outlier which affects efficiency.

iii) The impact of missing observations. The missing observations or the missing values may adversely affect the result.

All three situations may cause the efficiency scores to be wrongly computed. So the *weaknesses* of DEA can be stated as follows:

- When complex production processes are involved, specifying a model populated with good quality data can be difficult for several reasons. In particular an unmanageable number of variables may be needed to capture the process adequately or the quality of available data may be too poor to provide accurate measurement and produce valid results.
- DEA is a deterministic rather than statistical technique. DEA produces results that are particularly sensitive to measurement error. DEA only measures efficiency relative to best practice within the particular sample. Thus, it is not meaningful to compare the scores between two different studies.
- DEA results are insensitive to statistical noise and the measurement of comparative efficiency rests on the hypothesis that efficient units are genuinely efficient.
- Another weakness is that since DEA is a non-parametric technique, statistical hypothesis testing is difficult to be done.

Efficiency of Private Hospitals in Mumbai: A Case Study

A sample of thirty five hospitals in Mumbai of varying size was taken to study their relative efficiencies using DEA technique. Input-oriented DEA approach (while outputs are hold constant and inputs are decreased) was used because decision making units i.e. hospitals have better control over inputs than outputs. Since DEA can evaluate multiple inputs and outputs at the same time, it is accepted as being one of the most effective methods for relative efficiency evaluations. However, selection of inputs and outputs is the most important stage of the analysis process. The outputs considered in the study were number of inpatients and number of outpatients. This is because inpatients and outpatients are most likely to capture the bulk of the activities performed by the hospitals. DEA was estimated with four inputs: bed size, doctors, other staff in the hospital and cost of certain common equipment's used in all the hospitals. The weighted combination of inputs over outputs therefore formed the production frontier.

DEA calculates the technical efficiencies of hospitals that do not fall on efficient frontier and provides information on which units are not using inputs efficiently. Technical efficiency refers to the minimum amount of resources (inputs) to be used for a given level of output or, alternatively, the maximum amount of output that should be produced for a given level of resource use. DEA calculates the efficiency of a given organization in a group relative to the best performing organization in that group. The hospitals which lie on the frontier have an efficiency score of one or 100. The weighted combinations of efficient peer hospitals provide benchmarks for relatively less efficient hospitals. Out of the thirty-five private hospitals in the study 10 (29%) were technically efficient lying on the efficient frontier whereas the remaining 25 (71%) where technically inefficient. Among the inefficient twenty five hospitals, 1 hospital (2.8%) had a technical efficiency score of less than 50%, 8 hospitals (22.8%) between 50 and 74% and 16 hospitals (45.4%) between 75 and 99%. The inefficient hospitals had an average technical efficiency score of 81%. This implies that on average they could reduce their utilization of all inputs by about 19% without reducing output.

The study brings out that this type of analysis of measuring efficiency with the use of DEA technique of the private hospitals could be factored into the monitoring of the health system of the Mumbai city as well as other states in Maharashtra. It will benefit all the stakeholders in healthcare and the efficiency of these hospitals could be assessed every year as private hospitals dominate the healthcare market. This will help to constantly revise and upgrade the quality of care and minimize the wastage of crucial inputs. Also, there is a need to form cluster private hospitals in different wards where the facilities or equipments could be shared to avoid duplication of resources. This would lead

to better sharing of the equipments and the maintenance cost of these resources/equipments could be shared as per the proportionate use by different private hospitals. New healthcare infrastructure development in Mumbai has been constrained because of high cost of real estate. The private sector finds investments in healthcare in Mumbai not so remunerative, while the government finds it prohibitive in terms of shortage of finance and other resources like manpower, etc. Healthcare in Mumbai requires a multipronged approach to address these aspects in the healthcare value chain to make a paradigm shift in delivery of healthcare services to the citizens of Mumbai. This requires proper laws and their implementation to deliver quality healthcare to the citizens of Mumbai.

With the help of DEA analysis, the actual levels of input use or output production of efficient hospital (or a combination of efficient hospitals) can be traced which serve as specific targets for less efficient hospitals. The processes of benchmark hospitals can be transmitted for the information of managers/owners of the inefficient hospitals aiming to improve their performance and efficiency as indicated by the research study. The ability of DEA to identify possible peers or role models as well as simple efficiency scores gives it an edge over other measures. By providing the observed efficiencies of individual organizations, DEA helps to identify possible benchmarks towards which performance can be targeted as supported by the above research study conducted in Mumbai city.

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Effect of Asana and Pranayama on School going Children

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Abstract

The purpose of the present investigation was to find out the effect of Asana and Pranayama training on physiological variables. To achieve this purpose, thirty girls were selected randomly as subjects. They were assigned randomly into two experimental groups. Group I underwent Asana training and group II underwent Panayama training group of fifteen each. All the subjects of two groups were tested on selected dependent variable such as VO_{2max} and resting pulse rate before and after the treatment. The data pertaining to the variables in this study were examined by using dependent 't' and analysis of covariance (ANCOVA). Two experimental groups' namely, Asana and Pranayama training groups achieved significant improvement on and resting pulse rate. In view of improvement in VO_{2max} and resting pulse rate was concerned, the Pranayama training was best training when compared to Asanas training.

Introcdution:

Yoga postures are the physical positions that coordinate breath with movement and with holding the position to stretch and strengthen different parts of the body. Asana practice is the ideal complement to other forms of exercise, especially running, cycling and strength training, as the postures systematically work all the major muscle groups, including the back, neck, and shoulders, deep abdominal, hip and buttocks muscles and even ankles, feet, wrists and hands.

By their very nature, Asanas affect major and minor muscle groups and organs as they simultaneously import strength, increase flexibility and bring nourishment to internal organs. Although most poses are not aerobic in nature, they do in fact send oxygen to the cells in the body by way of conscious deep breathing and sustained stretching and contraction of different muscle groups.

Our lifestyle and unhealthy habits cause restriction in our breathing pattern. Poor posture (hunching, slouching) reduces lung capacity. This results in fatigue caused by the decrease in blood circulation and insufficient supply of oxygen to the blood cells. We need to breathe slowly and deeply. Quick, shallow breathing results in oxygen starvation, which leads to reduced vitality, premature ageing, a poor immune system and fatigue. No one can live for more than a few minutes without breathing, yet how many of us are even aware of the importance of proper breathing. On the physiological level, Pranayama was designed by our Yogis by watching nature. They noticed how animals, whose breath was slow and steady, like the elephant and tortoise, lived longer. They also noticed that animals that breathed fast and erratically, like hunting lions or dogs, had a short lifespan. Further, they realised mental control could be achieved by reining in the breath as it linked body and mind.

Pranayama also helps to connect the body to its battery, the solar plexus, where tremendous potential energy is stored. When tapped through specific techniques this vital energy, or prana, is released for physical, mental and spiritual rejuvenation. Regular practice removes obstructions, which impede the flow of vital energy.

Methodology:

Thirty girls students were selected randomly from Yugantar High School, Nagpur. Selected subjects were divided into two experimental groups. The age of the subjects were ranged from 12 to 14 years. VO_{2max} and resting pulse rate were measured by using Astrond nomogram and radial pulse method.

Training programme:

During the training period, the experimental groups underwent their respective training programmes for three days per week on alternate days for twelve weeks. Group I underwent Asanas such as Trikonasana, Vrikshasana Paschimottanasana, Gomukasana, Bhujangasana and Navasana and group II underwent Pranayama such as programme Nadi shuddhi, Kapalapathi, Bhastrika, Bhramari and Surya bedhana. The duration of training session was one day with 40-60 minutes approximately, for the excluding warming up.

Analysis of data:

The pre-test and post-test random group design was employed as experimental design for the study. Prior to and after the training programme the subjects were tested and data collected on VO_{2max} and resting pulse rate. The collected data were analyzed statistically by using dependent 't' and analysis of covariance (ANCOVA). The level of significance was fixed at 0.05 level of confidence. The summary of means and dependent 't' test for the pre- and post- test on selected variables of ATG and PTG have been given in Table 1. Analysis of covariance on selected variables of ATG and PTG have been given in Table 2.

Table 1 : The summary's of means and dependent 't' test for the pre and post test on selected variables and PTG.

Variables	Tests	ATG	PTG
Resting pulse rate	Pre-test	73.2	72.4
	Post-test	70.73	68.0
	't' test	6.15*	13.13*
VO_{2max}	Pre-test	2.46	2.48
	Post-test	2.78	2.65
	't' test	13.17*	14.67*

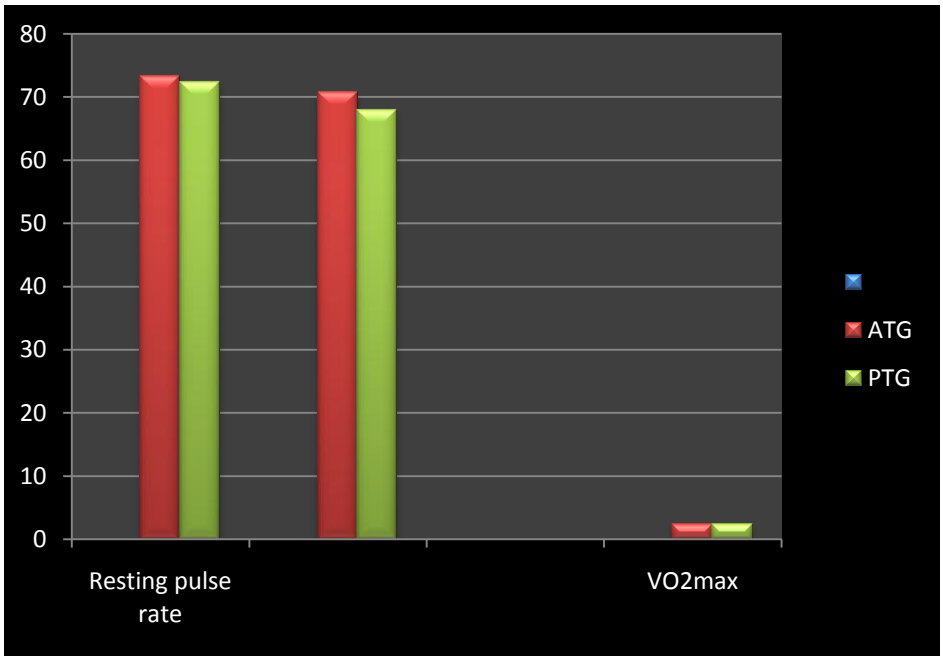

Table 2 : Analysis of covariance on selected variables of ATG and PTG.

Variables	Adjusted post test means		Source of variance	Sum of square	df	Mean square	F-ratio
	ATG	PTG					
Resting pulse rate	7.038	68.35	Between Within	30.712 49.001	1 27	30.712 1.815	16.92*
VO_{2max}	2.79	2.65	Between Within	0.1559 0.1289	1 27	0.1559 0.0047	32.64*

Conclusion:

From the analysis of the data, the following conclusions were drawn:

- Due to the influence of Asana and Pranyama training improved the VO_{2max} and resting pulse rate.
- Pranayama framing was identified as the best training method for improving the VO_{2max} and resting pulse rate when compared to the Asanas training.
- Future research may also benefit from long term Asana and Pranayama practice studies. The current research looks only VO_{2max} and resting pulse rate changes in acute time frames.
- The results of the study may be recommended to the coaches and physical educators to adopt these findings to improve the VO_{2max} and resting pulse rate.

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A Comparative Analyses of Sitting Height –Stature Index of 5000 mts and 20km Run/Walk Athletes

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Abstract

The segmental length and breadth determine the leverage, possessed by the body which, in turn, affects the final out come of force, created by muscles and its ultimate exploitation, for the purpose of motions. Running permits the body to float in the air between strides, with both feet off the ground approximately half the time. Thus the runners' strides can be considerably longer than the length of the legs. In theory, an increase in either stride length or stride frequency will increase a runner's speed.The investigator intends to find out the existing Sitting height- Stature of elite 5000mts and 20km run/walk athletes. The investigator collected data from nine elite athletes of each 5000mts and 20km run-walk. t-test analyses revealed insignificant difference in the sitting height-stature index means of two groups at .05 level of significance.

Introduction

Running permits the body to float in the air between strides, with both feet off the ground approximately half the time. Thus the runners' strides can be considerably longer than the length of the legs. In theory, an increase in either stride length or stride frequency will increase a runner's speed. However, each of these factors had such an effect on the other that when increasing one and reduces the other enough to produce a slower speed.**H. G. Dyson's (1986)** stated that the running speed is the product of length and frequency of stride, their ratio changing from one phase of a race to another and from athlete to athlete yet these two factors are always interdependent and maximum running efficiency exists only when they are in correct proportion, depending mainly on the weight, build, strength, flexibility and co-ordination of the runner.

Purpose of the study

The segmental length and breadth determine the leverage, possessed by the body (position of fulcrum and various lengths of load and efforts arms), which, in turn, affects the final out come of force, created by muscles and its ultimate exploitation, for the purpose of motions. The investigator intends to find out the existing Sitting height- Stature of elite 5000mts and 20km run/walk athletes.

Methodology

The investigator collected data from nine elite athletes of each 5000mts and 20km run-walk. t-test was applied to asses the significant difference between two group means at .05 level of significance.

Statistical analyses

t-table

	Mean	Standard deviation	t-test value
5000mts	52.22	1.35	
20 km	58.65	1.44	0.08

Significant at .05 level

Tab $t_{.05}$ 2.12

Since calculated t- value is lesser than tabulated t- value at .05 level of significance, we conclude that insignificant difference is existing in the sitting height- stature index mean of two groups of athletes.

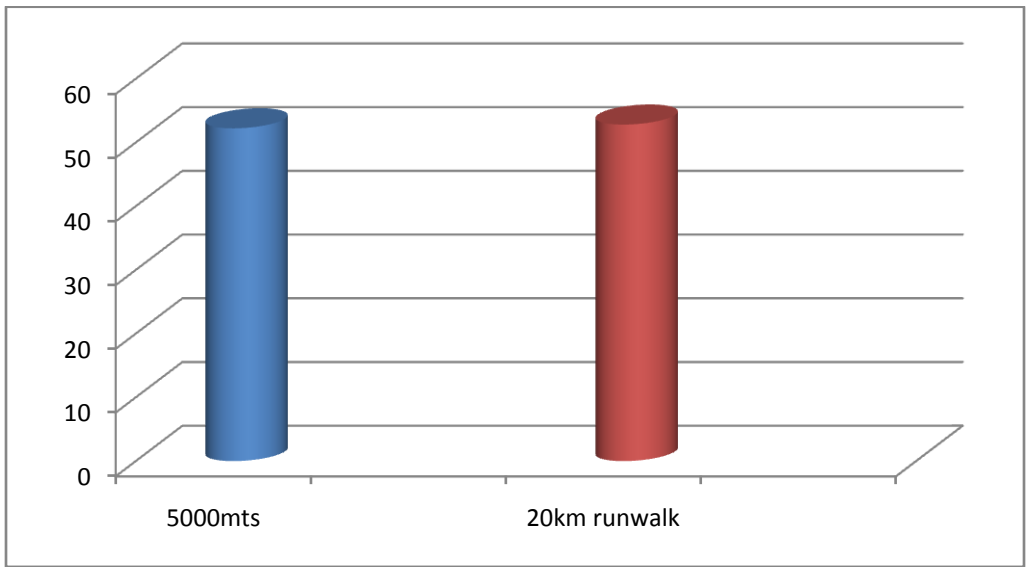

Figure:-1

The mean sitting height stature 5000mts and 20km run-walk athletes

Discussion of findings

Here we observe insignificant difference in the mean sitting height –stature index of 5000mts and 20 km run/walk athletes **. Singh and Ansari (2006)** also observed insignificant difference in Mean sitting height – stature index of elite 800, 1500 – 5000 and 5000 – 10000 m runners of India.**Cureton (1941**) stated that in general, people with long legs and long arms and relatively short and small trunks were physically weak in long sustained heavy work, but they might show great speed and endurance at high levels of athletic activity. Long third - class levers are noted for speed and range of action as well as for their efficiency for force. Most of the best distance runners are small and light-framed. They use a running style that avoids excess motion. Knee action is slight, arm movements are reduced to a minimum and the strides are shorter than those used in sprinting or middle-distance running. Along with fitness strategy is also very essential for competing in long distance events. The

top racers use a variety of techniques to outperform their opponents, from abrupt changes of pace during the race to fast finishing kicks. **Amar (1920)** There is direct relationship between leg length and both stride length and stride frequency. A sprinter with short legs has naturally shorter strides, which brings the foot back to the ground sooner if the stride was longer. Generally, Shorter the leg, Shorter the stride and Greater the frequency.

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Effect of Weight Training on Anthropometric Characteristics among Students of Physical Education

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Abstract:

The purpose of this study was to determine the effects of weight training on chest muscle circumference, upper arm muscle circumference, fore arm muscle circumference, thigh muscle circumference and calf muscle circumference. In this study fifty male students of School of Educational Sciences S. R. T.M. University, Nanded, were selected as subjects and where divided into two equal groups namely experimental group and control group. The experimental group was treated with weight training and no training was given to the control group. The duration of training programme was forty two days. The training was administrated on alternative day's i.e. three days per week. The data was collected before and at the end of six weeks training programme, with the help of steel tape. The criterion measures were recorded in centimeters. To find out the significant effect of weight training on selected anthropometric measurements the t-test was employed and mean difference between pre test and post test of experimental group and control group was determined. After the analysis and interpretation of data of collected data the results of this study showed significant effect of weight training on chest muscle circumference, upper arm muscle circumference, fore arm muscle circumference and calf muscle circumference and in case of thigh muscle circumference no significant effect was found on experimental group when compared with control group. Therefore, the weight training programme designed for this study might not be effective on thigh muscle circumference. The significant effect on subjects of experimental group might be due to the nature of weight training programme designed in the present study for the duration of six weeks.

Introduction:

Weight training is a very important aspect of sports training or physical body training and everybody is aware of their effects on the body's muscles and tendons. Training effect describes the physiological changes that occur from regular participation in a fitness program. In weight lifting terms it simply means that you have to push yourself and not to be afraid of acute pain. For example, after completing a set of bench presses for 12 reps, you have to ask yourself if you could have completed a few more. If so, then the current weight is to light and you should increase the weight so that the 12th repetition will be the last and the most difficult to complete (Joseph, 2000). To achieve the training effect and experience the benefits of exercises the following concepts must be applied. Weight training is an essential component of exercise programs for increasing muscular strength and size. Other terms that are used to refer to the use of weights or some form of resistance in order to increase muscle strength and size are "resistance training" and "weight training". The objective of the study was to find out the effect of weight training on chest muscle circumference**,** upper arm muscle circumference, fore arm muscle circumference, thigh muscle circumference and calf muscle circumference. On the basis of available literature and researcher's own experience and understanding

about the problem, it is hypothesized that there would be significant effects of weight training on chest muscle circumference**,** upper arm muscle circumference, fore arm muscle circumference, thigh muscle circumference and calf muscle circumference

Methods:

In this study fifty male students of School of Educational Sciences Swami Ramanand Teerth Marathwada University, Nanded were selected by employing simple random sampling method.

Selection of Variables :

The chest muscle circumference, upper arm muscle circumference, forearm muscle circumference, thigh muscle circumference and calf muscle circumference were selected anthropometric measurements for this study.

Criterion Measures:

Description of training program :

The goal of this training programme was to build the muscle. This 3 day workout was divided into three parts over 3 days a week. The first day for legs second day for chest and third day was dedicated to the arms. This training programme was performed by the subjects on Monday ,Wednesday and Friday. Before starting the exercising the subjects performed warming up by doing 5-10 minutes cardio followed by stretching. The training equipments were free weights and machines. The number of sets per exercise was 3 and the numbers of repetitions for each exercise were different in various exercises. the weight used for each set was 60% to 70% of 1-reptition maximum comfortably lifted by the subjects.

Results and Discussion:

The collected data on fifty subjects before and after six weeks weight trainings programme on selected anthropometric measurements were analyzed by employing t test. The mean, standard deviation and t value analyzed each dependent variable separately. For the sake of convince and methodical presentation of results, following order has been adopted:

Table -1 description of Mean Scores, Standard deviation, Mean difference, Standard error and t-ratio for the data of chest arm muscle circumference, forearm arm muscle circumference, upper arm muscle circumference thigh arm muscle circumference and calf arm muscle circumference in pre and post-test of control groups.

Parameter	Name of group	Mean scores	S.D.	M.D.	S.E.	t-ratio
Chest muscle circumference	Pre-test Control group	90.8	5.06	0.76	1.52	0.5^{NS}
	Post –test Control group	91.56	5.53			
Forearm muscle	Pre-test Control group	25.4	2.27			

circumference	Post –test Control group	25.12	3.14	0.72	0.78	0.37 NS
Upper arm muscle circumference	Pre-test Control group	26.44	2.63	0.48	0.86	0.55 NS
	Post –test Control group	26.92	3.33			
Thigh muscle circumference	Pre-test Control group	52.12	3.78	0.64	1.06	0.6 NS
	Post –test Control group	52.76	3.63			
Calf muscle circumference	Pre-test Control group	53	4.51	1.52	1.31	1.16NS
	Post –test Control group	54.52	4.66			

NS= Not Significant.

With regards to anthropometric measurement in chest muscle circumference, forearm muscle circumference, upper arm muscle circumference, thigh muscle circumference and calf muscle circumference of pre- post-test of control groups they have obtained the mean value of 90.8 and 91.56, 25.4 and 25.12, 26.44 and 26.92, 52.12 and 52.76, and 53 and 54.52 respectively which are given in the table- 1 reveals that no significant effects was found on (t= 0.5), (t= 0.37), (t= 0.55), (t= 0.6) and (t= 1.16) selected anthropometric measurement.

Table -2 descriptions of Mean Scores, Standard deviation, Mean difference, Standard error and t-ratio for the data of chest arm muscle circumference, forearm arm muscle circumference, upper arm muscle circumference thigh arm muscle circumference and calf arm muscle circumference in pre and post-test of experimental groups.

Parameter	Name of group	Mean scores	S.D.	M.D.	S.E.	t-ratio
Chest muscle circumference	Pre-test Experimental group	92.32	5.83	4.6	1.7	2.7*
	Post-test Experimental group	96.92	5.98			
Forearm muscle circumference	Pre-test Experimental group	25.84	2.26	2.32	0.7	3.31*
	Post-test Experimental group	28.16	2.62			
Upper arm muscle circumference	Pre-test Experimental group	27.04	2.49	3	0.74	4.05*
	Post-test	30.04	2.77			

	Experimental group					
Thigh muscle circumference	Pre-test Experimental group	53	4.51	1.52	1.31	1.16^{NS}
	Post-test Experimental group	54.52	4.66			
Calf muscle circumference	Pre-test Experimental group	33.84	2.07	3.12	0.6	5.12^{*}
	Post-test Experimental group	36.96	2.22			

*= Significant.,NS= Not Significant.

