Chapter III

METHODOLOGY

In this chapter, the procedures followed towards the selection of subjects, experimental design and procedure, selection of variables, selection of tests, instrument reliability, orientation of testing personnel, calibration of instruments, collection of blood sample, estimation of biochemical variables, test administration of physiological variables, description of psychological tools, orientation of subjects, administration of questionnaire, training programme, collection of data and statistical techniques have been explained.

Selection of Subjects

In the present study, forty male students were selected at random by lot sampling technique, from Pope John Paul II College of Education, which is situated in the Union Territory of Pondicherry. Twenty male students were assigned as experimental group and another 20 male students were assigned as control group during the academic year 2007-2008. They were the students of B.A., B.Ed., B.Sc., B.Ed., and B.Com., B.Ed., Integrated Course and their age ranged from 18 to 23 years. All the students were directed to assemble in a multipurpose hall to seek their willingness, to act as subjects. The investigator explained to them the purpose, nature, importance of the experiment and the procedure to be employed to collect their blood sample. Further the role of the subjects during the experimentation and the testing procedure were also explained to them in detail. The physical conditions of the subjects were assessed by a qualified medical practitioner and all the subjects were healthy and normal. They were requested to co-operate and participate actively for the same.

Experimental Design and Procedure

The subjects selected for the present study were divided randomly into two equal groups called control and experimental, consisting of 20 male students in each group. 12 weeks of yogasanas, pranayama and meditation training were given to the
experimental group. The control group were not allowed to participate in any of the training programes, except their routine physical education classes.

Measurements for the variables were taken at the beginning (pre-test) and at the end of the experimental period, after twelve weeks (post-test) the data were collected for all the variables from both control and experimental groups, for five days. During this period the subject were not allowed to participate in any training.

**Selection of variables**

In the present study, the investigator referred different relevant literature and consulted with experts in biochemistry, physiology and psychology to identify most suitable variables. The variables selected are furnished below.

**Experimental Variables**

The experimental variables used in the present study were:

a) **Biochemical Variables**

i. Blood glucose

ii. Total cholesterol

iii. Triglycerides

iv. High density lipoprotein (HDL)

v. Low density lipoprotein (LDL)

vi. Very low density lipoprotein (VLDL)

b) **Physiological Variables**

i. Vital capacity

   a) Forced vital capacity (FVC)

   b) Forced expiratory volume in first second (FEV₁)

   c) Peak expiratory flow rate (PEFR)
ii. Blood Pressure

   a) Systolic blood pressure
   b) Diastolic blood pressure

iii. Pulse rate

iv. Rate pressure product

v. Respiratory pressure

   a) Maximum expiratory pressure
   b) Maximum inspiratory pressure
   c) Breath holding time

c) Psychological Variables

   i. Mental health
   ii. Self – concept
   iii. Personality

Selection of Tests

The test used to quantify the biochemical, physiological and psychological variables are given in table 1.
Table 1