With regards to anthropometric measurements in chest muscle circumference, forearm muscle circumference, upper arm muscle circumference and calf muscle circumference of pre- post-test of experimental groups they have obtained the mean value of 92.32 and 96.92, 25.84 and 28.16, 27.04 and 30.04 and 33.84 and 36.96 respectively which are given in the table- 2 reveals that significant effect was found on ($t=2.7, p<.05$), ($t= 3.31, p<.05$) , ($t= 4.05, p<.05$) and ($t= 5.12, p<.05$) selected anthropometric measurements except thigh muscle circumference muscle circumference ($t=1.16$) that means weight training is beneficial for increasing chest muscle circumference among the physical education students.

It has been observed from the analysis of data was significant effect of weight training on chest muscle circumference, upper arm muscle circumference, fore arm muscle circumference and calf muscle circumference after administration of training programme, but there was no significant effect of weight training on thigh muscle circumference. The significant and insignificant effect was found because of some probable reasons which have been given as under: The results showed that there was significant effect of weight training on chest muscle circumference of experimental group subjects as compared to control group subjects. There was significant effect of six week weight training on upper arm muscle circumference This variable showed significant improvement after weight training was conducted on subjects for six weeks. The increase in forearm muscle circumference was probably related with several factors such as biochemical changes in muscle, muscle hypertrophy and neuogenic changes. At length we can say that reasons for this increase may be training, because the weight training causes the myogenic changes within muscle. The thigh muscle circumference showed no significant increase. After the administration of six weeks weight training programme there was significant increase calf muscle circumference. The weight training might resulted in muscle hypertrophy, because weight training is isotonic in nature.

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An Evaluative Study on e-banking: Banker's Perspective

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Abstract:

Increased competition, changing business environments, globalization and the advancement of Information and Communications Technology are the important factors that have forced Banking and Financial services to change. Demand for financial services is changing rapidly and customer behavior regarding these services is also adapting rapidly. Therefore, with the passing of the traditional banking sector to electronic banking, new strategies have become necessary in order to attract and retain existing customers. The present paper is the outcome of an empirical study conducted with the objective of investigating bankers' views regarding e-banking. It covers bankers' perspectives on e-banking activities of respondents, impact of e-banking on cost of operations, promotional measures used by banks to promote e-banking and to increase the efficiency level of employees. The survey data used in this research are collected through a questionnaire by administering to 40 employee respondents. The enquiry reveals that customers generally use e-Banking services on persuasion of bankers. As far as promotional avenues are concerned, it is done with the help of either cross-selling or at the time of account opening.

Keywords: E-banking, ICT, cross-selling

1. Introduction:

The banking industry of India is in the midst of an IT revolution. A combination of regulatory and competitive reasons has led to increasing importance of total banking automation in this industry. The software packages for banking applications in India had their beginning in the middle of 80s, when the banks started computerizing the branches in limited manner. The early 90s saw the plummeting hardware prices and advent of cheap and inexpensive but high powered PCs and servers. The commercial banks went in for Total Branch Automation Packages for computerization. The middle and late 90s witnessed the tornado of financial reforms, deregulation, globalization etc. coupled with rapid revolution in communication technologies, like internet, mobile, cell phones etc. It changed the face of Indian banking system completely.

The nearly universal connectivity which the Internet offers has made IT an invaluable business tool. These developments have created a new type of economy, which may be called the 'digital economy'. This fast emerging economy is bringing with it rapidly changing technologies, increasing knowledge intensity in all areas of business and creating virtual supply chains and new forms of businesses and service delivery channels such as e-banking.

The term "e-banking" has been used in literature in many different ways, partially because electronic banking refers to several types of services through which banks' customers can request information and carry out most retail banking services via the internet, television or mobile phones.

Generally speaking, E -banking means providing banking products and services directly to customers through electronic, interactive communication channels.

However, a more comprehensive and common definition for e -banking comes from the Basel Committee Report on banking supervision. The Basel Committee defines e -banking as " The provision of retail and small value banking products and services through electronic channels, such products and services can include deposit taking, lending, account management, the provision of financial advice, electronic bill payment products and services such as electronic money".

Banking institutions have become an essential component of most economies whether they are described as "engines for economic growth" or as acting as "conduits towards promoting economic growth". Banks are reorienting their business strategies towards new opportunities offered by e-banking.

2. Literature Review:

Balasubramanya S. (2002) [1] in his study analyzed that the automation in the banking sector has come a long way starting with the Rangarajan Committee report on the banking sector reforms during the eighties, followed by reports of the Narasimham Committee in the nineties. With over 65,000 branches of the banks (public, private and the cooperative sector) in the country, the author found that the percentage of branches covered by automation was very low. Though many banks had claimed that more than 70% business has been automated due to the enforcement of RBI guidelines, in reality it was much lower, as many functions in each branch were still done manually or with partial automation. Hence, there was a significant amount of automation work to be achieved in the banking sector.

Mittal et. al. (2006-07) [2] discussed the issue of transaction through technology channels cost much less to the banks than the customers reaching the bank and doing the transactions. In the last decade banks have invested heavily in the technology. In the use of information technology, the new private and foreign sector banks have taken lead over the public and old private sector banks. Today public sector banks are also investing heavily in technology to compete with the new private and foreign sector banks.

Rajshekhara K. S. (2004)[3] described the adoption of IT in banking has undergone several changes with the passage of time. Today IT has become an inseparable segment of banking organization. The application of information technology in the banking sector resulted in the development of different concepts of banking such as – E-banking, Internet Banking, Online Banking, Telephone Banking, Automated teller machine, universal banking and investment banking etc. The real success of IT in the banking sector depends upon the customer's satisfaction. Therefore banks should organize and conduct customer awareness program in their service area. Security is an important issue in the context of E-banking. The development of technology for the identification of customers with different means of communication devices is a must for successful business and also to reduce frauds in banking.

Uppal R. K.(2008)[4] described that in the post-LPG (Liberalization, Privatization and Globalization) era and Information Technology (IT) era, transformation in Indian banks is taking place with different parameters and the curves of banking services are dynamically altering the face of banking, as banks are stepping towards e-banking from traditional banking. The paper empirically analyzes the quality of e-banking services in the changing environment. With different statistical tools such as weighted average method and ranking, the paper concludes that most of the customers of e-banks are satisfied with the different e-channels and their services, but the lack of awareness is a major

obstacle in the spread of e-banking services. The paper also suggests some measures to make e-banking services more effective in the future.

3. Statement of the Problem:

E-banking is the term that signifies and encompasses the entire sphere of Technology initiatives that have taken place in the banking industry. The concept and scope of e-banking is still in the transitional stage. In this research paper researcher has made an attempt to study the banker's perspective to make an improvement in the delivery of e-banking services.

4. Objective of the Study:

The researcher intends to investigate e-banking up gradation and banker's perspective on e-banking. Accordingly, the study seeks to achieve the following objectives:

1) To study banker's perspectives on e-banking activities.
2) To analyze the opinions of the banker's to make them efficient with the operations of e-banking services.
3) To understand channels of e-banking services which are most preferred by customers.
4) To study the promotional measures used by banks for promoting e-banking.
5) To analyze the views of the employees of the banks on cost of operations with respect to e-banking.

5. Limitations of the Study:

1) Due to time constraints, only 40 employees are interviewed.
2) Since the proportions of the banker's are relatively more, to get proportionate data of all bankers' is not possible.
3) The findings, recommendations & conclusions drawn are based on the opinions of the bankers.

6. METHODOLOGY & DATA:

SOURCES OF DATA COLLECTION

1. Primary data

The study will be based on primary and secondary data. In order to achieve objectives of the study moreover, 40 sample employees at all levels are contacted and interviewed.

2. The secondary data

The data is gathered from annual reports of Nationalized & Private banks, reference books, relevant research journals, websites, RBI reports, published and unpublished sources, encyclopedia etc.

RESULTS & ANALYSIS:

Bankers' perspective has been analyzed in terms of personal opinion of the bankers' on:

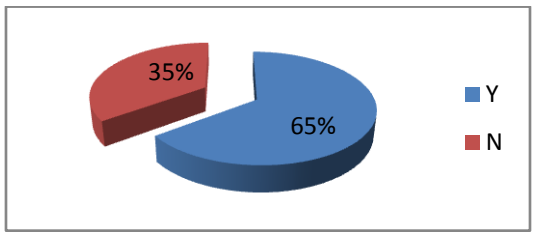
- Improving the efficiency & performance of bankers.

- Popularity & use of e-banking products by customers.
- Use of promotional measures to promote e-banking products.
- Cost of operations with respect to e-banking.

ANALYSIS & INTERPRETATION:

1) Feedback on rigorous training:

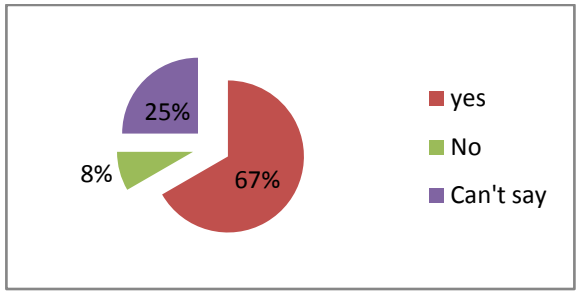
Y	24
N	13



As per 65% employees Rigorous training is required For handling computerized transactions.

2) Satisfaction with respect to training on bank computerization:

Satisfied with Training	
Yes	24
No	3
Can't say	9



67% employees are Satisfied with Training given And feel that such training sessions should be conducted frequently as per the amendments in IT sectors.

3) Concession from bank working hours:

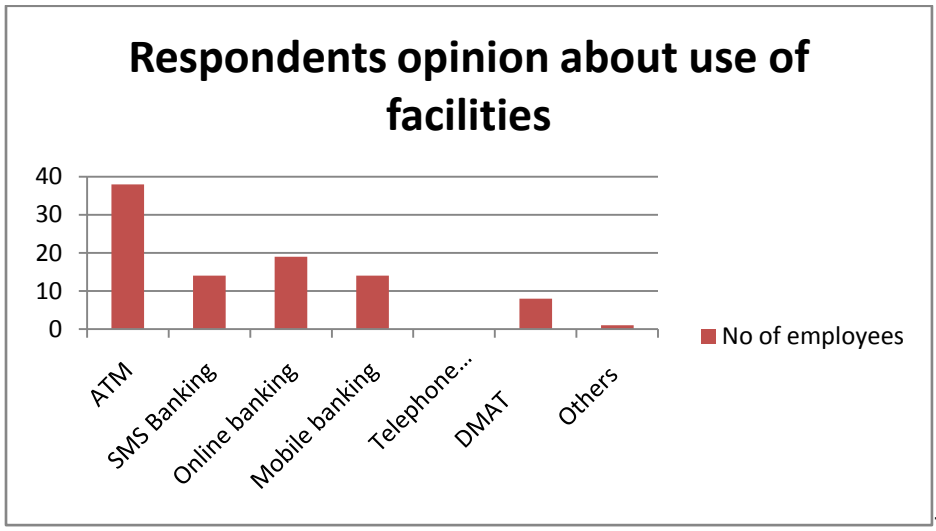
Get Concession	
Yes	20
No	17

As per the survey it is found that nearly 50% employees get concession from banking hours for respective training sessions.

4) Popularity & use of e-banking products by customers as per employees feedback:

Facility	No of employees
ATM	38
SMS Banking	14
Online banking	19

Mobile banking	14
Telephone banking	0
DMAT	8
Others	1

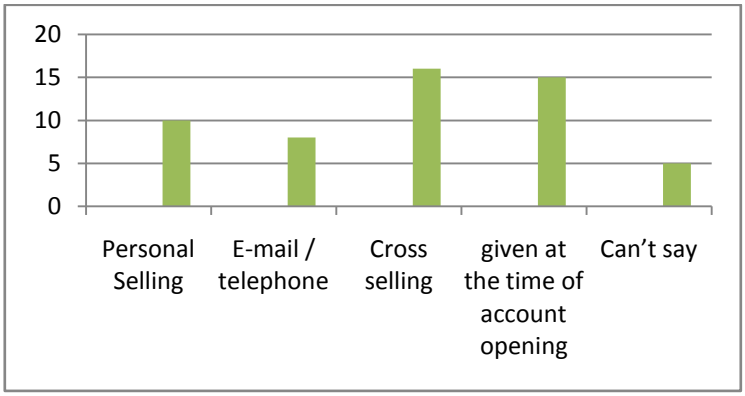


It is observed that ATM & Online banking are more popular among the customers as compared to DMAT & Telephone banking. Along with this SMS banking & mobile banking are famous.

5) Communication & marketing of e-banking services:

As per the survey of the bank employees 78% bankers discuss about e-marketing facilities to walk-in customers. Apart from marketing to walk-in customers bank employees are adopting following measures to approach & sell e-banking –products.

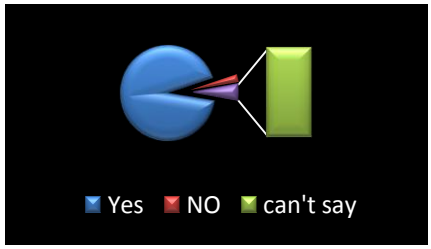
		frequency of use	% of employees using
1	Personal Selling	10	25
2	E-mail / telephone	8	20
3	Cross selling	16	40
4	given at the time of account opening	15	38
5	Can't say	5	12



Cross-selling is the best tool used by employees for marketing of e-banking products amongst all options. Some of the employees also prefer to give information at the time of account opening.

6) Analysis of cost reduction:

Yes	36
NO	1
cant say	2



According to 92 % Employees, computerization of banking services has resulted in cost reduction.

Recommendations:

- In case of core banking a very high level of technology as well as huge funds are involved at the bank branch as well as customers level. The banks have to play an important role in educating their customers in this area. They should take certain awareness programmes and campaigns about use of e-banking products and its importance in routine life of every individual customer.
- There are some employees of the banks who cannot handle sophisticated level of technology because of lack of knowledge or skill. The top management of the banks should take the necessary steps to provide adequate training to their employees in the IT area so that the employees feel more comfortable in handling high technology based transactions.
- More awareness should be created among the customers about importance of DMAT Account & more emphasis should be given Zero DMAT Account balance.
- Promotional measures should be taken into account by opening in-bound & out-bound call centers apart from tele-banking and toll-free number facilities.

7. Conclusion:

E-banking increases efficiency in the sphere of effective payment and accounting system thereby enhancing the pace of delivery of banking services considerably. It allows customers to access

Banking services electronically such as to pay bills, transfer funds, view accounts or to obtain any banking information and advice. E-banking also facilitates new relationships with customers, regulatory authorities, suppliers and banking partners with digital-age tools. For example, customers and bank relationships will become more personalized, resulting in new modes of transaction processing and service delivery. Now, banks are faced with a number of important issues, for example how to take full advantage of new technology, how e-banking change the ways customers relate with the service provider, etc. The banking industry has been considerably influenced by expansion of technology.

Banking institutions have become an essential component of most economies whether they are described as "engines for economic growth" or as acting as "conduits towards promoting economic growth". Banks are reorienting their business strategies towards new opportunities offered by e-banking.

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Effect of Six Week Aerobic Training on Physiological Variables

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abstract:

The main purpose of the study was to find out the effect of six week aerobic training on physiological variables of graduate students. This study was hypothesized that there will be significant effect of aerobic training on physiological variables. The sources of data were collected from B.A. 1st Year students Studying in Desh Raj Vadhera D.A.V. College Phillaur Jalandhar. The researcher had selected 40 male subjects for this study. All the subjects were divided into two groups (Pre and Post) consisting of 20 subjects each. The subjects were selected by using simple random sampling method. In this study the following equipments which were used for data collection (1) Hemoglobin apparatus were used to measure hemoglobin percentage and (2) Harvard step test was used to measure cardio-vascular endurance.

Introduction:

Sports physiology is derived from exercise physiology. It applies the concept of exercise physiology to training the athlete and enhancing the athlete's sports performance. As physiology mainly focuses on the functions of structures, we cannot discuss physiology without knowing anatomy. Similarly, we cannot understand the anatomy and physiology until and unless we know the composition of human body. The human body consists of atoms of chemical elements such as carbon, hydrogen, nitrogen and oxygen. It also contains smaller amounts of many other elements including, calcium, iron, phosphorus, potassium and sodium. Atoms of chemical elements combine and make thin structures called molecules. Water is the most common molecule in our body. A molecule of water consists of two atoms of hydrogen and one atom of oxygen. Water about 65 percent of our body and most of the chemical reactions that take places in our body require water.

Methodology:

The sources of data were collected from B.A. 1st Year students Studying in Desh Raj Vadhera D.A.V. College Phillaur Jalandhar. The researcher had selected 40 male subjects for this study. All the

subjects were divided into two groups (Pre and Post) consisting of 20 subjects each. The subjects were selected by using simple random sampling method. In this study the following equipments which were used for data collection (1) Hemoglobin apparatus were used to measure hemoglobin percentage and (2) Harvard step test was used to measure cardio-vascular endurance.

Collection of Data:

The necessary data was collected by administrating the tests for measuring the selected variables. Before collecting the data, the subjects were given a chance to practice the prescribed tests so that they should become familiar with the tests and know exactly what is to be done.

Experimental Procedure of training design

Sr. No.	Name of Group	Type of group	Type of Training
1	A	Experimental	Aerobic Training
2	B	Control	No Training

Weekly Training Schedule for Experimental Group

Day	Duration (Min.)	Training Task	Training Means and Methods	Distance (km.)	Intensity
Monday	25	Basic Endurance	Continuous Running	2	Medium
	10	Relaxation	Walking and jogging		
Tuesday	30	Basic Endurance	Continuous Running along the road	4	Low
	10	Relaxation	Walking and jogging		
Wednesday	25	Basic Endurance	Continuous Running along the road and over the hill	4	Medium
	10	Relaxation	Easy Walking and jogging		
Thursday	30	Basic Endurance	Running and Walking	4	Medium
	10	Relaxation	Limbering down, Easy Jogging and Walk	1	Medium
Friday	25	Basic Endurance	Continuous running with changing speed	4	Low, Medium, Fast
	10	Relaxation	Limbering down, Easy Jogging and Walk		
Saturday	20	Basic Endurance	Continuous running	2	Medium
	10	Relaxation	Easy Walking and jogging		

Sunday		**Rest**			

Analysis of the data:

The statistical analysis of the data gathered for the effect of six week Aerobic training on physiological variables. The data collected qualitatively on two different test of Hemoglobin and Cardio-Vascular Endurance of control group –A (N=20), and experimental groups (N=20). The data were analyzed and interpreted by using't' test and the level of significance at 0.05 was adequate for testing the hypothesis.

Table 1

Hemoglobin Between Pre And Post Test

Of Control Group

Control Group	Mean	S.D.	S.E. Comb.	M.D.	D.F.	O.T.	T.T.
Pre. Test	**14.220**	**0.705**	**0.217**	**0.190**	**38**	**0.876**	**2.021**
Post Test	**14.410**	**0.666**					

Significance at 0.05 level of confidence. Tabulated 't' 0.05 (38) = 2.021.

Table-1 reveals that there is no significant difference between means of pre and post test of control group, because mean of pre test is 14.220 is slightly less than mean of post test is 14.410, and there mean difference is 0.190. To check the significant difference between pre and post test of control group the data was again analyzed by applying 't' test. Before applying 't' test, standard deviation was calculated between pre-test where S.D. = 0.705 and Post test where S.D. = 0.666 and their Combine standard error = 0.217. There was no significant difference between pre and post test of control group because value of calculated 't' = 0.876 which is less than tabulated 't' =2.021 at 0.05 level of confidence, which shows no improvement was found in hemoglobin of control group because no training was given to the subjects of control group.

Table 2

Hemoglobin Between Pre And Post Test Of

Experimental Group

Experimental Group	Mean	S.D.	S.E. Comb.	M.D.	D.F.	O.T.	T.T.
Pre. Test	**14.87**	**0.681**	**0.046**	**0.45**	**38**	**9.782**	**2.021**
Post Test	**15.320**	**0.684**					

Significance at 0.05 level of confidence. Tabulated 't' 0.05 (38) = 2.021.

Table-2 reveals that there is least significant difference between means of pre and post test of experimental group, because mean of pre test is 14.87 is greater than mean of post test is 15.320, and there mean difference is 0.45. To check the significant difference between pre and post test of experimental group the data was again analyzed by applying 't' test. Before applying 't' test, standard deviation was calculated between pre-test where S.D. = 0.681 and Post test where S.D. = 0.684 and their Combine standard error = 0.046. There was significant difference between pre and post test of experimental group because value of calculated 't' = 9.782 which is greater than tabulated 't' =2.021 at 0.05 level of confidence, which shows six weeks aerobic training have improved the Hemoglobin percentage of experimental group.

Table 3
Hemoglobin Between Post Test Of Control and Experimental Group

Group	Mean	S.D.	S.E. Comb.	M.D.	D.F.	O.T.	T.T.
Control	**14.410**	**0.666**	**0.046**	**0.910**	**38**	**4.117**	**2.021**
Experimental	**15.320**	**0.684**					

Significance at 0.05 level of confidence. Tabulated 't' 0.05 (38) = 2.021.

Table-3 reveals that there is least significant difference between means of post test of control and experimental group, because mean of post test of control group is 14.410 is greater than mean of post test of experimental group is 15.320, and there mean difference is 0.910. To check the significant difference between post tests of control and experimental group the data was again analyzed by applying 't' test. Before applying 't' test, standard deviation was calculated between post tests where S.D. (Control group) = 0.022 and S.D. of (experimental group) = 0.023 and their Combine standard error = 0.046. There was significant difference between post tests of control and experimental group because value of calculated 't' = 4.117 which is greater than tabulated 't' =2.021 at 0.05 level of confidence, which shows improvement in hemoglobin percentage among experimental group due to six weeks aerobic training and no improvement in Hemoglobin was found in control group.

Graph 1
Graphical Representation Of Mean Difference Between Pre And Post Test Of Control And Experimental Group For Hemoglobin

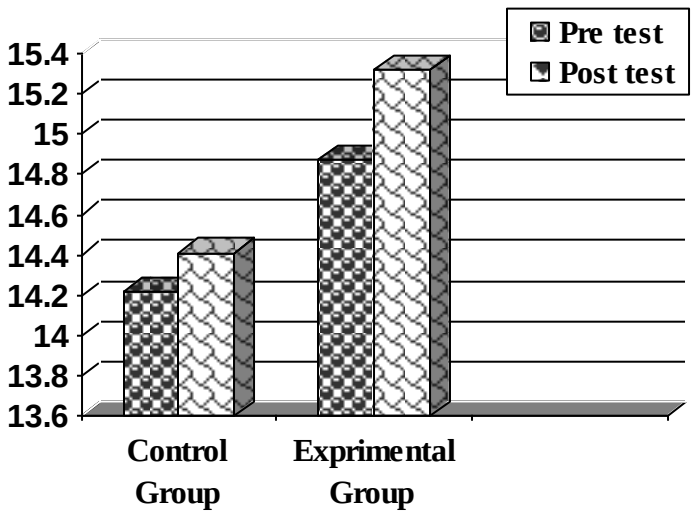


Table 4
Cardio-Vascular Endurance Between
Pre And Post Test Of Control Group

Control Group	Mean	S.D.	S.E. Comb.	M.D.	D.F.	O.T.	T.T.
Pre. Test	**95.736**	**24.458**	**6.118**	**5.363**	**38**	**0.877**	**2.021**
Post Test	**101.099**	**12.262**					

Significance at 0.05 level of confidence. Tabulated 't' 0.05 (38) = 2.021.

Table-4 reveals that there is significant difference between means of pre and post test of control group, because mean of pre test is 95.736 is less than mean of post test is 101.099, and there mean difference is 5.363. To check the significant difference between pre and post test of control group the data was again analyzed by applying 't' test. Before applying 't' test, standard deviation was calculated between pre-test where S.D. = 24.458 and Post test where S.D. = 12.262 and their Combine standard error = 6.118. There was no significant difference between pre and post test of control group because value of calculated 't' = 0.877 which is less than tabulated 't' = 2.021 at 0.05 level of confidence, which shows no improvement was found in Cardio-Vascular Endurance of control group because no training was given to the subjects of control group.

Table 5
Cardio-Vascular Endurance Between Pre And Post Test
Of Experimental Group

Experimental Group	Mean	S.D.	S.E. Comb.	M.D.	D.F.	O.T.	T.T.
Pre. Test	92.010	6.471	2.010	2.077	38	1.034	2.021
Post Test	94.088	6.238					

Significance at 0.05 level of confidence. Tabulated 't' 0.05 (38) = 2.021.

Table-5 reveals that there is significant difference between means of pre and post test of experimental group, because mean of pre test is 92.010 is less than mean of post test is 94.088, and there mean difference is 2.077. To check the significant difference between pre and post test of experimental group the data was again analyzed by applying 't' test. Before applying 't' test, standard deviation was calculated between pre-test where S.D. = 6.471 and Post test where S.D. = 6.238 and their Combine standard error = 2.010. There was least significant difference between pre and post test of experimental group because value of calculated 't' = 1.034 which is greater than tabulated 't' = 2.021 at 0.05 level of confidence, which shows six weeks aerobic training have least effect of six weeks aerobic training on the Cardio-Vascular Endurance of experimental group.

Table 6
Cardio-Vascular Endurance Between Post Test
Of Control and Experimental Group

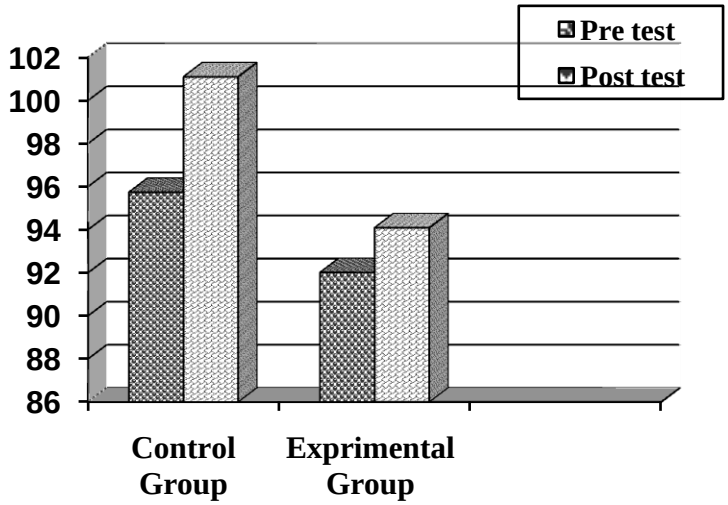
Group	Mean	S.D.	S.E. Comb.	M.D.	D.F.	O.T.	T.T.
Control	101.099	12.262	2.799	7.011	38	2.279	2.021
Experimental	94.088	6.238					

Significance at 0.05 level of confidence. Tabulated 't' 0.05 (38) = 2.021.

Table-6 reveals that there is significant difference between means of post test of control and experimental group, because mean of post test of control group is 101.099 is greater than mean of post test of experimental group is 94.088, and there mean difference is 7.011. To check the significant difference between post tests of control and experimental group the data was again analyzed by applying 't' test. Before applying 't' test, standard deviation was calculated between post tests where S.D. (Control group) = 12.262 and S.D. of (experimental group) = 6.238 and their Combine standard error = 2.799. There was significant difference between post tests of control and experimental group because value of calculated 't' = 2.279 which is greater than tabulated 't' =2.021 at 0.05 level of confidence, which shows improvement in Cardio-Vascular Endurance among experimental group due to six weeks aerobic training and no improvement in Cardio-Vascular Endurance was found in control group.

Graph 2
Graphical Representation Of Mean Difference Between

Pre And Post Test Of Control And Experimental Group For Cardio-Vascular Endurance



Testing of Hypothesis:

It was hypothesized there will be significant effect of aerobic training on selected physiological variables. Therefore hypothesis was accepted. At last it was found that the hypothesis was accepted at the level of 0.05 level of confidence.

Conclusion:

On the basis of the result drawn with the mentioned methodology the following conclusion were soughed out.

1. There was significant effect of aerobic training on the hemoglobin.
2. There was significant effect of aerobic training on the cardio-vascular endurance.

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Effect of Plyometrics Training Programme on Selected Fitness Components of Post Graduate Students of Physical Education

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Absract:

The main purpose of this study was to find out the effect of Plyometric Training on Fitness Components of Post Graduate Teaching Department Students of Physical Education. This study was hypothesized that the Plyometric training programme will give significant effect on the Fitness Components. The sources of data were collected from Post Graduate teaching Department of Physical Education, Sant Gadge Baba Amravati University, Amravati. The researcher had selected 36 male subjects for this study. All the subjects were divided into two groups (Pre and Post) consisting of 18 subjects each. The subjects were selected by using simple random sampling method. In this study the following equipment and test which were used for data collection (1) Grip Dynamometer were used to measure Grip Strength and (2) 50 Yard Dash was used to measure Speed. The data were analyzed and interpreted by using't' test and the level of significance at 0.05 was adequate for testing the hypothesis. Conclusion: (1) There was no significant effect of Plyometric training on the Grip Strength and (2) There was significant effect of Plyometric training on the speed.

Introduction:

With the enhanced status of sports in society, the provision of sports training has become very important although the need for competent training has long been recognized. Over 3000 years ago the Greeks saw the need to provide effective and efficient training for the athletes taking part in the Olympic Games. But since 1950s, many countries have recognized the importance of an effective sports training programme in a wide range of activities not only for the success in major international competitions but also for the development of healthy participants. Earlier one has only to take towards

the 'eastern bloc' countries to see the value placed on success in sports. Quite good amount of money have been expended on facilities and sportspersons. But, without provision of effective sports training, any sportsperson's potential with never be fulfilled. Comprehensive Sports training programme is the key factors in producing the skillful high performers.

Methodology:

The sources of data were collected from Post Graduate teaching Department of Physical Education, Sant Gadge Baba Amravati University, Amravati. The researcher had selected 36 male subjects for this study. All the subjects were divided into two groups (Pre and Post) consisting of 18 subjects each. The subjects were selected by using simple random sampling method. In this study the following equipment and test which were used for data collection (1) Grip Dynamometer were used to measure Grip Strength and (2) 50 Yard Dash was used to measure Speed.

Collection of data:

The necessary data was collected by administrating the tests for measuring the selected Fitness Components. Before collecting the data, the subjects was given a chance to practice the prescribed test so that they should become familiar with tests and know exactly what is to be done. To ensure the uniform testing conditions. The subjects were morning sessions and the data collected in post graduate teaching department of physical education, Sant Gadge Baba Amravati University, Amravati.

Experimental Procedure of training design

Sr.No.	Name of Group	Type of Group	Type of Training
1.	A	Control	No training
2.	B	Experimental	Plyometric training

Six Weeks Plyometric Training Schedule

Days Week	Exercise	Time	Sets	Rest	Total Volume	Jump / Set
Mon.	Drill Box Jump Exercise	5 min. each set	6 set	2 min	45 min.	5
Tues.	Drill Skipping Exercise	5 min. each set	6 set	2 min	45 min.	5
Wed.	Step close jump and reach Exercise	5 min. each set	6 set	1 min	45 min.	5
Thu.	5-5-5 squat Jump Exercise	5 min. each set	6 set	1 min	45 min.	5
Fri.	Standing Jump and reach Exercise	5 min. each set	6 set	1 min	45 min.	5
Sat.	Standing Jump over Exercise	5 min. each set	6 set	2 min	45 min.	5

Analysis of the data:

The statistical analysis of the data gathered for the effect Plyometric training training on Fitness Components. The data collected qualitatively on four different test of Grip Strength and Speed of control group –A (N=18), and experimental groups (N=18). The data were analyzed and interpreted by using't' test and the level of significance at 0.05 was adequate for testing the hypothesis.

Table 1
Grip Strength Between Pre And Post Test
Of Control Group

Control Group	Mean	S.D.	S.E. Comb.	M.D.	D.F.	O.T.	T.T.
Pre. Test	**41.889**	**6.201**	**1.985**	**0.778**	**34**	**0.392**	**2.021**
Post Test	**41.111**	**5.697**					

Level of Significance = 0.05. Tabulated't' 0.05 (34) = 2.021

Table 1 reveals that there is least significant difference between means of pre and post test of control group, because mean of pre test is 41.889 is slightly greater than mean of post test is 41.111, and there mean difference is 0.778. To check the significant difference between pre and post test of control group the data was again analyzed by applying 't' test. Before applying't' test, standard deviation was calculated between pre-test where S.D. = 6.201 and Post test where S.D. = 5.697 and their Combine standard error = 1.985. There was no significant difference between pre and post test of control group because value of calculated 't' = 0.392 which is less than tabulated 't' =2.021 at 0.05 level of confidence, which shows no improvement was found in control group because no training was given to the subjects of control group.

Table 2
Grip Strength Between Pre And Post Test
Of Experimental Group

Experimental Group	Mean	S.D.	S.E. Comb.	M.D.	D.F.	O.T.	T.T.
Pre. Test	**41.944**	**8.908**	**3.083**	**3.444**	**34**	**1.117**	**2.021**
Post Test	**45.389**	**9.580**					

Level of Significance = 0.05. Tabulated't' 0.05 (34) = 2.021

Table 2 reveals that there is significant difference between means of pre and post test of experimental group, because mean of pre test is 41.944 is slightly less than mean of post test is 45.389, and there mean difference is 3.444. To check the significant difference between pre and post test of control group the data was again analyzed by applying't' test. Before applying't' test, standard deviation was calculated between pre-test where S.D. = 8.908 and Post test where S.D. = 9.580 and their Combine standard error = 3.083. There was least significant difference between pre and post test of experimental group because value of calculated't' = 1.117 which is slightly less than tabulated't' =2.021 at 0.05 level of confidence, which shows slightly improvement was found in experimental group after six weeks Plyometric training.

Table 3
Grip Strength Between Post Test Of

Control and Experimental Group

Group	Mean	S.D.	S.E. Comb.	M.D.	D.F.	O.T.	T.T.
Control	41.111	5.697	2.627	.278	4	.628	.021
Experimental	45.389	9.580					

Level of Significance = 0.05. Tabulated't' 0.05 (34) = 2.021

Table 3 reveals that there is significant difference between means of post test of control and experimental group, because mean of post test of control group is 41.111 is less than mean of post test of experimental group is 45.389, and there mean difference is 4.278. To check the significant difference between post tests of control and experimental group the data was again analyzed by applying't' test. Before applying't' test, standard deviation was calculated between post tests where S.D. (Control group) = 5.697 and S.D. of (experimental group) = 9.580 and their Combine standard error = 2.627. There was no significant difference between post tests of control and experimental group because value of calculated't' = 1.628 which is less than tabulated 't' =2.021 at 0.05 level of confidence, which shows no improvement was found in experimental group after six weeks Plyometric training.

Graph 1
Graphical Representation Of Mean Difference Of Grip Strength Between Post-Post Test Of Control and Experimental Group

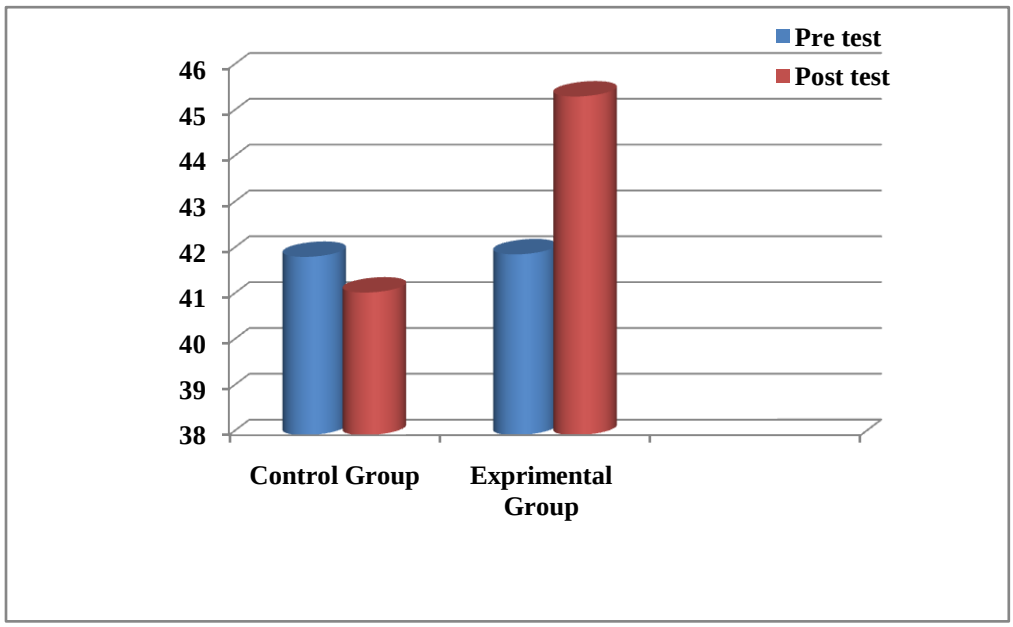


Table 4
Speed Between Pre And Post Test Of Control Group

Control Group	Mean	S.D.	S.E. Comb.	M.D.	D.F.	O.T.	T.T.
Pre. Test	**9.488**	**1.899**	**0.502**	**0.389**	**34**	**0.775**	**2.021**
Post Test	**9.877**	**0.967**					

Level of Significance = 0.05. Tabulated 't' 0.05 (34) = 2.021

Table 4 reveals that there is least significant difference between means of pre and post test of control group, because mean of pre test is 9.488 is slightly less than mean of post test is 9.877, and there mean difference is 0.389. To check the significant difference between pre and post test of control group the data was again analyzed by applying 't' test. Before applying't' test, standard deviation was calculated between pre-test where S.D. = 1.899 and Post test where S.D. = 0.967 and their Combine standard error = 0.502. There was no significant difference between pre and post test of control group because value of calculated 't' = 0.775 which is less than tabulated 't' = 2.021 at 0.05 level of confidence, which shows no improvement was found in control group because no training was given to the subjects of control group.

Table 5
Speed Between Pre And Post Test
Of Experimental Group

Experimental Group	Mean	S.D.	S.E. Comb.	M.D.	D.F.	O.T.	T.T.
Pre. Test	**8.964**	**1.042**	**0.366**	**0.649**	**34**	**1.772**	**2.021**
Post Test	**8.315**	**1.153**					

Level of Significance = 0.05. Tabulated 't' 0.05 (34) = 2.021

Table 5 reveals that there is no significant difference between means of pre and post test of experimental group, because mean of pre test is 8.964 is greater than mean of post test is 8.315, and there mean difference is 0.649. To check the significant difference between pre and post test of control group the data was again analyzed by applying't' test. Before applying't' test, standard deviation was calculated between pre-test where S.D. = 1.042 and Post test where S.D. = 1.153 and their Combine standard error = 0.366. There was no significant difference between pre and post test of experimental group because value of calculated't' = 1.772 which is less than tabulated't' = 2.021 at 0.05 level of confidence, which shows no improvement was found in experimental group after six weeks Plyometric training.

Table 6
Speed Between Post Test
Of Control and Experimental Group

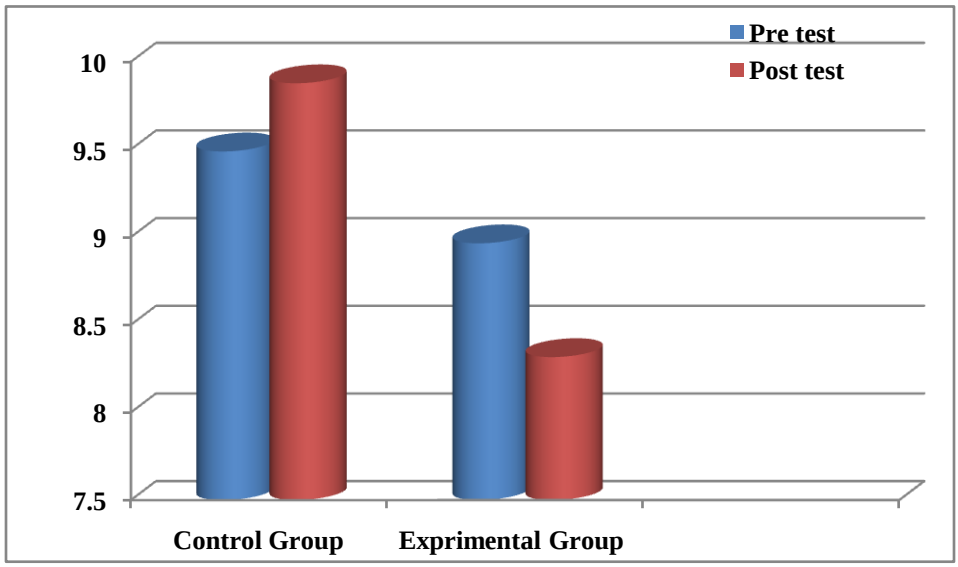
Group	Mean	S.D.	S.E. Comb.	M.D.	D.F.	O.T.	T.T.
Control	**9.877**	**0.967**	**0.355**	**1.562**	**34**	**4.404**	**2.021**

Experimental	**8.315**	**1.153**					

Level of Significance = 0.05. Tabulated 't' 0.05 (34) = 2.021

Table 6 reveals that there is no significant difference between means of post test of control and experimental group, because mean of post test of control group is 9.877 is greater than mean of post test of experimental group is 8.315, and there mean difference is 1.562. To check the significant difference between post tests of control and experimental group the data was again analyzed by applying 't' test. Before applying't' test, standard deviation was calculated between post tests where S.D. (Control group) = 0.967 and S.D. of (experimental group) = 1.153 and their Combine standard error = 0.355. There was significant difference between post tests of control and experimental group because value of calculated't' = 4.404 which is greater than tabulated't' = 2.021 at 0.05 level of confidence, which shows improvement was found in experimental group after six weeks Plyometric training.

Graph 2
Graphical Representation Of Mean Difference Of
Speed Between Post-Post Test Of Control and Experimental Group



Testing of Hypothesis:

It was hypothesized that there will be significant effect of Plyometric training on selected Fitness Components. But the effect of training does not show the significant effect on Grip Strength and shows significant effect on Speed. Therefore hypothesis was partially accepted and partially rejected.

Conclusion:

On the basis of the result drawn with the mentioned methodology the following conclusion were soughed out.

1. There was no significant effect of Plyometric training on the Grip Strength.

2. There was significant effect of Plyometric training on the speed.

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* * *

Effect of Interval Training Programme on Selected Physiological Variables of Senior Secondary Students

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Abstract:

The main purpose of this study was to find out the effect of Interval Training on Physiological Variables of Kendriya Vidyalaya Sangathan No.2 Panchkula Students. This study was hypothesized that there will be significant effect of Interval Training on physiological variables. The sources of data were collected from 12th class students studying in Kendriya Vidyalaya Sangathan No. 2 Panchkula. The researcher had selected 36 male subjects for this study. All the subjects were divided into two groups (Pre and Post) consisting of 18 subjects each. The subjects were selected by using simple random sampling method. In this study the following equipments which were used for data collection (1) Hemoglobin apparatus were used to measure hemoglobin percentage and (2) Stop Watch were used to measure Pulse Rate. The data were analyzed and interpreted by using't' test and the level of significance at 0.05 was adequate for testing the hypothesis. Conclussion: (1) There was no significant effect of Interval training on the Hemoglobin and (2) There was significant effect of Interval training on the Pulse Rate.

Introduction:

Today, there is a growing emphasis on looking good, feeling and living longer. Increasingly, scientific evidence tells us that one of the keys to achieving these ideals is fitness and exercise. Getting moving is a challenge because today physical activity is less a part of our daily lives. There are fewer jobs that require physical exertion. We have become a nation of observers with more people (including children) spending their leisure time pursuing just that – leisure. Consequently, statistics show that obesity and overweight, the problems that come with high blood pressure, diabetes, cardiac arrest, etc.

are on the rise. But statistics also show that preventive medicine pays off, so one should not wait until his/her doctor gives an ultimatum. Everyone must take the initiative to get active now.

Methodology:

The sources of data were collected from 12th class students studying in Kendriya Vidyalaya Sangathan No. 2 Panchkula. The researcher had selected 36 male subjects for this study. All the subjects were divided into two groups (Pre and Post) consisting of 18 subjects each. The subjects were selected by using simple random sampling method. In this study the following equipments which were used for data collection (1) Sahli's Heamometer were used to measure Hemoglobin and (2) Stop Watch were used to measure Pulse Rate.

Collection of data:

The necessary data was collected by administrating the tests for measuring the selected physiological variables. Before collecting the data, the subjects was given a chance to practice the prescribed test so that they should become familiar with tests and know exactly what is to be done. To ensure the uniform testing conditions. The subjects were morning sessions and the data collected in kendriya vidyalaya sangathan campus Panchkula.