Test for Biochemical, Physiological and Psychological Variable

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Variables</th>
<th>Method/Equipment/Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Biochemical Variables</strong></td>
<td></td>
</tr>
<tr>
<td>i.</td>
<td>Blood glucose</td>
<td>Computerized auto analyzer</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>RANDOX-IMOLA</strong></td>
</tr>
<tr>
<td>ii.</td>
<td>Total cholesterol</td>
<td>-do-</td>
</tr>
<tr>
<td>iii.</td>
<td>Triglycerides</td>
<td>-do-</td>
</tr>
<tr>
<td>iv.</td>
<td>High density lipoprotein</td>
<td>-do-</td>
</tr>
<tr>
<td>v.</td>
<td>Low density lipoprotein</td>
<td>-do-</td>
</tr>
<tr>
<td>vi.</td>
<td>Very low density lipoprotein</td>
<td>-do-</td>
</tr>
<tr>
<td></td>
<td><strong>Physiological Variables</strong></td>
<td></td>
</tr>
<tr>
<td>i.</td>
<td>Forced Vital Capacity (FVC)</td>
<td>Micro Spirometry</td>
</tr>
<tr>
<td>ii.</td>
<td>Forced expiratory volume in</td>
<td>-do-</td>
</tr>
<tr>
<td></td>
<td>first second (FEV\textsubscript{1})</td>
<td></td>
</tr>
<tr>
<td>iii.</td>
<td>Peak expiratory flow rate</td>
<td>-do-</td>
</tr>
<tr>
<td>iv.</td>
<td>Systolic blood pressure</td>
<td>Sphygmomanometer and Stethoscope</td>
</tr>
<tr>
<td>v.</td>
<td>Diastolic blood pressure</td>
<td>-do-</td>
</tr>
<tr>
<td>vi.</td>
<td>Pulse rate</td>
<td>Manual</td>
</tr>
<tr>
<td>vii.</td>
<td>Rate pressure product</td>
<td>RPP = HR X SP X 102</td>
</tr>
<tr>
<td>viii.</td>
<td>Maximum expiratory pressure</td>
<td>Mercury manometer</td>
</tr>
<tr>
<td>ix.</td>
<td>Maximum inspiratory pressure</td>
<td>-do-</td>
</tr>
<tr>
<td>x.</td>
<td>Breath holding time</td>
<td>Stop watch</td>
</tr>
<tr>
<td></td>
<td><strong>Psychological Variables</strong></td>
<td></td>
</tr>
<tr>
<td>i.</td>
<td>Mental health</td>
<td>Peter Becker</td>
</tr>
<tr>
<td>ii.</td>
<td>Self – concept</td>
<td>Muktha Rani Rastogi</td>
</tr>
<tr>
<td>iii.</td>
<td>Personality</td>
<td>Eysenck Personality Inventory</td>
</tr>
</tbody>
</table>
Instrument Reliability

The instruments like Computerized Pulmonary Function Spirometer, Mercury Manometer, Sphygmomanometer, Stethoscope, Forceps, Stop Watch, Nose Clip, Weighing Machine, Stadiometer and other instruments used for biochemical variables analysis were all manufactured by standard companies. The researcher conducted his research work in the Medical Research Institute laboratory, the instruments were standardized and reliable.

Orientation of the Subjects

The investigator was presented along with the subjects of control group and experimental group during the experimentation of both pre test and post test. The procedure for conducting the tests and the method of scoring were specifically explained as well as demonstrated by the investigator to enrich the tester’s reliability. The biochemical and physiological variables were measured in Biochemistry and Physiology departments of Jawaharlal Institute of Postgraduate Medical Education and Research (JIPMER), laboratory respectively which is situated at Puducherry.

Calibration of Instruments

All equipments and reagents were purchased from standard companies and they were maintained in good condition and calibrated daily.

The blood samples were analyzed in the clinical laboratory of biochemistry, JIPMER, Puducherry. For the biochemical parameter estimation autoanalyser and respective reagents for each parameters were used. Further the physiological variables were tested in the research laboratory of Department of Physiology, JIPMER, Puducherry. Sophisticated and computerized equipments were used to assess the physiological variables.

Collection of Blood Sample

Five milliliter of venous blood was collected from each subject, through venipuncture by using disposable syringes. Then the blood was allowed to clot for 20-30 minutes and the serum was separated by centrifuging 3000 rpm for 10 minutes.
All the chosen biochemical variables were estimated by using serum in computerized auto analyser RANDOX-IMOLA.

The auto analyser has two trays namely sample and reagent tray. Approximately 400 samples could be analysed at a time for different parameters. It aspirates the serum from the sample tray and simultaneously it aspirates the corresponding reagent based on the program. It performs the analysis and the results will be displayed in the computer screen.

**Estimation of Biochemical Variables**

**Estimation of Blood Glucose (GOD/POD Method)**

**Method**

Glucose estimation was based on trinders method in which glucose oxidase (GOD) and Peroxidase (POD) enzymes were used along with the chromogen 4–aminoantipyrine and phenol. The method was one step, simple and rapid.