Experimental Procedure of training design:

Sr.No.	Name of Group	Type of Group	Type of Training
1.	A	Control	No training
2.	B	Experimental	Plyometric Training

Analysis of the data:

The statistical analysis of the data gathered for the effect of interval training on physiological variables. The data collected qualitatively on four different test of Hemoglobin and Pulse rate of control group –A (N=18), and experimental groups (N=18). The data were analyzed and interpreted by using't' test and the level of significance at 0.05 was adequate for testing the hypothesis.

Table 1
Hemoglobin Between Pre And Post Test
Of Control Group

Control Group	Mean	S.D.	S.E. Comb.	M.D.	D.F.	O.T.	T.T.
Pre. Test	**14.156**	**1.002**	**0.335**	**0.167**	**34**	**0.498**	**2.021**
Post Test	**14.322**	**1.006**					

Level of Significance = 0.05. Tabulated't' 0.05 (34) = 2.021

Table-1 reveals that there is least significant difference between means of pre and post test of control group, because mean of pre test is 14.156 is slightly less than mean of post test is 14.322, and there mean difference is 0.167. To check the significant difference between pre and post test of control group the data was again analyzed by applying 't' test. Before applying't' test, standard

deviation was calculated between pre-test where S.D. = 1.002 and Post test where S.D. = 1.006 and their Combine standard error = 0.335. There was no significant difference between pre and post test of control group because value of calculated 't' = 0.498 which is less than tabulated 't' =2.021 at 0.05 level of confidence.

Table 2
Hemoglobin Between Pre And Post Test
Of Experimental Group

Experimental Group	Mean	S.D.	S.E. Comb.	M.D.	D.F.	O.T.	T.T.
Pre. Test	**13.984**	**1.053**	**0.359**	**0.317**	**34**	**0.882**	**2.021**
Post Test	**14.301**	**1.101**					

Level of Significance = 0.05. Tabulated't' 0.05 (34) = 2.021

Table 2 reveals that there is significant difference between means of pre and post test of experimental group, because mean of pre test is 13.984 is slightly less than mean of post test is 14.301, and there mean difference is 0.317. To check the significant difference between pre and post test of control group the data was again analyzed by applying't' test. Before applying't' test, standard deviation was calculated between pre-test where S.D. = 1.053 and Post test where S.D. = 1.101 and their Combine standard error = 0.359. There was no significant difference between pre and post test of control group because value of calculated't' = 0.882 which is less than tabulated't' =2.021 at 0.05 level of confidence.

Table 3
Hemoglobin Between Post Test Of
Control and Experimental Group

Group	Mean	S.D.	S.E. Comb.	M.D.	D.F.	O.T.	T.T.
Control	**14.322**	**1.006**	**0.021**	**0.352**	**34**	**0.060**	**2.021**
Experimental	**14.301**	**1.101**					

Level of Significance = 0.05. Tabulated't' 0.05 (34) = 2.021

Table 3 reveals that there is least significant difference between means of post test of control and experimental group, because mean of post test of control group is 14.322 is slightly greater than mean of post test of experimental group is 14.301, and there mean difference is 0.352. To check the significant difference between post tests of control and experimental group the data was again analyzed by applying't' test. Before applying't' test, standard deviation was calculated between post tests where S.D. (Control group) = 1.006 and S.D. of (experimental group) = 1.101 and their Combine standard error = 0.021. There was no significant difference between post tests of control and experimental group because value of calculated't' = 0.060 which is less than tabulated't' =2.021 at 0.05 level of confidence.

Graph 1

Graphical Representation Of Mean Difference Of Hemoglobin Between Pre And Post Test Of Control and Experimental Group

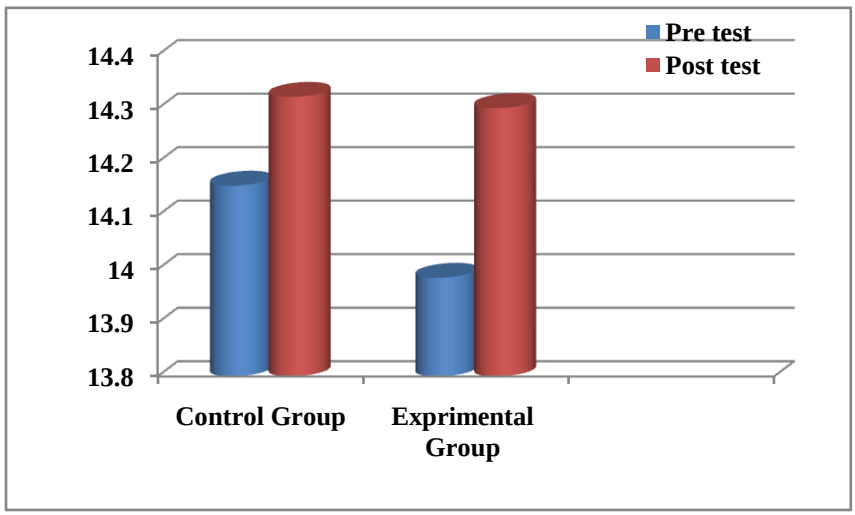


Table 4
Pulse Rate Between Pre And Post Test
Of Control Group

Control Group	Mean	S.D.	S.E. Comb.	M.D.	D.F.	O.T.	T.T.
Pre. Test	78.056	6.102	1.872	0.333	34	0.178	2.021
Post Test	77.722	5.085					

Level of Significance = 0.05. Tabulated 't' 0.05 (34) = 2.021

Table-4 reveals that there is no significant difference between means of pre and post test of control group, because mean of pre test is 78.056 is greater than mean of post test is 77.722, and there mean difference is 0.333. To check the significant difference between pre and post test of control group the data was again analyzed by applying't' test. Before applying 't' test, standard deviation was calculated between pre-test where S.D. = 6.102 and Post test where S.D. = 5.085 and their Combine standard error = 1.872. There was no significant difference between pre and post test of control group because value of calculated 't' = 0.178 which is less than tabulated 't' =2.021 at 0.05 level of confidence.

Table 5
Pulse Rate Between Pre And Post Test
Of Experimental Group

Experimental Group	Mean	S.D.	S.E. Comb.	M.D.	D.F.	O.T.	T.T.
Pre. Test	**77.778**	**4.052**	**1.155**	**5.833**	**34**	**5.051**	**2.021**
Post Test	**71.944**	**2.754**					

Level of Significance = 0.05. Tabulated 't' 0.05 (34) = 2.021

Table-5 reveals that there is significant difference between means of pre and post test of experimental group, because mean of pre test is 77.778 is slightly greater than mean of post test is 71.944, and there mean difference is 5.833. To check the significant difference between pre and post test of control group the data was again analyzed by applying 't' test. Before applying't' test, standard deviation was calculated between pre-test where S.D. = 4.052 and Post test where S.D. = 2.754 and their Combine standard error = 1.155. There was significant difference between pre and post test of control group because value of calculated 't' = 5.051 which is greater than tabulated 't' =2.021 at 0.05 level of confidence.

Table 6
Pulse Rate Between Post Test Of Control and Experimental Group

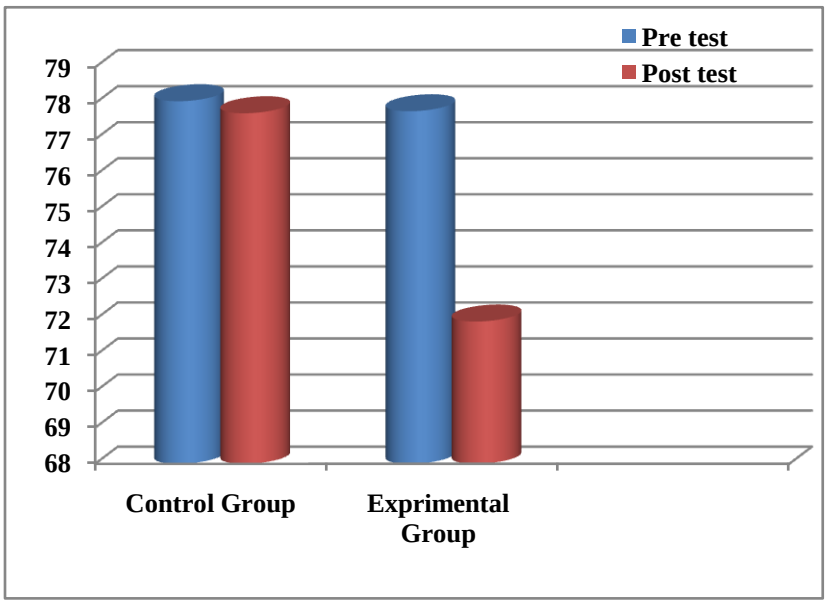
Group	Mean	S.D.	S.E. Comb.	M.D.	D.F.	O.T.	T.T.
Control	**77.722**	**5.085**	**5.778**	**1.363**	**34**	**4.239**	**2.021**
Experimental	**71.944**	**2.754**					

Level of Significance = 0.05. Tabulated 't' 0.05 (34) = 2.021

Table-6 reveals that there is significant difference between means of post test of control and experimental group, because mean of post test of control group is 77.722 is slightly greater than mean of post test of experimental group is 71.944, and there mean difference is 1.363. To check the significant difference between post tests of control and experimental group the data was again analyzed by applying 't' test. Before applying 't' test, standard deviation was calculated between post tests where S.D. (Control group) = 5.085 and S.D. of (experimental group) = 2.754 and their Combine standard error = 5.778. There was significant difference between post tests of control and experimental group because value of calculated 't' = 4.239 which is greater than tabulated 't' =2.021 at 0.05 level of confidence.

Graph 2
Graphical Representation Of Mean Difference Of Pulse Rate Between Pre And

Post Test Of Control and Experimental Group



Testing of Hypothesis:

It was hypothesized that there will be significant effect of Interval training on selected Physiological parameters. But the effect of training does not show the significant effect on Hemoglobin and shows significant effect on Pulse rate. Therefore hypothesis was partially accepted and partially rejected.

Conclusion:

On the basis of the result drawn with the mentioned methodology the following conclusion were soughed out.

1. There was no significant effect of Interval training on the Hemoglobin.
2. There was significant effect of Interval training on the Pulse Rate.

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Comparative Study of LBM and Fat in Boxing and Judo Players

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Abstract:

The main Purpose of The Study was to compare the variables of fat and lean body mass of boxing and judo players of Haryana. The Sources of data were collected from the boxing and judo centers from Jind, Hissar, Sirsa, Rohtak and Bhiwani The Researcher had selected 40 Male Subjects for This Study. The subjects were 20 Boxing players and 20 Judo players. The subjects were randomly selected for the purpose of the study. In This Study the Following Equipment which was used for Data Collection Skinfold calliper. The't' test was used to Analyzed the Data. Conclusion: There was significant difference of fat and lean body mass in between boxing and judo players.

Introduction:

Haryana is a great state of India. We know about Haryana with sports also Haryana is a state where sports is also as a religion. We know about Haryana`s boxers like Akhil, Vijender and others also we know Haryana` judokas also like Tomar, and others .we know that Haryana State have the maximum numbers of medals in India in Olympics all time. Haryana is popular for the sports like boxing judo, wrestling and Kabbadi etc.So that research is compulsory for the sports progression. It's the need of time,so that this is the good topic for the research in Haryana. So that it's a good topic, Reason why in sports all the players activity are relate to his physic. Lean body mass and body fat

also. In this study we compare the total body fat and lean body mass of the boxer and the judo players of Haryana.

Purpose of the study:

The Main Purpose of the Study was to compare the lean body mass and body fat variables of the boxing and judo players.

Hypothesis:

It was hypothesized that, There will be no significant difference between Lean body mass and body fat variables in boxing and judo players.

Delimitations

The present study is conducted within the following constraints:-

1. The study will be delimited only to age group of 17-25 years respondents.
2. The study will be delimited on the basis of respondents residing status in Haryana state(Jind ,Rohtak,Hisar,Bhiwani and Sirsa district)players
3. The study will be delimited only to male Boxing and Judo players.
4. The study will be delimited to kin-anthropometric variables lean body mass and total body fat of the players only.
5. The study will be delimited only to 40 respondents (20Boxer and 20Judo) players
6. The study will be delimited only state level or inter collegiate level players.
7. The study will be delimited only respondents will only 56 and 60 kg weight category only.

Methodology

The Sources of data were collected from the selected districts of Haryana Jind, Rohtak,Hissar,Sirsa and Bhiwani. The Researcher Had Selected 40 Male Subjects For This Study. The subjects were 20 Boxing players and 20 Judo players. The subjects for the study were randomly selected for the purpose of the study. In This Study the Following Equipment which were used for Data collection (1) Holstein Skinfold Caliper were used to measure body fat and lean body mass.

Collection of Data:

The necessary data was collected by administrating the tests for measuring the selected variables. Before collecting the data, the subjects were given a chance to practice the prescribed tests so that they should become familiar with the tests and know exactly what is to be done. To measure the components there was some body parts were measure with skinfold caliper and divided them with five and got the body fat and lean body mass.

Data Analysis:

The statistical analysis of the data gathered for the compare the body fat and lean body mass variables. The data collected qualitatively on caliper test of group–boxer (N=20), and groups–judo (N=20). The data were analyzed and interpreted by using‘t’ test and the level of significance at 0.05 was adequate for testing the hypothesis.

Table 1

Table 1 Showing t-value of body fat between Boxing and Judo male Players

Variables	N	Mean	SD	t-ratio	HO's Significant	MD=M1-M2	SED= SD1-SD2
Boxing	20	11.71	13.77	.282	HO's Accepted	.88	11.65
Judo	20	10.83	2.12				

Significant at level of 0.05

From the table 1 represent that the significance of mean difference of the boxer and the judo players in body fat. The mean value of the boxer and judo players in body fat cited as 11.37 and 10.83respectively.The mean difference of the boxer and judo players were calculated as 0.88 the standard error was also finding out with the reading of 11.65the `t` was calculated as .282, which was test at the level of the significant at 0.05 and the tabulated value of `t`=.282,which show significant difference in mean value of boxer and judo players in fat was found and our hypothesis was rejected.

Graph-1

Graphical Representation of mean difference between ` t`-value of Fat between Boxing and Judo male players

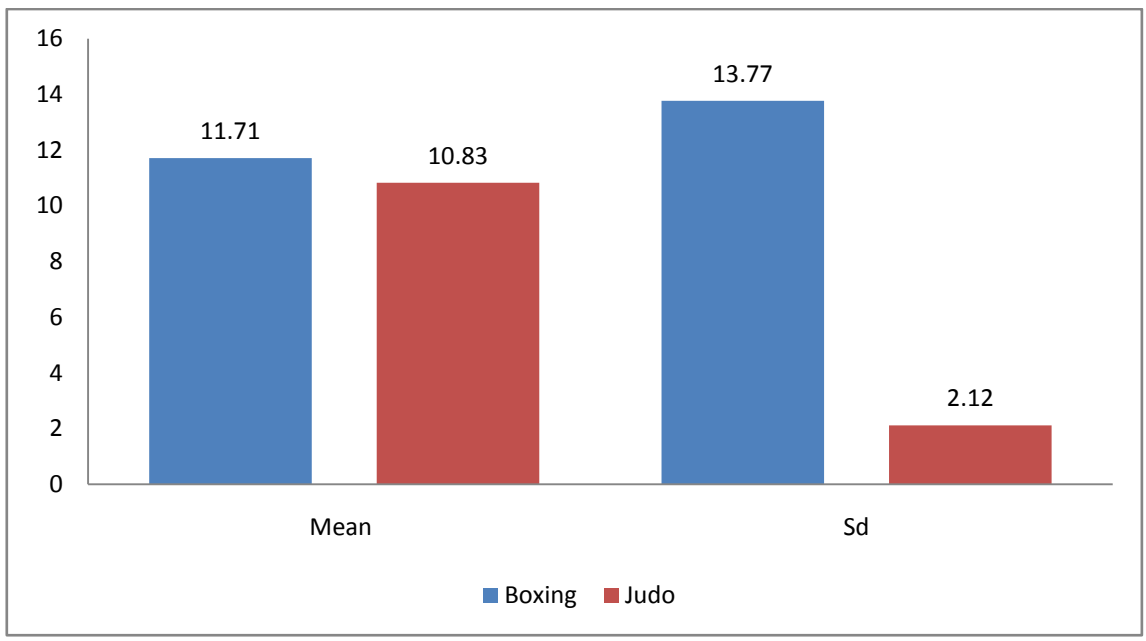


Table 2

Table 2 Showing t-value of LBM between Boxing and Judo male players

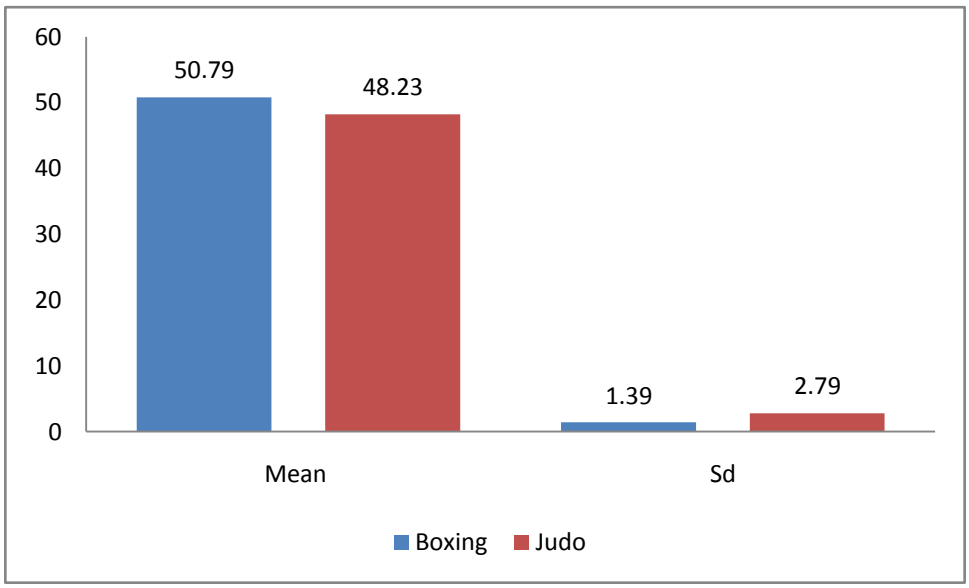
Variables	N	Mean	Sd	t-ratio	HO's Significant	MD M1-M2	SED= SD1-SD2
Boxing	20	50.79	1.39	3.75	HO's was not Accepted	2.56	-1.40
Judo	20	48.23	2.79				

Significant at level of 0.05

From the table 2 represent that the significance of mean difference of the boxer and the judo players in body fat. The mean value of the boxer and judo players in Lean Body Mass cited as 50.79 and 48.23.respectively.The mean difference of the boxer and judo players were calculated as 2.56 the standard error was also finding out with the reading of -1.40 the `t` was calculated as 3.75, which was test at the level of the significant at 0.05 and the tabulated value of `t`=3.75,which show significant difference in mean value of boxer and judo players in fat was found and our hypothesis was rejected.

Graph-2

Graphical Presentation of mean Difference between lean body mass of Boxer and Judo Players



Testing of Hypothesis:

In the earlier time the researcher was hypothesized that there will be no significant difference

between fat and lean body mass Variables in boxing and judo players. But the study`s result was differ it show a significant difference between both. At last it was found that the hypothesis was no accepted at the level of 0.05 level of confidence.

Conclusion:

On the basis of the result drawn with the mentioned methodology the following conclusion were soughed out.

- There was a significant difference between boxer and judo players body fat.
- There was a significant difference between boxer and judo players lean body mass.

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Effect of Yoga Training Programme on Selected Physical Fitness Components of Graduate Students

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Abstract:

The main purpose of this study was to find out the effect of Yoga Training on Physical Fitness Components of Kamla Memorial Govt. College Narwana (Jnd) Students. This study was hypothesized that there will be significant effect of Yoga Training on Physical Fitness Components. The sources of data were collected from B.A. Final Year class students studying in Kamla Memorial Govt. College Narwana (Jind). The researcher had selected 36 male subjects for this study. All the subjects were divided into two groups (Pre and Post) consisting of 18 subjects each. The subjects were selected by using simple random sampling method. In this study the following equipments which were used for data collection (1) 40 Yard Shuttle Run were used to measure Agility and (2) Harvard Step Test were used to measure Cardio-Vascular Endurance. The data were analyzed and interpreted by using't' test and the level of significance at 0.05 was adequate for testing the hypothesis. Conclusion: (1) There was no significant effect of Yoga training on the Agility and (2) There was significant effect of Yoga training on the Cardio-Vascular Endurance.

Introduction:

The training is a process of preparing an individual for any event or an activity or job. Usually

in sports we use the term sports training which denote the sense of preparing sportspersons for the highest level of performance. But now- a-days sports training is not just a term but it is very important subject that affects each and every individual who takes up physical activity or sports either for health and fitness or for competition at different level. Hence sports training are the physical, technical, intellectual, psychological and moral preparation of an athlete or a player by means of physical exercises.

Methodology:

The sources of data were collected from B.A. Final Year class students studying in Kamla Memorial Govt. College Narwana (Jind). The researcher had selected 36 male subjects for this study. All the subjects were divided into two groups (Pre and Post) consisting of 18 subjects each. The subjects were selected by using simple random sampling method. In this study the following equipments which were used for data collection (1) 40 Yard Shuttle Run were used to measure Agility and (2) Harvard Step Test were used to measure Cardio-Vascular Endurance.

Collection of data:

The necessary data was collected by administrating the tests for measuring the selected Physical Fitness Components. Before collecting the data, the subjects was given a chance to practice the prescribed test so that they should become familiar with tests and know exactly what is to be done. To ensure the uniform testing conditions. The subjects were morning sessions and the data collected in Kamla Memorial Govt. College Campus Narwana (Jind).

Experimental Procedure of Yoga training design:

Sr.No.	Name of Group	Type of Group	Type of Training
1.	A	Control	No training
2.	B	Experimental	Plyometric Training

Analysis of the data:

The statistical analysis of the data gathered for the effect of Yoga training on Physical Fitness Components. The data collected qualitatively on four different test of Agility and Cardio Vascular Endurance of control group –A (N=18), and experimental groups (N=18). The data were analyzed and interpreted by using‘t’ test and the level of significance at 0.05 was adequate for testing the hypothesis.

Table 1

Agility Between Pre And Post Test Of Control Group

Control Group	Mean	S.D.	S.E. Comb.	M.D.	D.F.	O.T.	T.T.
Pre. Test	**11.738**	**1.452**	**0.430**	**0.453**	**34**	**1.055**	**2.021**
Post Test	**12.192**	**1.102**					

Level of Significance = 0.05. Tabulated ‘t’ 0.05 (34) = 2.021

Table 1 reveals that there is no significant difference between means of pre and post test of control group, because mean of pre test is 11.738 is less than mean of post test is 12.192, and there mean difference is 0.453. To check the significant difference between pre and post test of control group the data was again analyzed by applying't' test. Before applying't' test, standard deviation was calculated between pre-test where S.D. = 1.452 and Post test where S.D. = 1.102 and their Combine standard error = 0.453. There was no significant difference between pre and post test of control group because value of calculated 't' = 1.058 which is less than tabulated 't' =2.021 at 0.05 level of confidence, which shows no improvement was found in control group because no training was given to the subjects of control group.

Table 2
Agility Between Pre And Post Test Of Experimental Group

Experimental Group	Mean	S.D.	S.E. Comb.	M.D.	D.F.	O.T.	T.T.
Pre. Test	**11.094**	**0.744**	**0.212**	**0.507**	**34**	**2.393**	**2.021**
Post Test	**10.587**	**0.503**					

Level of Significance = 0.05. Tabulated 't' 0.05 (34) = 2.021

Table 2 reveals that there is no significant difference between means of pre and post test of experimental group, because mean of pre test is 11.094 is greater than mean of post test is 10.587, and there mean difference is 0.507. To check the significant difference between pre and post test of control group the data was again analyzed by applying't' test. Before applying't' test, standard deviation was calculated between pre-test where S.D. = 0.744 and Post test where S.D. = 0.503 and their Combine standard error = 0.212. There was significant difference between pre and post test of experimental group because value of calculated 't' = 2.393 which is greater than tabulated' =2.021 at 0.05 level of confidence, which shows improvement was found in experimental group after six weeks Yoga training.

Table 3
Agility Between Post Test Of Control and Experimental Group

Group	Mean	S.D.	S.E. Comb.	M.D.	D.F.	O.T.	T.T.
Control	**12.192**	**1.102**	**0.286**	**1.604**	**34**	**5.619**	**2.021**
Experimental	**10.587**	**0.503**					

Level of Significance = 0.05. Tabulated't' 0.05 (34) = 2.021

Table 3 reveals that there is least significant difference between means of post test of control and experimental group, because mean of post test of control group is 12.192 is greater than mean of post test of experimental group is 10.587, and there mean difference is 1.604. To check the significant difference between post tests of control and experimental group the data was again analyzed by applying't' test. Before applying't' test, standard deviation was calculated between post tests where S.D. (Control group) = 1.102 and S.D. of (experimental group) = 0.503 and their Combine standard

error = 0.286. There was significant difference between post tests of control and experimental group because value of calculated‘t’ = 5.619 which is greater than tabulated‘t’ =2.021 at 0.05 level of confidence, which shows improvement was found in experimental group after six weeks Yoga training.

Graph 2

Graphical Representation Of Mean Difference Of Agility Between Post-Post Test Of Control and Experimental Group

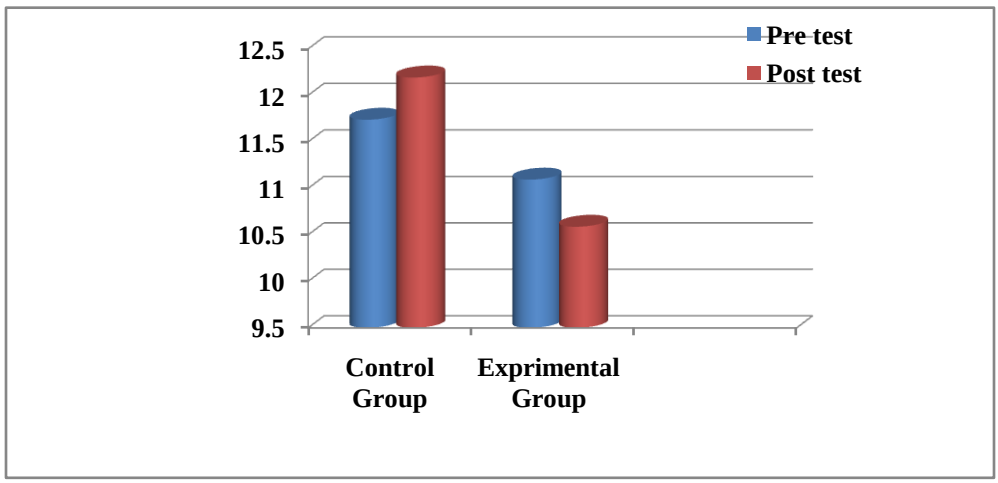


Table 4

Cardio-Vascular Endurance Between Pre And Post Test Of Control Group

Control Group	Mean	S.D.	S.E. Comb.	M.D.	D.F.	O.T.	T.T.
Pre. Test	0.145	0.020	0.006	0.004	34	0.576	2.021
Post Test	0.149	0.018					

Level of Significance = 0.05. Tabulated ‘t’ 0.05 (34) = 2.021

Table 4 reveals that there is least significant difference between means of pre and post test of control group, because mean of pre test is 0.415 is slightly less than mean of post test is 0.149, and there mean difference is 0.004. To check the significant difference between pre and post test of control group the data was again analyzed by applying‘t’ test. Before applying‘t’ test, standard deviation was calculated between pre-test where S.D. = 0.020 and Post test where S.D. = 0.018 and their Combine standard error = 0.006. There was not significant difference between pre and post test of control group because value of calculated ‘t’ = 0.576 which is less than tabulated ‘t’ = 2.021 at 0.05 level of confidence, which shows no improvement was found in control group because no training was given to the subjects of control group.

Table 5

Cardio-Vascular Endurance Between Pre And Post Test Of Experimental Group

Experimental Group	Mean	S.D.	S.E. Comb.	M.D.	D.F.	O.T.	T.T.
Pre. Test	**0.143**	**0.024**	**0.006**	**0.040**	**34**	**6.170**	**2.021**
Post Test	**0.103**	**0.013**					

Level of Significance = 0.05. Tabulated 't' 0.05 (34) = 2.021

Table 5 reveals that there is least significant difference between means of pre and post test of experimental group, because mean of pre test is 0.143 is greater than mean of post test is 0.103, and there mean difference is 0.006. To check the significant difference between pre and post test of control group the data was again analyzed by applying't' test. Before applying't' test, standard deviation was calculated between pre-test where S.D. = 0.024 and Post test where S.D. = 0.013 and their Combine standard error = 0.006. There was significant difference between pre and post test of experimental group because value of calculated't' = 6.170 which is greater than tabulated 't' = 2.021 at 0.05 level of confidence, which shows improvement was found in experimental group after six weeks Yoga training.

Table 6

Cardio-Vascular Endurance Between Post Test

Of Control and Experimental Group

Group	Mean	S.D.	S.E. Comb.	M.D.	D.F.	O.T.	T.T.
Control	**0.149**	**0.018**	**0.005**	**0.045**	**34**	**8.754**	**2.021**
Experimental	**0.103**	**0.013**					

Level of Significance = 0.05. Tabulated 't' 0.05 (34) = 2.021

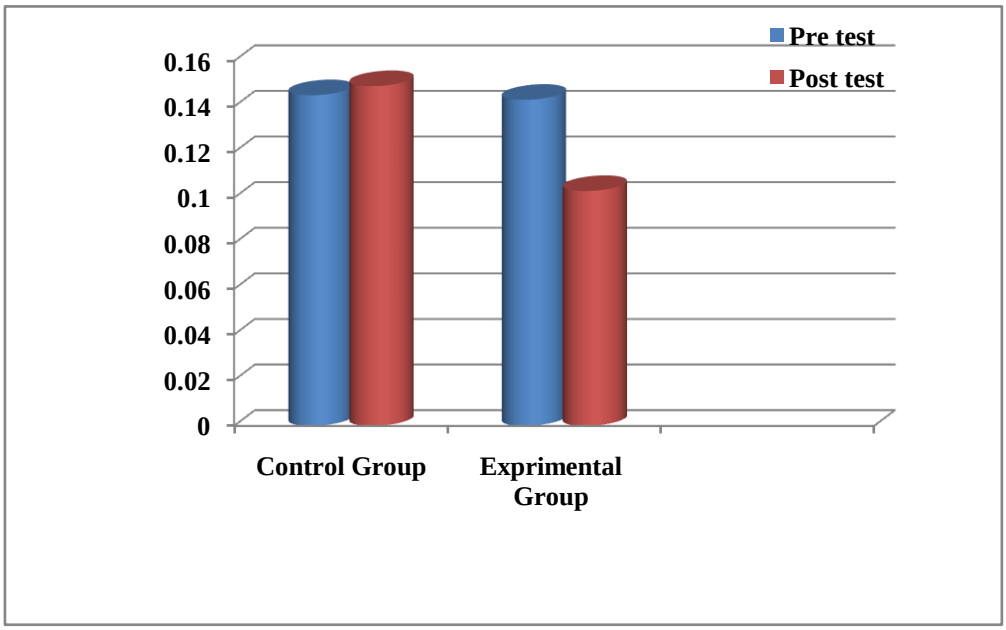
Table 6 reveals that there is least significant difference between means of post test of control and experimental group, because mean of post test of control group is 0.149 is greater than mean of post test of experimental group is 0.103, and there mean difference is 0.045. To check the significant difference between post tests of control and experimental group the data was again analyzed by applying't' test. Before applying't' test, standard deviation was calculated between post tests where S.D. (Control group) = 0.018 and S.D. of (experimental group) = 0.013 and their Combine standard error = 0.005. There was significant difference between post tests of control and experimental group because value of calculated't' = 8.754 which is greater than tabulated't' = 2.021 at 0.05 level of confidence, which shows improvement was found in experimental group after six weeks Yoga training.

Graph 2

Graphical Representation Of Mean Difference Of

Cardio-Vascular Endurance Between Post-Post

Test Of Control and Experimental Group



Testing of Hypothesis:

It was hypothesized that there will be significant effect of Yoga training on selected Physical Fitness Components. But the effect of training does not show the significant effect on Agility and shows significant effect on Cardio Vascular Endurance. Therefore hypothesis was partially accepted and partially rejected.

Conclusion:

On the basis of the result drawn with the mentioned methodology the following conclusion were soughed out.

1. There was no significant effect of Yoga training on the Agility.
2. There was significant effect of Yoga training on the Cardio Vascular Endurance.

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Role of Library and Information Centre in Industry

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Abstract:

This paper focus on importance of library or information centre in Industry for the betterment of industrial product through R&D and quality control department using the necessary information provided by library it's also focus on objectives, characteristics and flow of information in Industrial library. A well-organized library with motivated staff can really make the industry more competitive and efficient than any other competitors.

Keyword: industrial Library, Industrial Information centre

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Introduction:

Library in the age of modern science and technology form, an integral part of an industry. No Industry is complete unless and until it is supplemented by a network of libraries. Library is a powerhouse to control the core data in industrial library and generate information and knowledge. Dissemination of knowledge/information is the main function of the library. Library generate information through various types of bibliographical resources and literature. The objective of library to make this information/technology and technical knowledge available to the scientist and industrialist. The roll of a library in the industrial process cannot be underestimate at any level especially in industry which aim at the overall development of employee such as personality, skill, communication, careers, creativity etc. A well-organised library is essential for the reaching specific goal of industry. The quality of education is greatly liked with libraries. The information collected and disseminated by the libraries decides the quality of product process in industry. Most of the business groups in India have recognized the importance of libraries in industry.

Objective of Industrial Library:

- To Provide information sources necessary in Industry
- To aid the employee and R&D Department of the latest development in the area of Product
- To develop and maintain reading habit among the employees
- To aid the employee in their personal growth and sharper their intellectual curiosity

Characteristic of Industrial Library:

- Small in size
- Appropriate Budget
- Highly qualified Library staff
- Limited users
- ICT unable libraries
- Attached to R&D section
- Specialization in trade literature
- Material or component suppliers data base

Information centre and Industry:

The human society has so far witnessed three major revolutions. These are

- Agriculture revolution
- Industrial revolution
- Information revolution

These three revolutions brought tremendous change in man's physical, social, economic and political environment and behaviour. In the beginning man was a nearly a food together and primitive hunter. He used to move from place to place to satisfy his two basic needs the food to eat and water to drink. Exhaustion of the local resources or movement of his prey made him to shift continuously. Hence, he was a wanderer, having no permanent settlement. He practiced a subsistence economy, often living on the verge of starvation. The vagaries of climate, ignorance of storing of food and the carnivorous habit made the man to find a solution to meet his greatest needs i.e. Food.

The process of industrialisation has thoroughly transformed the society that may properly

described as the second revolution in human civilization. The changes involve in industrial revolution are both technological as well as socio-economic culture. Today we are the threshold of yet another revolution what is described as "Information revolution" Since the invention of printing, there has been a continuous revolution in the generation transfer and communication of information. However, the role of information has attained new proportion with the acceleration of research, mounting social industrial pressure; changing technological environment and increasing needs of planners, decision-makers, business houses, executives and even the common man.

Role of Library & Information centre in Industry:

Information needs of industries usually are centre around the following aspects: assessment of market for the product manufactured; economics of production to include finance, cost, price etc. Production and installation of plant to include timeliness to gain market advantage, technology and Machinery etc. Problems related to industrial management, matter relating to policy and decision making and such other aspects. Personnel in R&D attached to industrial until are also involved in activities relating to problem solving of the different aspect. In general, information required for industrial and management would not encircle studies in the frontiers to knowledge and therefore the documentation services required for industrial activities information required to meet the vital areas of industrial activities mentioned above, very often suffer from a lack of adequate mechanism and machinery for the supply of information at the right time with speed, accuracy and authenticity.

The information centres creates the impression that the small and medium enterprises can benefit from their services to enhance their business prospects. Today every industry considered information as an important asset in every aspect of the industry in these circumstance there need to be a system to meet the information needs of the firm. With this concern most of the industries willing to have a library or information centre as a supportive system. A well-organized library with motivated staff can really make the firm more competitive and efficient than any other competitors. With the intention of increasing the efficiency of the small scale industries libraries can initiate and provide various value added service with the books and journals.

Sources used by information centre in Industry:

The library and information centre used the following sources to fulfil the industrial information needs.

- Economic and financial reports
- Market research report
- Company profile
- Training program/seminars/conference proceeding
- Research establishment/consultant
- Trade fair/Trade literature/Trade representative
- Survey report/Research report/technical report
- Books, periodicals and data books
- Indexing and abstracting journals
- Directories and year books
- Digest and briefs
- Technical drawing

- Various types of product standards
- Product Data base

Information needs and information flow in Industry:

In industries the role of library and information centre in to sell the information collected from different sources to top management, different functional areas and other user community. An effective planning of library and information centre requires clear understanding of industrial structure and climate, management and various department information needs. To ensure proper flow of information to the various segments of the organisation some suitable approach should be made.

Diagnose the specific information, needs of information sensitive positions. Relate it with the organisation structure and modify it when even necessary. A need profile is to be maintained for all such position. Find out major current activities of various functional areas and information needs arising from those activities. Probable information needs should also be visualised in view of the projected activities of those areas. Out of these few key area of activities in which desirable result are absolutely necessary for a particular function should be derived. This will make the information need profile of various operation-functions. Identify key individuals from different functional area who are not only knowledgeable in particular function but who are capable of translating technical information to departmental needs. Library and Information personnel will join them to make information research group.

Conclusion:

In order to make a beginning a library manual is necessary to know where the information generally in demand for industries are available. Beside each industry should keep a record of all types of information required from time to time. Therefore a critical analysis of the records would give an idea of such information which are one time requirement and which are regular in nature. An exchange of such list between a groups of information centre would help in completing a guideline for all concerned. In view of the extent and verify of information required by an industry one can safely say that it can be compared with a multi-disciplined organisation, so the need for a library and information centre in industry is an important as it is important for a schools or colleges. Industries should in their own interest invest adequately to develop its information base.

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मानवी हक्क आणि महिला सुरक्षा कायदयाचा विश्लेषणात्मक अभ्यास

प्रा. विरेंद्र मुरलीधर घरडे : देवपूर, धुळे,

प्रस्तावना :

भारताने संसदीय लोकशाहीचा स्वीकार केला असून स्वातंत्र्य, समता, बंधुता व न्याय निर्माण करण्याचे अभिवचन देण्यात आलेले आहे. त्याच बरोबर मानव निर्मित सामाजिक विषमतेतून सामाजिक दृष्टया दुर्बल घटकांना सुरक्षा देण्याचे ठरविले. तरी देखील आधुनिक काळात महिलांवर होणाऱ्या अन्याय व अत्याचाराचे प्रमाण मोठया प्रमाणात वाढल्यानेच त्यांच्या सुरक्षिततेची हमी देणारी मानवाधिकाराची संकल्पना पुढे आली. मानवी हक्काची तात्कालिक बैठक सर्वश्रेष्ठ असल्यानेच संयुक्त राष्ट्रसंघाने श्रीमती एलीनॉर कझवेल्ट कमिशनने १० डिसेंबर १९४८ च्या महासभेच्या अधिवेशनात मानवी हक्कांच्या सनदेला स्विकृती देऊन बिलाला मान्यता दिली.मानवी

ISSN 0975-5020

हक्कांची हि सनद अतिशय व्यापक स्वरुपाची असुन मानवी जीवनाच्या विविध प्रश्नांचा विचार करुन एकुण ३० कलमांचा समावेश यात करण्यात आला. भारतीय घटनेने देखील सर्वसमावेशक विचार करुन "मूलभूत हक्क व अधिकार" चा समावेश घटनेत करुन भारतीय समाजाला पूर्ण सुरक्षा प्रदान करुन देण्याचा प्रयत्न केला आहे. तरी देखील दिल्लीतील सामुहिक बलात्कार प्रकरण, मुंबईतील बलात्कार प्रकरण याचा विचार करताना आजची महिला सुरक्षित आहे काय? असा प्रश्न पडतो. भारतीय मानवी हक्काची व्याख्या १९९३ सालच्या मानवी हक्क संरक्षण जाहिरनाम्यातील कलम क्र.२ (।) (D)ड२(१) (५)नुसार खालील प्रमाणे करण्यात आली आहे.-

"मानवी हक्क म्हणजे जीवनासंबंधी, स्वातंत्र्यासंबंधी, समानते संबंधी आणि प्रतिष्ठेसंबंधी व्यक्तीला राज्यघटनेतर्फे किंवा आंतरराष्ट्रीय कराराप्रमाणे संरक्षणाची खात्री दिली गेली आणि त्याची अंमलबजावणी न्यायालयाकडे सोपविली." प्रस्तुत शोध निबंधाचा महत्वाचा उद्देश म्हणजे शासनाने महिला कायद्यांची अंमलबजावणी योग्य प्रकारे करुन महिलांना "मुक्त व सुरक्षित" जीवन जगण्याचा अधिकार प्राप्त करुन द्यावा हाच आहे.

महत्व:

महिला व त्यांचे मानवाधिकार हे राष्ट्रीय व आंतरराष्ट्रीय क्षेत्रात "नैसर्गिक हक्क" या संकल्पनेत सामावले आहे. रुसो म्हणतो, **"Man is born free but everywhere he is in chain." या विचारानुसार प्रत्येक व्यक्तीला काही नैसर्गिक हक्क प्राप्त** होतात. कारण निसर्गत: ती व्यक्ती आहे आणि नैसर्गिक हक्क हे आदेश असतात आणि म्हणून त्याचा आदर प्रत्येक राज्याने केला पाहिजे. परंतु आधुनिक काळात महिलांवरील वाढते अत्याचार पाहिले असता त्यांच्या मानवाधिकाराच्या संरक्षणार्थ शासनात जागृती निर्माण व्हावी व महिलांना सुरक्षित जीवन जगता यावे म्हणून सदर विषयाला महत्व प्राप्त होते.

गृहितकृत्य:

महिलांच्या मानवाधिकाराचे सामाजिक, आर्थिक, राजकीय व पारीवारीक क्षेत्रात मोठे शोषण होते. म्हणून शासनाने त्यांच्या साठी निर्माण केलेल्या कायद्याची अंमलबजावणी सक्षमपणे करावी व संरक्षणाची जबाबदारी पार पाडावी.

संशोधन पध्दती:

प्रस्तुत शोधनिबंधासाठी ग्रंथालयीन संशोधन पध्दतीचा (वर्णनात्मक व विश्लेषणात्मक) उपयोग करण्यात आला आहे.

हक्कांची आवश्यकता का?

व्यक्तीला आपल्या व्यक्तिमत्वाचा विकास व सामाजिक, आर्थिक, सांस्कृतिक, धार्मिक क्षेत्रात प्रगती करायची असलेला हक्क आवश्यक असतात. व्यक्तीला एकता, संधी, सुविधा, प्रतिष्ठा ही तत्वे मानवी समाजात शासनाकडुन प्राप्त झाली तर व्यक्ती व समाज हा प्रगतीशील बनतो. आपल्या शारिरीक, भावनिक, बौध्दिक आणि अध्यात्मिक गरजा पुर्ण करण्यासाठी मानवी हक्कांची नितांत आवश्यकता असते. **The aims of every political association is the preservation of Natural and imprescriptibly right of man these right of liberty, property, security and resistance to oppression.**

म्हणून शासनाने जे कायदे महिलांच्या संरक्षणासाठी केलेले आहेत. त्याची योग्य अंमलबजावणी करणे

अत्यावश्यक ठरते.

वरील मानवी हक्क व घटनेतील विशेष तरतुदी महिलांसाठी असल्या तरी भारतातील साक्षरता ही १९६१ मध्ये १२.९५% होती तर २०११ मध्ये ६५.४६% झाली. आज महिला साक्षरता वाढलेली असली तरी त्यांच्यावर होणारे अन्याय व अत्याचाराचे प्रमाण कमी झालेलेच नाही हे देशातील महिलांच्या विरोधी अत्याचारांच्या घटना (वर्ष-२०११) पुढील तक्त्यावरुन स्पष्ट होतात.