Glucose was oxidized by the enzyme GOD to give D-gluconic acid and hydrogen peroxide. Hydrogen peroxide in the presence of the enzyme POD Oxidizes Phenol, which combined with 4-Amino- antipyrine to produce a red colored Quinoneimine Dye. The intensity of the color produced was proportional to glucose concentration in the sample – 556λ₁.

**Reagents used**

Enzyme reagent: GOD and POD

**Calculation**

\[
\text{Glucose Concentration in mg %} = \left( \frac{A \text{ of (T)}}{A \text{ of (S)}} \right) \times 100
\]

\[
S/ \text{ Conversion factor} = \text{mmol/l} = \text{mg %} \times 0.0555
\]
Estimation of Cholesterol. (Enzymatic Calorimetric Test (CHOD-PAP))

Method

Cholesterol and its esters were released from lipoproteins by detergents. Cholesterol esterase hydrolized the esters and H2 O2 was formed in the subsequent enzymatic oxidation of cholesterol – by – cholesterol oxidase².

Reagents used

- a. Pipes buffer, PH.6.9 : 90 mmo1/l
- b. Phenol : 26 mmo1/l
- c. Cholesterol oxidase : 200 U/l
- d. Cholesterol esterase : 300 U/l
- e. Peroxidase : 1250 U/l
- f. 4 – Aminoantipyrine : 0.4 mmo1/l
- g. Cholesterol : 200mg/dl or 5.17 mmo1/l

Calculation

\[ \frac{\Delta A_{\text{sample}}}{\Delta A_{\text{standard}}} \times \text{Standard Conc.} = \frac{\text{Cholesterol}}{\text{Conc}} \]

Standard Concentration : 200mg / dl or 5.14 mmo1/l
Estimation of Triglycerides (Tg). (Enzymatic Colorimetric Test (GPO-PAP))

Method

The Triglycerides were enzymatically hydrolyzed to glycerol$^3$.

Reagent used

a. Pipes buffer, PH : 7.250 mmo1/l1

b. P. Cholorophenole : 2 mmo1/l1

c. Lipoprotein lipase : 150000 U/l1

d. Glycerokinase : 800 U/l1

e. Glycerol-3-P-oxindase : 4000 U/l1

f. Peroxidase : 440 U/l1

g. 4 – Aminoantipyrine : 0.7mmo1/l1

h. ATP : 0.3mo1/l1

i. Glycerol equivalent to a
   Concentration of : 200mg/d1/ or 5.14 mmo1/l1

Calculation

\[
\frac{\Delta A \text{ sample}}{\Delta A \text{ standard}} \times \text{Standard Conc.} = \text{Triglyceride Conc.}
\]

Standard Concentration: 200mg / d1/ or 5.14 mmo1/l1
Estimation of High Density of Lipoproteins (HDL)

(HDL-Cholesterol Precipitating Reagent PEG-PAP method)

Method

The Chylomicrons, very low-density lipoprotein and low-density lipoprotein were precipitated by addition of phosphotungstic acid and magnesium chloride. After configuration the supernatant fluid contained the high-density lipoprotein fraction, which was assessed for high-density lipoprotein cholesterol with the cholesterol reagent.

Reagents Used

a. Phospholtungstate : 0.3 ml
b. Magnesium chloride : 0.3 ml
c. Pipes buffer, PH6.9 : 90 mmol/l
d. Phenol : 26 mmol/l
e. Cholesterol oxidase : 200 u/l
f. Cholesterol esterase : 300 U/l
g. Peroxidase : 1250 U/l
h. 4- Aminoantipyride : 0.4 mmol/l
i. Cholesterol : 200 mg/dl

Calculation

Abs (T) x N x 2 Where, N = 50

Abs (S) x 2 = Dilution factor of the sample
Estimation of Low Density Lipoprotein (LDL)

Method

Low-density lipoproteins is calculated by using Fredwoal’s formula from triglycerides, HDL and VLDL. The calculated parameters are as follows:\(^5\).

\[
LDL = \text{Total Cholesterol} - \text{HDL} - \left(\frac{Tg}{5}\right)
\]

or

\[
LDL = \text{Total Cholesterol} - (\text{HDL} + \text{VLDL})
\]

Estimation of Very Low Density Lipoproteins (VLDL)

Method

Very low density lipoproteins is calculated from triglycerides (enzymatic\(^6\) Colorimetric test, GPO-PAD). The calculated parameters are given below.