१	लैंगिक अत्याचार	३.७%
२	हुंडा बळी	३.८%
३	बलात्कार	१०.६%
४	अपहरण	१५.६%
५	विनयभंग	१८.८%
६	पती व नातेवाईकांकडून अत्याचार	४३.४%

(संदर्भ - दैनिक सकाळ - १८ जानेवारी २०१३)

महाराष्ट्राच्या दृष्टिकोनातून विचार केला तर अर्भक मृत्यु दरात ग्रामीण व शहरी भागात मोठी तफावत आहे. अर्भक मृत्यु दरात महाराष्ट्राचा देशात दुसरा क्रमांक असुन हे प्रमाण १९९९ मध्ये प्रतिहजारी ४८ इतके आहे. **Nation family Health Survey**

२००० नुसार पाच वर्षाखालील मुलींमधील मृत्युदर मुलांपेक्षा अधिक आहे. महाराष्ट्रात पाच वर्षाखालील मुलींचा मृत्युदर ५८.१% आहे तर या बाबतीत राष्ट्रीय सरासरी ९४.९०% आहे. मागच्या पाचवर्षाच्या कालखंडात महिलांवरील अत्याचार व भ्रुणहत्तेचे प्रमाण मोठया प्रमाणात वाढल्याने मुला-मुलींच्या संख्येत मोठी दरी निर्माण झाली. थोडक्यात मानवाधिकार जाहिरनामा व भारतीय संविधानाने जगण्याचा अधिकार स्त्री पुरुषांना समान दिला असला तरी त्यांना अधिकारापासून त्या पासून समाज वंचित करीत आहेत हे स्पष्ट होते. म्हणून खालील कायद्यांची कठोर अंमलबजावणी करणे अगत्याचे ठरते.

गर्भलिंग निदान कायदा:

गर्भलिंग निदानकरुन स्त्रिभृण हत्या घडविणे ही सामाजिक समस्या आहे. संबंधित गुन्हेगारांना कडक शिक्षा करण्यासाठी भारतीय दंडविधान संहिता १८६० चे कलम ३१२ व ३१८ अन्वये महत्त्वाची तरतुद आहे. त्याचबरोबर मेडिकल अर्मिनेशन ऑफ प्रेग्नेन्सी ॲक्ट १९७१ व गर्भनिदान प्रतिबंध कायदा १९९८ कायदे केले आहेत. कलम ३१२ अन्वये जाणीवपूर्वक गर्भपात घडवून आणल्यास देखील ३ ते ७ वर्षांपर्यंत कारावास व दंड होऊ शकतो. कलम ३१३ स्त्रीच्या संमतीशिवाय गर्भपात करु शकत नाही. कलम ११४ अन्वये जर स्त्रीच्या संमतीविना तीचा गर्भपात घडवून आणण्याच्या उद्देशाने कृती केली आणि त्यामुळे तिचा मृत्यु झाला तर दहा वर्षापर्यंत किंवा आजीवन कारावास व दंड होऊ शकेल. (संदर्भ - दै. सकाळ - १४/२/२०१३)

बलात्कारी व्यक्तीस ठार मारण्याचा हक्क:

भारतीय दंड विधान संहिता१८६० अन्वये कलम ९६ ते १०६ पर्यंत स्वरक्षणाच्या हक्काबाबत

(Right of private defiance) तरतुदी केल्या आहेत. या संदर्भात १८६० च्या कलम १०० अन्वये स्वरक्षणांसाठी हल्लेखोराचा मृत्यु कधी घडवून आणता येईल याबाबत तरतुदी आहेत (या कलमाखाली भादंस कलम ९९ ला अधीन राहुन आहेत) कलम १०० अन्वये जर एखाद्या महिलेवर बलात्कार करण्याच्या हेतुने हल्ला झाला असेल तर किंवा तिच्या अपहरणाचा संभंव असल्यास स्वत:चे संरक्षण करण्याचा हक्क त्या महिलेस कायद्याने दिलेला आहे. अशा प्रकारचा हल्ला होणार, बलात्कार होणार अशी त्या हल्ल्याद्वारे भिती वाटल्यास ती स्त्री स्वरंक्षणाच्या हक्काचा वापर करुन हल्लेखोरास ठार मारु शकते परंतु तो गुन्हा होत नाही.
(संदर्भ - दै. सकाळ - १२/२/२०१३)

घटस्फोट कायदा:

१) हिंदू विवाह कायदा १९५५ चे कलम १३ अन्वये घटस्फोट कोणत्या परिस्थितीत घेता येईल व कलम १३ अन्वये घटस्फोट एकमेंकांच्या संमतीने कसा घेता येईल या बाबत तरतुदी आहेत.

२) हिंदू विवाह कायदा १९५५ चे कलम १४ अन्वये विवाह झाल्यानंतर एका वर्षाच्या आत घटस्फोटाचा अर्ज न्यायालयात दाखल करता येत नाही.

३) कलम १९ नुसार जे विवाह झाले आहेत किंवा पती पत्नी एकत्र राहिल्याचे शेवटचे ठिकाण किंवा अर्ज दाखल करतेवेळी प्रतिपक्ष जेथे राहत असेल यापैकी कोणत्याही ठिकाणच्या न्यायालयात घटस्फोटाचा अर्ज दाखल करता येतो.

४) कलम २४ नुसार घटस्फोटाचा अर्ज न्यायालयात दाखल असतांना पती किंवा पत्नी ज्याच्या जवळ उदर निर्वाहाचे साधन नसेल अथवा न्यायालयात येण्या-जाण्यासाठी रक्कम नसेल तर पती किंवा पत्नी हिंदू केस सुरु असतांना पोटगी मिळविण्यासाठी अर्ज करु शकते.
(संदर्भ - दै. सकाळ - १९/३/२०१३)

विवाह संबंधी अपराध:

- भारतीय दंडविधान संहिता १८६० चे कलम ४९३ अन्वये एखाद्या पुरुषाने एखाद्या स्त्रिशी तिल कायदेशीर विवाह झाल्याचा समज लबाडीने निर्माण करुन व त्या समजुतीत पती-पत्नी राहण्यात अथवा लैगिंक संबंध ठेवण्यास भाग पाडले असेल तर तो गुन्हा आहे.
- भारतीय दंडविधान संहिता १८६० चे कलम ४९४ अन्वये एखाद्या स्त्री किंवा पुरुषाने वैवाहिक जोडीदार हयात असतांना कायदेशीर रितीरिवाजाप्रमाणे विवाह झाला असताना तसेच घटस्फोट झालेला नसेल तर अशा पती किंवा पत्नीने दुसरे लग्न केले तर त्या पती किंवा पत्नीस सात वर्षांपर्यंतच्या कारावासाची व दंडाची शिक्षा होऊ शकते.
- भारतीय दंडविधान संहिता १८६० चे कलम ४९५ अन्वये एखाद्या स्त्री किंवा पुरुषाने नंतरचा विवाह करतांना त्याच्या पूर्वीच्या विवाहाची वस्तुस्थिती लपवून ठेवली व लग्न केले तर गुन्हा होऊन अशा व्यक्तीस दहा वर्षांपर्यंतच्या कारावासाची व दंडाची शिक्षा होऊ शकते.

- आपला कायदेशीर विवाह होऊ शकत नाही याची जाणीव असतांना बेकायदा विवाह करुन घेतला असेल तर तो भा.द. स. कलम ४९६ अन्वये गुन्हा होऊन ७ वर्ष कारावासाच्या शिक्षा होऊ शकते. (संदर्भ - दै. सकाळ - ७/२/२०१३)

पोटगीचा हक्क:

नवऱ्याने त्याची नैतिक जबाबदारी झटकून पत्नीला सांभाळणे सोडून दिले असेल तर तिच्या उदरनिर्वाह, औषोधोपचार, कपडा या सर्व गरजांसाठी पतीकडून तिला तिच्या १८ वर्षांखालील मुलांसाठी निर्वाह भत्ता म्हणते पोटगी मिळण्याची तरतुद केली आहे. कलम १९७३ चे कलम १२५ ते १२८ मध्ये पोटगीबाबत तरतुदी करण्यात आलेल्या आहेत. (संदर्भ - दै. सकाळ - १९/२/२०१३)

महिलेचे अपहरण गंभीर गुन्हा:

महिलेचे अपहरण करणे हा गंभीर गुन्हा असून, त्यास कडक शिक्षेची तरतुद केलेली आहे. भारतीय दंड संहिता १८६० चे कलम ३५९ ते३६९ पर्यंत अपनयन, अपहरणाबाबत विविध महत्वाच्या तरतूदी केलेल्या आहेत. भारतीय दंड संहिता १८६० चे कलम ३६१ नुसार जर एखाद्याने १६ वर्षांच्या खालील मुलास किंवा १८ वर्षे वयाचे खालील मुलीस किंवा मनोरुग्ण व्यक्तीस फूस लावून नेणे म्हणजे अपनयन, अपहरण होय. त्याचप्रमाणे १८ वर्षे वयाच्या वरील व्यक्तीस बळाचा वापर करुन एका ठिकाणाहून दूर जाण्यास एखाद्याने भाग पाडल्यास अगर फसवणूक करुन दूर जाण्यास प्रवृत्त केल्यास ते भा.द. स. कलम ३६२ अन्वये अपहरण होते. अपहरणाच्या गुन्हयासाठी भा.द. स. कलम ३६३ अन्वये सात वर्षांपर्यंत कारावासाची व दंडाची शिक्षा होऊ शकते. अनैतिक हेतूसाठी महिलेचे अपहरण केल्यास तो भारतीय दंड संहिता १८६० चे कलम ३६६ अन्वये गुन्हा होतो व दोषीस १० वर्षांपर्यत कारावासाची व दंडाची शिक्षा होू शकते. भारतीय दंड संहिता १८६० चे कलम ३६६ अन्वये १८ वर्षे वयाचे आतील मुलीस धाक दाखवून अथवा फूस लावून एखाद्या व्यक्तीशी बेकादेशीर शरीरसंबंध ठेवण्यासाठी पळवून नेणे, अपहरण करणे हा गंभीर गुन्हा होतो व दोषीस १० वर्षांपर्यंत कारावास व दंड संहिता होऊ शकतो. २१ वर्षे वयाच्या आतील मुलीस फुस लावून विदेशातून भारतात आणले तर तो भारतीय दंड संहिता १८६० चे कलम ३६६ अन्वये गुन्हा होऊन दोषीस १० वर्षांपर्यत कारावासाची व दंडाची शिक्षा होऊ शकते.

(संदर्भ - दै. सकाळ - ५/३/२०१३)

वरील कायद्याची योग्य अंमलबजावणी शासनाने केली तर महिलांच्या मूलभूत अधिकार व हक्कांचे संरक्षण होईल असे म्हणणे वावगे ठरणार नाही. म्हणून दलित महिलांवरील अत्याचार दूर करुन प्रतिबंधक कायद्याची महत्वे विशद करतांना विधिज्ञ उपेंद्र बक्षी म्हणतात,'' या कायद्यांची अमंलबजावणीसाठी कार्यकर्ते, संघटना आणि चळवळीतील नेत्यांचा विवेक व बांधिलकी किती आहे त्यावरच या कायद्याचे यश अवलंबून राहील''.

उपाय:

वरील सर्व जाचातुन ''महिला मुक्तीचा'' मार्ग मोकळा करायचा असेल तर खालील उपाय योजना करणे अत्यावश्यक आहे.

१) महिला अत्याचार व दारिद्रयाचे उच्चाटन करणे

२) रोजगार निर्मिती करुन महिलांचा आर्थिक दर्जा सुधारणे.
३) महिलांच्या संवेदनशील धोरणांना प्रोत्साहन देणे.
४) प्रसारमाध्यमाचे वापराद्वारे महिलांचे हक्कप्राप्तीसाठी जनजागृती करणे.
५) स्थानिक स्वराज्य संस्था, पार्लमेंट व निर्णय प्रक्रियेत सहभाग वाढविणे.
६) दलित व आदिवासी स्त्रियांची साक्षरता वाढविणे.
७) जागतिकरणात सेवा पुरविणे.

निष्कर्ष:

प्रस्तुत शोधनिबंधांत महिलांचे 'मुलभूत हक्क आणि अधिकार' यांची घटनात्मक तरतुद असून देखील वास्तविक चित्र वेगळेच आहे. भारतामध्ये राष्ट्रीय मानवाधिकार, आयोग, राज्य मानवाधिकार आयोग स्थापन करण्यात आलेला असला तरी भ्रुण हत्या, हुंडाबळी, लैंगिक अत्याचार, कौंटुंबिक हिंसा या घटना मोठया प्रमाणात घडतांना दिसून येतात. म्हणून आवश्यकता आहे ती कायद्यांची कठोर अंमलबजावणी करणे व समाजात समता, न्याय आणि स्वातंत्र्याची मुल्ये रुजविली तरच महिला सबला बनतील हे अटळ सत्य आहे.

संदर्भ:

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विज्ञान आशययुक्त अध्यापन पध्दतीचा विद्यार्थी शिक्षकांच्या आशयज्ञान वृध्दी आणि अध्यापन क्षमतेवर होणाऱ्या परिणामांचा अभ्यास

प्रा.डॉ. अजयकुमार रामदास इंगळे: समर्थ शिक्षण शास्त्र, महाविद्यालय, भाडणे, ता. साक्री, जि. धुळे

मानवी जीवन ज्याप्रमाणे परिवर्तनशील व गतीमान क्रिया आहे त्याच प्रमाणे शिक्षण व अध्ययन पध्दती ही

देखील परिवर्तनीय व गतीमान क्रिया आहे. यामुळे विषय शिक्षकास अध्यापनात या दोन्ही बाबींचा विचार करावा लागतो.

प्रत्येक क्षेत्रात कार्य कुशल होण्याकरिता अंगभूत गुणांबरोबरच प्रयत्नांची, साधनेची व प्रशिक्षणाची आवश्यकता असते. शिक्षकाने आपल्या क्षेत्रात अध्यापनापूर्वी असणारे पूर्वज्ञान स्वत: विविध स्त्रोताकडून प्राप्त करुन घेतले पाहिजे. आजच्या परिस्थितीत ते अद्यावत केले तरच अध्यापन परिणामकारक घडते. ज्ञान संपादनाचे महत्व शिक्षण प्रक्रियेत अनन्यसाधारण आहे. ज्ञानाची उपासना करीत राहणे ही शिक्षकांची, शिक्षणाची आणि काळाची गरज आहे.

बी.एडचे प्रशिक्षण घेणाऱ्या विद्यार्थी शिक्षकाकडे 'आशयज्ञान' आहे असे गृहीत धरलेले असते ते फक्त परिणामकारका पध्दतीने शिकवायचे कसे एवढाच विचार यात केलेला आहे. विषयाचा आशय व विषयाची अध्यायन पध्दती या दोन बाबीं स्वतंत्रपणे न शिकविता त्यांचे एकत्रीकरण व तेही अर्थपूर्ण एकात्मिकरण करण्याच्या दृष्टीकोन हा या आशययुक्त अध्यापन पध्दतीचा पाया आहे.' आशययुक्त अध्यापन पध्दती' ही राष्ट्रीय शिक्षक प्रशिक्षण १९७८चा अभ्यासक्रम चौकटीत मुळ संकल्पना आहे. विद्यार्थी म्हणून ज्ञानग्रहण करतांना आपल्या विचार प्रक्रिया व शिक्षक म्हणून ज्ञानदान करतांना आपल्या विचार प्रक्रिया भिन्न भिन्न असतात हा दृष्टीकोन आशययुक्त अध्यापन पध्दतीने दिलेला आहे. प्रत्यक्ष अध्यापनापूर्वी शिक्षक आपल्या आशयावर अध्यापनाच्या संदर्भात ज्या विविध प्रक्रिया करतो त्यालाच आशययुक्त अध्यापन पध्दती म्हणतात.

संशोधनाची गरज:

बी.एडचे प्रशिक्षण घेणाऱ्या विद्यार्थी शिक्षकांना आपआपल्या विषयाचे पाठ हर्बार्टच्या पंचपदीनुसार काढण्याचा सराव करण्यात येतो पाठ टाचणे काढतांना पाठाची उद्दिष्टे ठरविणे त्यानुसार अनुभव देणे आणि मूल्यमापन केले जाते. याप्रमाणे बी.एडचे प्रशिक्षणात खऱ्या अर्थाने विषयाचा आशय थोडा समजायला लागला जो शालेय, महाविद्यालय स्तरावर समजला नव्हता. या स्तरावर शिकवितांना शिक्षक उद्दिष्टांचा विचार करीत नाही असे दिसून आले. पाठ निरीक्षक म्हणून भूमिका बजावतांना वेगवेगळया शाळांना भेटी दिल्या. शिक्षकांशी चर्चा केली. बी.एड च्या प्रमाणे प्रशिक्षण दिले जाते त्याप्रमाणे शिक्षक प्रत्यक्ष शिकवित नाही. अध्यापनाची उद्दिष्टे ठरवित नाही ती कितपत साध्य झाली याबाबत मूल्यमापन केले जात नाही म्हणजेच आशययुक्त अध्यापन पध्दतीची संकल्पना त्यांना समजलेली नाही ही संकल्पना केवळ पुस्तकी ज्ञानापुरती मर्यादीत न राहता कृतीयुक्त प्रशिक्षणात समाविष्ट करणे गरजेचे आहे. कारण विज्ञान आशययुक्त अध्यापन पध्दतीचा सखोल अभ्यास केल्यानंतर विज्ञान विषयाची संरचना समजते विद्याशाखेचे नेमके स्वरुप व संरचना समजल्यामुळे शाखा, उपशाखा यांचेही संखोल आकलन होण्यासाठी प्रस्तुत संशोधनाची गरज वाटते.

संशोधनाचे महत्व:

अध्यापन ही एक बौध्दिक क्रिया आहे. तिच्यासाठी भाषिक, बौध्दिक, आंतरक्रियात्मक क्षमता हव्या असतात पदवीपर्यंत शिकूनही काहीच्या या क्षमता अविकसित राहतात असे पदवीधर शिक्षक व्यवसायाचे प्रशिक्षण घेण्यासाठी आल्याने व त्यांच्या साठी वेगळा शिक्षक प्रशिक्षण कार्यक्रम नसल्याने अध्यापनाची गुणवत्ता ढासळली आहे. त्यामुळे आशययुक्त अध्यापन पध्दतीचा अवलंबानं शिक्षक शिक्षण कार्यक्रमाची विश्वासार्हता वाढविण्यासाठी प्रस्तुत संशोधन

समस्येचे महत्व आहे.

पदवी स्तरापर्यंत विद्यार्थी शिक्षकाने प्राप्त केलेले विषयाचे ज्ञान त्याला त्या विषयाचा शिक्षक होण्यास पुरेसे असते. शिक्षणशास्त्रा महाविद्यालयातून केवळ शिक्षण शास्त्र व अध्यापन पध्दती व क्षेत्राचे ज्ञान द्यावे या गृहीतकाची, फेरतपासणी करण्याची वेळ आलेली आहे काय शिकवायचे यापेक्षा ते कसे शिकवायचे या अध्यापन कौशल्याकडेच अधिक लक्ष केंद्रित केले जाते. अध्यापनाच्या विविध पध्दती माहिती असून त्या वापण्याचे ज्ञान त्यांना नसते. एकाच नावाचा संबोध वर्ग किंवा स्तर बदलला की आशयात किंवा अध्यापन पध्दतीत काय बदल करावा हे विद्यार्थी शिक्षकांना समजत नाही म्हणूनच अध्यापना इतकेच आशयाकडे डोळसपणे पाहण्यासाठी प्रस्तूत संशोधनाचे महत्व आहे.

निरीक्षण आणि प्रयोग हा विज्ञानाचा पाया असतो त्यामुळे सर्व सामान्यपणे आपण ज्याला शास्त्र म्हणतो ते अनुभवजन्यच असते. भौतिकशास्त्र, जैविकशास्त्र, सामाजिकशास्त्रे, वर्तमानधिष्ठित शास्त्रे हे सर्व अनुभवजन्यशास्त्रे आहेत. सध्याच्या माहिती तंत्रज्ञानाच्या युगात जीवनविषयक कौशल्याची अभिवृत्ती करणे आवश्यक आहे. व्यावसायिक व वैज्ञानिक शिक्षणाने उद्योग व्यवसायांची, रोजगारांची उभारणी होईल. राष्ट्रीय, आंतरराष्ट्रीय सामंजस्य, शांतता प्रेम आपूलकी, एकता, बंधुभाव निर्माण होण्याकरीता जागतिकरणाचा मानवतावादी चेहरा आवश्यक आहे. या करीता प्रत्येक विद्यार्थ्यांत माध्यमिक स्तरापर्यंत वैज्ञानिक दृष्टीकोन निर्माण करण्याशिवाय पर्याय नाही म्हणून विज्ञान विषयाचे महत्व टिकविण्यासाठी मदत होईल.

संशोधनाची उद्दिष्टे:

१) विज्ञान आशययुक्त अध्यापन पध्दतीचा वापर करुन अध्यापन केल्यास विद्यार्थी शिक्षकांमधील आशयज्ञान वृध्दी अभ्यासणे.

२) विज्ञान आशययुक्त अध्यापन पध्दतीचे प्रशिक्षण दिल्यावर विद्यार्थी शिक्षकांच्या अध्यापन क्षमतेतील वाढ अभ्यासणे.

संशोधनाची कार्यात्मक व्याख्या:

१) विज्ञान - महाराष्ट्र राज्य शैक्षणिक संशोधन व प्रशिक्षण परिषदेने नेमून दिलेली इ.५वी ते इ.१०वी ची विज्ञानाची पाठयपुस्तके.

२) आशययुक्त अध्यापन पध्दती - प्रत्यक्ष अध्यापनापूर्वी शिक्षक आपल्या आशयावर अध्यापनाच्या संदर्भात ज्या विविध प्रक्रिया करत असतो त्यालाच आशययुक्त अध्यापन पध्दती असे म्हणतात.

३) विद्यार्थी, शिक्षक - शिक्षणशास्त्र महाविद्यालयात शिक्षण घेणारे विज्ञान अध्यापन पध्दतीचे विद्यार्थी.

४) आशयज्ञान - संशोधकाने इ.५वी ते इ.१०वी च्या विज्ञान विषयाच्या पाठयपुस्तकावर आधारित तयार केलेल्या चाचणीत मिळालेले प्राप्तांक म्हणजे आशयज्ञान.

५) अध्यापन क्षमता - आशय अध्यापन एकत्रीकरण निरीक्षण श्रेणी 'अ' व आभिवृध्द आशयज्ञान अभिव्यक्तिश्रेणी 'आ' वरुन मोजण्यांत आलेली क्षमता म्हणजे अध्यापन क्षमता.

गृहितके:

१) आशययुक्त अध्यापन पध्दती - यामुळे आशयज्ञक वृध्दी होते.

२) विज्ञान आशययुक्त अध्यापन- या पध्दतीमुळे अध्यापन क्षमतेत सुधारणा होते.

परिकल्पना:

१) विज्ञान - आशययुक्त अध्यापन पध्दतीचा वापर करुन अध्यापन केल्यास विद्यार्थी शिक्षकांमध्ये आशयज्ञान वृध्दी होत नाही.

२) विज्ञान आशययुक्त अध्यापन पध्दतीचे प्रशिक्षण दिल्यावर विद्यार्थी शिक्षकांच्या अध्यापन क्षमतेत कोणतीही वाढ होत नाही.

संशोधनाची व्याप्ती व मर्यादा:

१) धुळे जिल्हयातील ता.साक्री येथील समर्थ शिक्षणशास्त्र महाविद्यालय भाडणे येथिल विज्ञान अध्यापन पध्दतीचे विद्यार्थी, शिक्षकांची संशोधनासाठी निवड केलेली आहे.

२) विज्ञान आशययुक्त अध्यापन पध्दतीच्या प्रशिक्षणामुळे आशयज्ञानवृध्दी आणि अध्यापन क्षमता तपासली जाईल.

३) प्रस्तुत संशोधन हे उत्तर महाराष्ट्र विद्यापीठ, संलग्नीत समर्थ शिक्षणशास्त्र्ज्ञ महाविद्यालय, भाडणे येथील विज्ञान अध्यापन पध्दतीचा प्रशिक्षण घेतलेल्या सर्व विद्यार्थी शिक्षका पूरतेच मर्यादीत आहे.

४) प्रस्तुत संशोधन शैक्षणिक हया २०१२-२०१४ असे मर्यादित आहे.

संशोधन अभिकल्प - एकल गट अभिकल्प

स्वायश्री चल - विज्ञान आशययुक्त अध्यापन पध्दती

आश्रयी चल - आशयज्ञान, अध्यापन क्षमता

न्यायदर्श - साक्री तालुक्यातील समर्थ शिक्षणशास्त्र महाविद्यालयातील विज्ञान अध्यापन पध्दतीचे ५० विद्यार्थी.

संशोधन पध्दती:

प्रस्तुत संशोधनात प्रायोगिक पध्दतीचा अंगीकार करण्यांत आलेला आहे. समर्थ शिक्षणशास्त्र महाविद्यालय भाडणे, ता. साक्री येथील विज्ञान विज्ञान अध्यापन पध्दतीचे प्रशिक्षण घेणारे ५० विद्यार्थी - शिक्षकांची नियंत्रित गट व प्रायोगिक गटात विभागणी यादृच्छीक पध्दतीने करण्यांत आली. दोन्ही गटात - प्रत्येकी २५-२५ विद्यार्थी शिक्षक विभागले गेले. त्यानंतर इ.५वी ते इ.१०वी च्या विज्ञान विषयाच्या पाठयपुस्तकारवर आधारित २५ गुणांची वस्तूनिष्ठ प्रश्नावली तयार करण्यात आली. प्रत्येक गुणाला एक गुण देण्यात आला. त्यानंतर दोन्ही गटातील विद्यार्थी/शिक्षकांना ही पूर्व चाचणी देण्यात आली आलेल्या प्राप्तांकांची बेरीज करुन मध्यमाने काढले.

यानंतर २५ दिवस नियंत्रित गटातील विद्यार्थी शिक्षकांत पारंपारीक पध्दतीने अध्यापन करण्यांत आले तर प्रायोगिक गटातील विद्यार्थी शिक्षकांना आशययुक्त अध्यापन पध्दतीचे आठ पायऱ्यांनी प्रशिक्षण दिले.

त्या पायऱ्या पुढील प्रमाणे:

१) विद्यार्थी शाखेचे स्वरुप व संरचना

२) अभ्यासक्रम, पाठयक्रम, पाठयपुस्तक यांचा अध्यापनात वापर.

३) अध्यापन घटकांचे आशय विश्लेषण.
४) अध्यापनपूर्व आशयज्ञान अभिवृत्ती.
५) अध्यापन शास्त्रीय विश्लेषण.
६) आशय अध्यापन पध्दतीचे एकात्मीकरण
७) ज्ञानाची प्रतिकपणे
८) आशययुक्त अध्यापन पध्दतीचे संदर्भात मूल्यमापन.

या प्रशिक्षणाअंतर्गत प्रायोगिक गटातील विद्यार्थी शिक्षकांच्या एका पाठाचे आशययुक्त अध्यापन पध्दतीच्या श्रेणी 'अ' आणि 'आ'नूसार मूल्यमापन करण्यात आले.त्याचप्रमाणे नियंत्रित गटातील विद्यार्थी शिक्षकांचाही एका पाणचे श्रेणी 'अ' आणि 'आ'नूसार मूल्यमापन करण्यात आले.मिळालेल्या

प्राप्तांकांची बेरीज करुन मध्यमाने काढले.

यानतंर दोन्ही गटांची ३० गुणांची चाचणी देण्यांत आली व प्राप्तांकांची बेरीज करुन मध्यमाने काढले.

माहितीचे संख्याशास्त्रीय विश्लेषण व अर्थनिर्वचन -

सारणी १

विद्यार्थी संख्या	गट	(पूर्व चाचणी) एकूण प्राप्तांक	(उत्तर चाचणी) एकूण प्राप्तांक	(पूर्व चाचणी) एकूण मध्यमान	(उत्तर चाचणी) एकूण मध्यमान
२५	नियंत्रित	२५५	३४१	१०.२	१३.६४
२५	प्रायोगिक	३०५	३५९	१२.२	१४.३६

सारणी २

विद्यार्थी संख्या	गट	(अ.क्ष) एकूण प्राप्तांक	(अ.क्ष) एकूण प्राप्तांक	(अ.क्ष) एकूण मध्यमान	(अ.क्ष) एकूण मध्यमान
२५	नियंत्रित	२७०(पूर्व)	३३५ (उत्तर)	१०.८(पूर्व)	१३.४(उत्तर)
२५	प्रायोगिक	३०९ (पूर्व)	११२२(उत्तर)	१२.३६(पूर्व)	४५(उत्तर)

संशोधन उद्दिष्टांच्या संदर्भात शुन्य परिकल्पना मांडण्यांत आल्या.

१) विज्ञान आशययुक्त अध्यापन पध्दतींचा वापर करुन अध्यापन केल्यास विद्यार्थी शिक्षकांमध्ये आशयज्ञानवृध्दी होत नाही.
२) विज्ञान आशययुक्त अध्यापन पध्दतीचे प्रशिक्षण दिल्यावर विद्यार्थी, शिक्षकांच्या अध्यापन क्षमतेत कोणतीही वाढ होत नाही.

उद्दिष्ट क्र.१ च्या अनुषंगाने मांडलेल्या परिकल्पनेचा त्याग करावा लागतो. कारण सारणी क्र.१ नुसार विज्ञान आशयज्ञान पूर्व चाचणीतील नियंत्रित गटाचे एकूण प्राप्तांक २५५ तर उत्तर चाचणीचे एकूण प्राप्तांक ३४१ आहे तर प्रायोगिक गटांचे पूर्व चाचणीचे प्राप्तांक ३०५ आणि उत्तर चाचणीचे एकूण प्राप्तांक ३५९ आहे. नियंत्रित गटाचे

पूर्वचाचणीचे मध्यमान १०.२ तर उत्तर चाचणीचे मध्यमान १३.६४ तर प्रायोगिक गटातील पूर्व चाचणीचे मध्यमान १२.२ आणि १४.३६ आहे.

नियंत्रित गट आणि प्रायोगिक गटातील पूर्व चाचणी व उत्तर चाचणीच्या मध्यमानाचा विचार करता असे लक्षात येते की, नियंत्रित गटातील मध्यमानापेक्षा प्रायोगिक गटातील मध्यमानात लक्षणीय वाढ झाली हा फरक योगायोगाने झाला नसून, उपचार माजेमुळे झाला आहे म्हणून आशयज्ञानवृध्दी संदर्भात मांडलेल्या पहिल्या शून्य परिकल्पनेचा त्याग करावा लागतो.

सारणी क्र.२ नुसार अध्यापन क्षमतेत नियंत्रित गटाचे पूर्व पाठाचेप्राप्तांक २७० तर प्रशिक्षणानंतर उत्तर पाठाचे प्राप्तांक ३३५ तर प्रायोगिक गटातील पूर्व पाठाचे प्राप्तांक ३०९ तर प्रशिक्षणांत उत्तर पाठाचे प्राप्तांक ११२२ आले तर प्रायोगिक गटाचे पूर्व पाठाचे मध्यमान १०.८ इतके आले तर प्रायोगीक गटातील प्रशिक्षणपूर्व पाठाचे मध्यमान १२.३६ तर प्रशिक्षणानंतर उत्तर पाठाचे मध्यमान ४५ इतके आले.

अध्यापन क्षमतेच्या संदर्भात नियंत्रित गट आणि प्रायोगिक गटातील पूर्व आणि उत्तर पाठाच्या मध्यमानाचा विचार करता असे लक्षात येते की, नियंत्रित गटातील मध्यमानापेक्षा प्रायोगिक गटातील मध्यमानात लक्षणीय वाढ झाली हा फरक योगायोगाने झाला नसुन उपचार मात्रेमुळे आला आहे म्हणून अध्यापन क्षमतेत संदर्भात मांडलेल्या शुन्य परिकल्पनेचा त्याग करावा लागेल.

निष्कर्ष -

१) विज्ञान आशययुक्त अध्यापन पध्दतीमुळे विद्यार्थी, शिक्षकांमध्ये आशयज्ञान वृध्दी होते.

२) विज्ञान आशययुक्त अध्यापन पध्दतीमुळे विद्यार्थी, शिक्षकांच्या अध्यापन क्षमतेत लक्षणीय वाढ होते.

संदर्भग्रंथ-

१) प्रा.डॉ.सौ. आरती सपकाळे, (२००६) ' आशययुक्त अध्यापन पध्दतीमुळे विद्यार्थी, विज्ञान' व्यंकटेश प्रकाशन, जळगांव

२) एस.अे. चितानद, अशोक जैन, (१९९९) 'विज्ञान, तंत्रज्ञान आणि सामाजिक परिवर्तन फाऊन्डेशन कोर्स १' सेट पब्लीकेशन प्रा.लिमिटेड मुंबई.

३) पंडीत ब.बि.,'शिक्षणातील संशोधन' नूतन प्रकाशन, पुणे

४) जोशी अ.न. (१९९९) 'आशयसहित अध्यापन पध्दत' य.च.मु. विद्यापीठ नाशिक.

५) साळूंखे के.एस., (२००३) ' आशयातील अध्यापन पध्दती मूलभूत' नाशिक.

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७३ व्या घटना दुरुस्तीचे ग्रामपंचायतीच्या वित्तीय व्यवस्थेवरील परिणाम

प्रा. शिवाजी रघुनाथ पाटोदे: कला, वाणिज्य व विज्ञान महाविद्यालय, शंकरनगर, ता. बिलोली जि. नांदेड.

ग्राम विकास ही राष्ट्र विकासाची प्राथमिकता आहे. ७० टक्केपेक्षा अधिक लोकसंख्या ही ग्रामीण भागात वास्तव्यास हे. त्यांचा विकास होणे ही देशाच्या प्रगतीसाठी अत्यंत आवश्यक आहे. आणि ग्रामीण भागाच्या विकासाची जबाबदारी संविधनाने ग्रामपंचायतीवर सोपविली आहे. प्राचीन काळात स्वंयपुर्ण व छोटयाशा गणराज्याच्या स्वरुपात

कार्य करणाऱ्या ग्रामपंचायतीने स्वातंत्र्य प्राप्तीनंतर पंचायत राजाच्या संदर्भातील बलवंत रॉय मेहता समिती (१९५७), वसतंराव नाईक समिती (१९६०), बोगीरवार समिती (१९७०), अशोक मेहता समिती (१९७७), प्राचार्य पी. बी. पाटील समिती (१९८४), श्री. जी. व्ही. केराव समिती (१९८५) डॉ. एन. एम. सिंघवी समिती (१९८६) या महत्व पुर्ण समित्यांनी पंचायत राजाच्या सक्षमीकरणासाठी अभ्यास पुर्ण शिफारशी केल्या आहेत. उपरोक्त सर्व समित्यांनी ग्रामपंचायतीच्या कार्याला महत्वपुर्ण मानले आहेत. व त्या अनुषंगाने ग्रामपंचायतीच्या आर्थिक स्वयंपुर्णतेसाठी, आर्थिक बळकटी करण्यासाठी अनेक शिफारशी केल्या होत्या. परंतु या काळात ग्रामपंचायतीची अर्थ व वित्तीय स्थिती बिकटच होती. त्यामुळे त्यांना त्यांची कार्य प्रभावीपणे करणे अशक्य होते. ग्राम विकासाची ग्राम स्वराज्य ही संकल्पना प्रत्यक्षात आणावयाची असेल तर त्यांना स्वंयपुर्ण बनविणे गरजेचे वाटू लागले म्हणून घटनात्मक तरतूद करुन त्या दृष्टीने पडलेले महत्वपुर्ण पाऊल म्हणजे १९९२ साली केलेली ७३ वी घटना दुरुस्ती होय.

७३ वी घटना दुरुस्ती – पार्श्वभूमी

पंचायत राजांच्या संदर्भात महत्तपुर्ण पर्व म्हणून ७३ व्या घटना दुरुस्तीकडे पाहिले जाते. या घटना दुरुस्तीचे विधेयक डॉ. लक्ष्मीमल सिंघवी समितीच्या शिफारशीनुसार राजीव गांधी सरकारने तयार केले. ६४ वे घटना दुरुस्ती विधेयक तयार करुन १५ मे १९८९ला संसदेत सादर केले. पुढे १० ऑगस्ट १९८९ हे विधेयक लोकसभेत ३४३ विरुध्द ० मतानी पारीत झाले. परंतु राज्यसभेत केवळ ०३ मतानी ते ना मंजूर करण्यात आले. हे विधेयक राज्य सुचीतील विषयावरील घटना दुरुस्ती संदर्भात असल्यामुळे संसदेतील दोन्ही सभागृहात २/३ विशेष बहुमताने व अर्ध्यापेक्षा अधिक राज्यांच्या विधीमंडळाची मान्यता आवश्यक होती. ही प्रक्रीया पुर्ण होू न शकल्याने हा पहिला प्रयत्न अयशस्वी ठरला. पुढे १९९० ला लोकसभा भंग झाली त्यामुळे दुसरा प्रयत्नही अयशस्वी ठरला.

मध्यावधी निवडणुकानंतर दि. २१ जून १९९१ रोजी पी. व्ही. नरसिंहराव पंतप्रधान झाल्यानंतर हे विधेयक २२ डिसेंबर १९९२ संसदेला सादर केले. त्यास लोकसभेने २२ डिसेंबर १९९२ ला व २३ डिसेंबर १९९२ ला राज्यसभेने मंजूरी दिली. त्यानंतर या विधेयकास १७ राज्यांच्या विधिमंडळाने समिती दिली. २० एप्रिल १९९३ला राष्ट्रपतीनी मंजूरी दिली. व पंचायत राज्य संस्थेला घटनात्मक दर्जा मिळाला व दि. २४ एप्रिल १९९३ पासून ७३ वी घटना दुरुस्ती अधिनियम – १९९२ ची अंमलबजावणी १ वर्षाच्या आत सर्व राज्यानी करण्याची सक्ती करण्यात आली.

७३ व्या घटना दुरुस्तीतील वित्तीय तरतुद

स्वातंत्र्य प्राप्ती नंतरच्या ग्रामपंचायती आर्थिक विवंचनेत होत्या. ७३ व्या घटना दुरुस्तीमुळे अनुदान क्षमता, कर आकारणी, कर वसूली आणि वित्तीय नियोजन या बाबतीत कलम २४३ (ए) अन्वये राज्य सरकार व्यवस्था करेल. राज्य शासनाच्या संचित निधीतून विकास अनुदानाची व्यवस्था केली जाईल. या व्यतिरिक्त कांही माध्यमाद्वारे पंचायत राज्य संस्थाना स्वत: निधी उभारण्याचा अधिकार प्राप्त झाला.

राज्य वित्त आयोगाची तरतुद

७३ व्या घटना दुरुस्तीतील तरतुदीनुसार भारतीय संविधानातील कलम २४३ (ए) नुसार राज्याचा राज्यपाल

घटना दुरुस्तीच्या अंमलबजावणीपासून एका वर्षाच्या आत म्हणजे २४ एप्रिल १९९४ पुर्वी राज्य वित्त आयोगाचे गठन करील. त्याचा कार्यकाल पाच वर्षाचा असेल व प्रत्येक पाच वर्षासाठी नविन वित्त आयोगाचे गठन करण्यात येईल.

राज्य व स्थानिक स्वराज्य संस्था मधील आर्थिक संबंध सुरळीत ठेवण्यासाठी वित्त आयोग कार्य करील राज्य वित्त आयोगाची प्रमुख तीन कार्य असतील.

१. राज्य आणि पंचायत राज्य यांच्यातील कराचा वाटा निश्चित करणे.
२. अनुदानाच्या संदर्भात नियम निश्चित करणे.
३. पंचायत राज्याची आर्थिक स्थिती सुधारण्यासाठी शिफारशी व सूचना करणे.

राज्य वित्त आयोग एक सल्लागार संस्था असेल. आयोग आपला अहवाल राज्यपालाकडे सादर करेल, तर राज्यपाल हा अहवाल विधिमंडळात सादर करतील. महाराष्ट्रात १९९४ साला पासून आयोगाचे गठन केले जाते. ७३व्या घटना दुरुस्तीमुळे ११व्या परिशिष्टात स्थानिक स्वराज्य संस्थांच्या कार्याची यादी दिली आहे. व त्याच बरोबर त्या कार्याच्या पुर्ततेसाठी या संस्थांनी आकारावयाच्या करांची तरतुद केल्यास स्थानिक स्वराज्य संस्थाना घटनात्मकरीत्या उत्पनाचा एक निश्चित स्वरुपाचा स्त्रोत सुरु राहील. यातून निश्चितपणे स्थानिक स्वराज्य संस्था स्वंयपुर्ण होण्यास मदत होईल. अशी व्यवस्था करण्यात आली आहे.

७३व्या घटना दुरुस्तीचा झालेला वित्तीय परिणाम

७३व्या घटना दुरुस्तीमुळे ग्रामपंचायतीना घटनात्मक दर्जा मिळाला. ग्रामपंचायती रचना, कार्यकाल,महिलांना व मागासवर्गीयांना आरक्षण, कर्तव्य व जबाबदाऱ्याची निश्चिती होण्यास मदत झाली. परंतु त्याच बरोबर ग्रामपंचायतीना आर्थिकदृष्टया स्वंयपुर्ण बनविण्याच्या दृष्टीने व्यापक तरतुद केल्यामुळे पुर्वीच्या आर्थिक विवंचनेतील ग्रामपंचायतीचे स्वरुप बदलले आहे. गेल्या २० वर्षात ग्रामपंचायती या ग्रामीण विकासाचे महत्वपुर्ण अधिकरणाच्या रुपात समोर आले आहेत. ग्रामपंचायतीची आर्थिक स्थिती सुधारण्यास मदत झाली आहे. वित आयोगाच्या तरतुदीमुळे राज्य सरकारकडून स्थानिक संस्थाना निधी मिळत आहे. परंतु वित्त आयोगाच्या शिफारशीची प्रभावीपणे अंमलबजावणी होत नसल्याची तक्रारही दिसून येते. त्याच बरोबर ग्रामपंचायतीना स्वत:च्या आर्थिक मिळकतीचा स्त्रोत कर जमा करण्याच्या अधिकारामुळे प्राप्त झाला आहे. परंतु त्यात अनियमितता व अनेक मर्यादा असल्याने त्यांचीही प्रभावीपणे अंमलबजावणी होणे गरजेचे आहे. एकंदरीत घटना दुरुस्ती नंतर २० वर्षाचा आलेख पाहता ग्रामपंचायतीसमोर आजही वित्तीय समस्या असल्यातरीही त्या २० वर्षा पुर्वी इतक्या गंभीर स्वरुपाच्या नाहीत. ७३व्या घटना दुरुस्तीमुळे ग्रामपंचायतीच्या वित्तीय व्यवस्थेत अनुकुल बदल होत आहेत. हे मात्र निश्चित आहे.

संदर्भ:

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दलित महिला चिंतन और बाबा साहब डॉ. आंम्बेडकर

नीरज: अन्वेषिका, इतिहास, जे.जे.टी. विश्वविद्यालय झंझनू, राजस्थान

डॉ.आंम्बेडकर ने दलित समाज की प्रगति के संदर्भ में एक टिप्पणी की थी— **दलित समाज ने कितनी प्रगति की है इसको मैं दलित स्त्री की प्रगति से तोलता हूँ।** यह टिप्पणी उन्होंने गंम्भीर और विचारोत्तजक स्त्रियों के संदर्भ में की थी। इस टिप्पणी से उनके द्वारा स्त्रियों के पक्ष में किये गये कार्यो का दलित एवं गैर दलित साहित्यकारों

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द्वारा केवल ऊपरी तौर पर वर्णन कर दिया जाता है परंतु उनमें यह गंभीर चेतना कहाँ से आई, उनके जीवन के इस सबसे महत्वपूर्ण पहलू को चर्चा रहित छोड़ दिया जाता है, डॉ.अम्बेडकर के सम्पूर्ण जीवन दर्शन पर बात करें तो यह अतिश्योक्ति पूर्ण कथन नहीं माना जा सकता है कि स्त्री और दलित स्त्री उनके व्यक्तित्व और दर्शन का अमिट हिस्सा है। यह स्त्री चेतना उनके परिवार, उनके आसपास या विदेश में किये उनके अध्ययन व तरह-तरह के आन्दोलनों में जुड़ने से आई।उनके स्त्री दर्शन के विकसित होने का मूलाधार परिवार की महिलाओं की उनके ऊपर पड़ने वाली अमिट छाप भी है।

डॉ.आंम्बेडकर के जीवन में कई ऐसी घटनाऐं घटित हुई जिन्होंने अम्बेडकर की जीवन को झकझोर दिया था। अम्बेडकर के जीवन पर परिवार की महिलाओं का पढ़ने वाले प्रभाव में उनकी माताजी और अपंग बुआ, व दोनों बड़ी बहनें तुलसी और मंजुला का महत्वपूर्ण स्थान है। इन सभी के अतिरिक्त उनकी धर्मपत्नी रमाबाई का सबसे महत्वपूर्ण स्थान है।

डॉ.अम्बेडकर जब मात्र छ: वर्ष के थे, तब उनकी माँ गुजर गई, माँ के अभाव में कटे दिन उनके मन में स्त्री जगत के लिए हमेशा-हमेशा के लिये महत्वपूर्ण स्थान बना गये। मां की मृत्यु के बाद साहब का पालन पोषण उनकी अपंग बुआ ने बड़े मनोयोग से किया। हालांकि वह शारीरिक अपंगता के चलते घर का कुछ भी काम नहीं कर सकती थीं। इसके अलावा मां कि ममता की थोड़ी बहुत जो कमी रही उसे डॉ.अम्बेडकर की दोनों बड़ी शादी-शुदा बहनों तुलसी और मंजुला ने पूरा किया।

बड़ी बहन तुलसी और बालक भीमराव के जीवन की बाल काटने की घटना का वर्णन (जब नाई द्वारा बाल काटने से मना करने पर बहिन तुलसी ने भीमराव के बाल काटे) अनेक पुस्तकों में मिलता है। भीमराव की पढ़ाई के खर्च के चलते पिता बार-बार अपनी बेटियों को दहेज में दिये गहनों को गिरवी रखकर जैसे तैसे भीमराव की पढ़ाई के खर्च के चलते जैसे तैसे भीमराव की पढ़ाई करवा रहे थे। जेवर गिरवी रखकर उस पैसे से भीम के लिए पुस्तक खरीदते फिर पेंशन मिलने पर वे धीरे-धीरे सारा पैसा पुत्रियों को वापस कर देते थे।

बहिनों और बुआ के प्यार ने अम्बेडकर को हमेशा के लिए स्त्रियों का मददगार बनाने में मदद की। बाद में उन्होंने अपने दाम्पत्य जीवन में पत्नी रमाबाई के असनीय दुखों और कष्टों को भी अनुभव किया। उन्होंने पास पड़ोस में गली बस्ती और देश में जगह जगह घूमते हुए स्त्रियों की दुर्दशा देखी थी इसलिए बचपन से ही जातिवाद के खिलाफ लड़ने के साथ साथ उनके मन में स्त्रियों के हित, उनके पारिवारिक, सामाजिक व धार्मिक शोषण के खिलाफ लड़ने की भावना जाग चुकी थी।

अम्बेडकर की धर्मपत्नी रमाबाई दलितों के महानायक डॉ. अम्बेडकर नामक विशाल वृक्ष की मजबूत जड़ थीं जो आंधी तूफानों से भरे संघर्षपूर्ण दिनों में उन्हें अविचल रुप से थामे मजबूती से खड़ी रहीं। रमाबाई के मूल बलिदान ने दलित आंदोलन में रक्त प्रवाह का कार्य किया है। रमाबाई और डॉ. अम्बेडकर का जीवन आदर्श दाम्पत्य जीवन तो नहीं पर समझदार पति पत्नी का जीवन तो अवश्य कहा जा सकता है। डॉ. अम्बेडकर के पढ़ने की लगन को अपने खून पसीने से एक कर, रात-दिन कमा कर, एकांकी जीवन जीते हुए, उपले पाथते हुए, रात दिन घर में रहते हुए वह रमाबाई हीं थीं; जिन्होंने डॉ. अम्बेडकर के अन्दर ज्ञान की कभी न मिटने वाली प्यास को धनाभाव के कारण बुझने नहीं दिया। जिस समय रमाबाई का विवाह हुआ उस समय रमाबाई को पढ़ाया, रमाबाई ने भी उतनी ही लगन और ईमानदारी

सक पढ़ना लिखना सीखा। रमाबाई अपने अथक प्रयासों एवं परिश्रम से डॉ. अम्बेडकर के मुक्ति संघर्ष में जुड़ी रहीं। डॉ. अम्बेडकर उन्हें दलित समाज की सभाओं और विशेषकर दलित महिलाओं की सभा में अवश्य ले जाया करते थे। २९ जनवरी १९२८ को मुम्बई में रमाबाई को दलित महिलाओं की परिषद में अध्यक्ष पद के लिए चुना गया और उन्होंने अध्यक्ष पद को बड़ी वखूबी से निभाया।

जिस समय अम्बेडकर विदेश में पढ़ाई कर रहे थे उस दौरान डॉ. अम्बेडकर ने वहाँ के स्वतंत्र जीवन में स्त्रियों को चहुँमुखी विकास करते देखा तो उन्हें समझ में आया कि बिना स्त्री शिक्षा के कोई भी प्रगति अधूरी है। इससे भी उनकी स्त्री चेतना को धार मिली। १९१३ में न्यूयार्क में पढ़ते हुए डॉ. अम्बेडकर ने अपने पिता के मित्र को पत्र का जवाब देते हुए पत्र में लिखा कि **यह गलत है कि मां बाप बच्चों को जन्म देते है कर्म नहीं देते, मां बाप बच्चों के जीवन को उचित मोड़ दे सकते हैं, यह बात अपने मन पर अंकित कर यदि हम लोग अपने लड़को की शिक्षा के साथ ही लड़कियों की शिक्षा के लिए भी प्रयास करें तो हमारे समाज की उन्नति तीव्र होगी, इसलिए आपको नजदीकी रिश्तेदारों में यह विचार तेजी से फैलाना चाहिये।**

परिवार में दलित महिलाओं की स्थिती कैसी होनी चाहिये?

डॉ. अम्बेडकर एक मात्र ऐसे विश्व स्तरीय चिन्तक है जिन्होंने परिवार और समाज में स्त्री की स्थिती कैसी हो? पर गहन चिंन्तन और मनन किया है। दोनों जगत यानि घर और समाज में नारी की दयनीय स्थिति देखकर उन्होंने इस विषय पर खूब सोचा कि भारतीय स्त्री की स्थिति में क्रान्तिकारी परिवर्तन कैसे आये, डॉ. अम्बेडकर का मानना था कि स्त्री तथा समाज की उन्नति शिक्षा के बिना नहीं हो सकती, उन्हें विश्वास था कि शिक्षित होकर ही स्त्री अपने अधिकारों को छीन सकती है। विदेशों में उन्होंने स्त्रियों को स्वस्थ वातावरण में पढ़ते-लिखते व उनकी प्रतिभा को विकसित होते देखा था, परन्तु भारत में हिन्दु स्त्री अनेक प्रकार की रुढ़ियों, अंध विश्वासों व सामाजिक बंधनों में जकड़ी थी। हिन्दू स्त्री में दलित स्त्री की हालत और भी सोचनीय थी। डॉ. अम्बेडकर का मानना था कि परिवार में स्त्री शिक्षा ही वास्तविक प्रगति की धुरी है। स्त्री शिक्षा को डॉ. अम्बेडकर अत्यधिक महत्व देते हुए कहते हैं -**अगर घर में एक पुरुष पढ़ता है तो केवल वही पढ़ता है और यदि घर में स्त्री पढ़ती है तो पूरा परिवार पढ़ता है।**

साहित्य अध्ययन के दौरान डॉ. अम्बेडकर के सामने बुध्द थेरियों से लेकर सावित्री बाई फुले व उनकी कई महिला मित्र थीं जिन्होंने पढ़ लिख कर सामाजिक परिवर्तन के लिये कार्य किया इसलिए डॉ. अम्बेडकर दलित स्त्री को शिक्षित करने के लिए प्रतिबध्द थे। परिवार में स्त्री की स्थिति को सुदृढ़ करने के लिए डॉ. अम्बेडकर ने शिक्षा के महत्व के साथ साथ सामाजिक कुरुतियों जैसे बाल विवाह, बहु पत्निवाद, देवदासी प्रथा आदि के खिलाफ भी अपनी जन सभाओं में बात रखी,उन्होंने दलित परिवारों से अनुरोध किया कि वे अपने बच्चों की खासकर लड़कियों की शादी बचपन में ना करें। स्त्रियों की समानता और स्वतंत्रता के संदर्भ में डॉ. अम्बेडकर वाकी चिन्तकों व समाज सुधारकों से काफी आगे की समझ रखते थे। अन्य समाज सुधारक जहां नारी शिक्षा को परिवार की उन्नति व आदर्श, मातृत्व को संभालने या नारी की स्त्रियोचित गुणों के कारण ही उसकी उपयोगिता पर बल देते थे, परन्तु नारी भी मनुष्य है उसके भी अन्य मनुष्यों के समान अधिकार हैं इस बात को स्वीकार करने में हिचकिचाते थे। उसकी इस मानवीय गरिमा को सर्वप्रथम आधुनिक युग में डॉ. अम्बेडकर ने ही स्थापित किया। वे चाहते थे कि पत्नी की स्थिती घर में दासी जैसी न होकर बराबरी की हो। विवाह के सम्बन्ध में डॉ. अम्बेडकर कहते हैं -**शादी एक महत्वपूर्ण जबाबदारी है**

शादी करने वाली हर औरत को उसके पक्ष में खड़ा रहना चाहिये लेकिन उसको दासी नही बल्कि बराबरी के नाते या मित्र के तौर पर यदि ऐसा करोगी तो अपने साथ समाज का भी अभ्युदय करोगी और अपना सम्मान बढ़ाओगी, इस हेतु सभी स्त्रियों को पुरुष के बराबर हिस्सेदारी कर खुद को शासक की जमात बनाने हेतु प्रयास करना चाहिये।

दलित महिला प्रगति और डॉ. अम्बेडकर :-

डॉ. अम्बेडकर का काल दलित महिलाओं की अपनी व समाज की स्वतंत्रता, समानता को लेकर की गयी सक्रिय व संघर्षपूर्ण भागीदारी का स्वर्णकाल है। डॉ. अम्बेडकर के समय में चलते दलित आन्दोलन में लाखों -लाख शिक्षित अशिक्षित घरेलू, गरीब, मजदूर, किसान, दलित शोषित महिलायें जुड़ी। उन्होंने जिस निर्भीकता और बेबाकी, उत्साह से दलित आंदोलन में भागीदारी निभाई वह अभूतपूर्व थी। दलित महिला आन्दोलन और डॉ. अम्बेडकर के साथ महिला आन्दोलन की शुरुआत १९२० से मान सकते हैं। १९२० में **भारतीय बहिष्कृत परिषद** की सभा कोल्हापूर नरेश छत्रपति शाहू ती महाराज की अध्यक्षता में सम्पन्न हुई। इस सभा में पहली बार दलित महिलाओं ने हिस्सा लेकर अपनी सक्रिय भूमिका निभाई। इसके बाद २० जुलाई १९२४ को मुम्बई में आयोजित बहिष्कृत हितकारिणी सभा की स्थापना की गयी। इस सभा की स्थापना का मुख्य उद्देश्य अस्पृश्यता के खिलाफ जंग छेड़ने के अलावा दलित वस्तियों में स्कूल व छात्रावास खोलने सम्बन्धी प्रयास कर दलित समाज में जागृति व चेतना पैदा करना था।

१९२४ में ही उच्च शिक्षित दलित महिला जाईवाई चौधरी जो बाद में सशक्त महिला नेता के रुप में स्थापित हुई, उन्होंने सन १९२४ में **चोखा मेला कन्या पाठशाला** प्रारम्भ की। वह खुद घर व समाज का तीव्र विरोध कर पढ़ पाई थी और शिक्षिका बनीं। १९२० से लेकर १९२४ तक दलित महिला आंदोलन अपनी मंथर गति से चलता हुआ स्त्री शिक्षा और अस्पृश्यता के मुद्दे पर समाज का ध्यान खींचता रहा। सन १९२७ का साल दलित आंदोलन के साथ-साथ दलित महिला आन्दोलन के लिए भी अत्यंत महत्वपूर्ण था। सन १९२७ के अन्त में बाबा साहब द्वारा चलाये गये **महाड़ सत्याग्रह** की परिणति **मनुस्मृति दहन** और **चावदार तालाब का पानी पीने** से हुई।

पहली घटना पानी की थी इसके लिए दलित स्त्रियाँ रोज रोज बेइज्जती सहती थीं। दूसरी मनुस्मृती जिसके कारण स्त्री का जीवन नरक हो गया था। पानी का दलित महिलाओं द्वारा उपयोग होना व मनु के विधान को जलाया जाना इन दोनों घटनाओं ने दलित महिलाओं के मानसिक, वैचारिक, बौध्दिक और सामाजिक रुप में उनके जीवन की कायापलट ही कर दी। मनुस्मृति दहन के कारण एक तो बाबा साहब स्त्रियों के सबसे बड़े हितैषी कहलाए, दूसरे वे हितैषी होने के साथ दलित महिला आंदोलन के वैचारिक महानायक की पदवी पर हमेशा हमेशा लिए आसीन हो गये। २५ सितम्बर १९२७ को चावदार तालाब के महान सत्याग्रह के ऐतिहासिक सम्मेलन में ढ़ाई हजार दलित औरतों ने मनुस्मृति दहन में शामिल होकर हिन्दू धर्म के स्त्री विरोधी कानून को मानने से इन्कार कर दिया। इसी सभा मे दलित महिलाओं की भारी संख्या में उपस्थिती देखकर डॉ. अम्बेडकरने उपके पक्ष में अपना ऐतिहासिक भाषण दिया। बाबा साहब ने कहा **स्त्रियों को गृहलक्ष्मी ही क्यों होना चाहिये? मन में ऊँची महत्वाकांक्षा रखो, ज्ञान और विधा पर केवल पुरुषों का ही अधिकार नहीं है, वह स्त्रियों के लिए भी अति आवश्यक है। यदि आपको आगे की पुश्तें सुधारनी है तो तुम्हें लड़कों के साथ साथ लड़कियों को भी शिक्षा देनी होगी। घर में पति अगर मरे हुए जानवर का मांस लाये तो उससे कहो कि यह सब मेरे घर में नही चलेगा। गली में इतनी वजनी मालायें और हाथों में**

कोहनी तक के कड़े और कंगन यह सब तुम्हें अस्पृश्य करके पहिचानने की निशानी है। इस ऐतिहासिक भाषण का दलित महिलाओं पर इतनी तीव्रता से असर हुआ कि उन्होंने उसी सभा में हाथ तक भरे कड़े व गले में बड़ी वजनी मालाएँ उतार दी और सभा में उपस्थिति सौभाग्य सहस्त्र बुध्दे व रमाबाई अम्बेडकर से दलित महिलाओं ने समाज की अन्य वर्ग की महिलाओं की तह साड़ी पहनना सीख लिया। १९२७ में दिये गये अम्बेडकर के ऐतिहासिक भाषण ने महिलाओं में आत्मविश्वास भर दिया।

दलित महिलाओं की स्थिति केवल अपने घरों में ही खराब नहीं थी अपितु फैक्ट्रियों और खेत खलिहानों में तो उनको मजदूर तक नहीं माना जाता था। गर्भावस्था की हालात में उन्हें नौकरी से निकाल दिया जाता था, उनको पूरा वेतन नहीं मिलता था, कार्य के घण्टे भी उनके लिए निश्चित नहीं थें।

२२ जुलाई १९२८ को मुम्बई विधान परिषद में कारखाना व अन्य सरकारी/गैर सरकारी संस्थानों में कार्यरत मजदूर महिलाओं के पक्ष में प्रसूति अवकाश सुविधा संबंधी बिल पर अपना सशक्त विचार रखते हुए महिलाओं को प्रसूति अवकाश व इस दौरान पूरा वेतन देने की पुरजोर वकालत की।

महिला अधिकारों की रक्षा के लिए १९२८ में मुम्बई में **महिला मण्डल** की स्थापना की गयी और महिला मण्डल की प्रथम अध्यक्ष डॉ.अम्बेडकर की पत्नी रमाबाई को चुना गया। महिला मण्डल ने पूना के पार्वती मंदिर में प्रवेश के लिए संघर्षपूर्ण सत्याग्रह किया। १२ अक्टूबर १९२९ को डॉ. अम्बेडकर और दलित महिला नेता तानुबाई के नेतृत्व में जब हजारों दलित और दलित महिलाएँ एक जुलूस की शक्ल में मंदिर प्रवेश करने लगी तो सवर्णों ने इन पर लाठी, डण्डा और पत्थरों से हमला कर दिया जिससे दलित समाज के अनेक स्त्री व पुरुष घायल हुए। इस आंदोलन में शामिल होने वाली महिलाओं की संख्या महाड़ सत्याग्रह से भी अधिक थी।

१९३० से १९३४ तक के काल को बाबा साहब और दलित महिला आंदोलन के लिए उपलब्धि भरा काल कहा जा सकता है। इस कालावधि में कई अभूतपूर्व घटनाऐं घटीं। एक तरफ तो नासिक के कालाराम मंदिर प्रवेश का आन्दोलन २ मार्च १९३० से लेकर १९३४ तक लगातार चार साल चला। इस आंदोलन में महाराष्ट्र, गुजरात, कर्नाटक और अन्य राज्यों व देशों के विभिन्न भागों से १० हजार से अधिक महिला पुरुष सत्याग्रह में शामिल हुए। दूसरे इन सत्याग्रहियों की पूरी देखभाल जैसे खाने-पीने, ठहरने आदि का इन्तजाम पहली बार दलित महिलाओं ने जिस निष्ठा और मेहनत से किया वह अपने आप में एक मिशाल है। इस आंदोलन के द्वारा दलित महिलाओं की चेतना प्रखर रुप में विकसित हो गयी थी इसको समझने के लिए एक उदाहरण लिया जा सकता है। जब १ अप्रैल १९३० को मंदिर प्रवेश के दौरान पुजारी द्वारा दलित महिलाओं को पीछें धक्का देने पर एक दलित महिला ने उस पुजारी के मुंह पर सनसनाता थप्पड़ रसीद कर दिया। इस आंदोलन में अंतत: डॉ.अम्बेडकर और उनकी महिला साथियों की जीत हुई।

१९३० में बाबा साहब ने नागपुर में **अखिल भारतीय अनुसूचित जाति संघ** की स्थापना की और उसी वर्ष दलित महिला परिषद भी आयोजित की। इस सभा में दस हजार से अधिक महिलाओं ने हिस्सा लिया था। पहले और दूसरे गोलमेज सम्मेलन में पृथक निर्वाचन क्षेत्र और पृथक प्रतिनिधित्व के सवाल पर बाबा साहब ने दलित हितों की जोरदार वकालत की। उस समय कांग्रेस और मिड़िया द्वारा डॉ.अम्बेडकर और दलित महिला पुरुष कार्यकर्ताओं एवं पूरे समाज के प्रति घृणा का भाव पैदा कर दिया गया था। परन्तु उस घृणापरक और हिंसात्मक माहौल में भी दलित

महिलाऐं डॉ.अम्बेडकर के समर्थन में सभाएँ करती रहीं। १४ अगस्त १९३१ को सर कौबजी जांगीर हाल में महिलाओं ने राउण्ड टेविल कांफ्रेंस में भाग लेने के लिए डॉ.अम्बेडकर के प्रस्थान से पूर्व संध्या पर एक विदाई समारोह आयोजित किया। एक वृध्द महिला को संम्बोधित करते हुए डॉ.अम्बेडकर कहा, **यदि तुम अपनी गुलामी को समूल उखाड़ फेंकने के लिए दृढ़ संकल्प हो तथा उसके लिए कटिबध्द हो, तो इस जिम्मेदारी के काम में समर्थ होने पर जो भी श्रेय और सफलता प्राप्त होगी वह सब तुम्हारी होगी** बाबा साहब के गोलमेज सम्मेलन में से वापस आने पर १९३२ में कामठी में हुई परिषद भी काफी महिला कार्यकर्ता शामिल हुई।

सन् १९३५ का साल दलित आंदोलन का महत्वपूर्ण साल में गिना जाता है। १९३५ में बाबा साहब ने हिन्दु कट्टरपंथियों की तानाशाही और उनके छुआछूत भरे व्यवहार की घोषणा की। धर्म परिवर्तन की घोषणा से जहां एक और तीखी प्रतिक्रिया हुई वहीं दूसरी ओर धर्मपरिवर्तन के इच्छुक लोगों की जगह जगह सभाऐं होनी लगी।

१६ जून १९३६ में धर्म परिवर्तन पर व्याख्यानों की श्रंखला में बम्बई के दामोदर हाल में बाबा साहब के व्याख्यान को सुनने के लिए लोगों का हुजूम उमड़ पड़ा । इस सभा मे काफी संख्या में जोगिनों और वैश्याओं ने भाग लिया। वे भी हिन्दु धर्म की गंदगी और गजालत से परेशान थी और उससे मुक्ति की इच्छुक थी। डॉ.अम्बेडकर ने उनसे स्वेच्छा से स्त्री मुक्ति आन्दोलन में जुड़ने की अपील की। डॉ.अम्बेडकर ने कहा, **अपनी गृहणी अच्छे परिवार से आए ऐसी आशा सभी रखते हैं किन्तु जब तक उनके लिए स्वच्छ परिवारों का निर्माण नहीं होगा तब तक अच्छी गृहणी का निर्माण नहीं होगा। नारी की उन्नति के साथ ही परिवार की उन्नति का प्रश्न जुड़ा हुआ है। अत: नारी के महत्व को स्वीकारा जाना चाहिये।**

इस सभा में बाबा साहब ने जोगिनों और वैश्याओं को साफ सुथरी जिंदगी गुजारने की प्रेरणा दी। बाबा साहब की प्रेरणा से कई दलित संगठनों ने अनेक जोगिनों और वैश्याओं के सामूहिक विवाह संम्पन्न कर उनके परिवार बसाये। १९३६ में ही बम्बई के पुरंदरे हाल में आयोजित महान परिषद में भागीरथी ताई और कुमारी रमाबाई ने बाबा साहब की धर्मान्तरण की घोषणा का खुले दिल से स्वागत करते हुए उनसे अपील की कि नये धर्म का चयन करते समय यह ध्यान रखा जाय की उस धर्म में स्त्री मुक्ति संदेश निहित है। भागीरथी ताई ने अपने भाषण में कहा - **धर्मान्तरण में हम डॉ.अम्बेडकर के साथ जरुर हैं पर नये धर्म पर्दा या गोशा रखने की प्रथा मंजूर नहीं है। जो धर्म हमें भाईयों के साथ स्वतंत्रता से रहने देगा हमें वही धर्म मंजूर होगा जिसमें शौर्य हो पर क्रूरता नहीं हो, जिसमें शिष्टता व योग्यता होगी, जो धर्म रुढ़ि पंरपराओं में बंधा नहीं हो, ऐसे धर्म में बाबा साहब हमें ले जायें।**

कुमारी रमाबाई गायकवाड़ ने धर्मान्तरण के सवाल पर बाबा साहब का पुरजोर समर्थन करते हुए कहा **''बाबा साहब ने अस्पृश्य वर्ण को सच्चा हक दिलाने के लिए लगातार संघर्ष किया है, उनके साथ ही हम भी धर्मान्तरण करेंगे। मैं बाबा साहब के धर्मान्तरण की घोषणा का स्वागत करती हूँ।''**

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