Formula: \[
\text{VLDL} = \text{Triglycerides} - \left(\frac{Tg}{5}\right)
\]
1. Analysing of Biochemical Variables in serum by Computerised fully automated clinical Autoanalyser - Randox-IMOLA – BT294 QY UK - 2008. (Discrete Randox Access Analyser – Open Type)\(^7\).

Test Administration of Physiological Variables

**Vital Capacity**

**Purpose:** To assess the Forced Vital Capacity (FVC), Forced Expiratory Volume in First Second (FEV\(_1\)), Peak Expiratory Flow Rate (PEFR) of the lung.

**Equipment used:** Micro spirometer, Disposable cardboard moth pieces, sprit and cotton.

**Procedure:** The subject was asked to sit comfortably on the chair and to take a maximum inspiration away from the spirometer. Then he was asked to hold the mouthpiece between the lips to create a good seal and expire as fast and as hard as possible for as long as possible until no breath was left.
Once again he was asked to hold the mouth piece between the lips to create a good seal and breath in and out for 2-3 tidal breaths. Then to inhale rapidly to maximum capacity. Expire as fast and as hard as possible for as long as possible until no breath was left.

The subject had to be encouraged continuously to ensure the best effort. For an acceptable test, the effort should be maximal smooth and cough free and exhalation time at least 6 seconds. Each manoeuvre had to be performed thrice and the best value out of the three was noted. Before going to the next subject, the disposable mouth piece was to be changed. When the subject was ready to blow out, the unit had to be switched on and reset using the Reset switch.

**Scoring:** Forced vital capacity, Forced expiratory volume first second and peak expiratory flow rate values were to be immediately observed from spirometer. Values from the best of three similar readings were then taken.

**Figure - IV**

**Recording of Physiological Variables by using Computerized Pulmonary Function Tests (Spirometer) made in England - 2004.**

![Spirometer Image]
Blood Pressure

**Purpose:** To measure the systolic pressure (SP), diastolic pressure (DP), and Rate pressure product (RPP) of the subject.

**Equipment used:** A standardized sphygmomanometer and a stethoscope.

**Procedure:** The subject was asked to sit comfortably on the chair before the measurement was taken. The cuff of the sphygmomanometer was wrapped around the arm evenly with the lower edge approximately one inch above the anticubital space. It was made sure that the stethoscope was making in firm contact with the skin. The cuff was inflated until the artery was fully collapsed to the extent that no arterial pulse could be heard. The cuff pressure was then slowly released as the investigator watched the gauge. When sound of the blood flow (Korotko sound) became audible the reading in millimeters of mercury (mm of Hg) at that instant was recorded as the systolic pressure.
The pressure was further released gradually as the sound of the pulse changed in intensity and quality. The index of the diastolic pressure was noted in mm of Hg, when the heart beat sound completely ceased.

**Scoring:** Systolic pressure (SP) was applied by means of the pressure ball, and with the left hand palpating the pulse, the pressure was continued for about a further 10 mm Hg, above the point of pulse disappearance. The stethoscope was applied to the brachial artery and releasing the pressure in the rubber compressor bag slowly and evenly by means of slight movement of the release screw of the control value, care was taken to listen intently for the blood flow sounds.

**Diastolic Pressure (DP):** The process was continued to release the pressure and the tone and volume of the sounds changed and finally disappeared in a faint murmur.

**Rate Pressure Product (RPP):** Rate pressure product was calculated as the product of heart rate (HR) and systolic pressure (SP) was divided by 100 (RPP = HR \times SP \times 10).
Respiratory Pressure

**Purpose:** To assess the maximum expiratory pressure, and maximum inspiratory pressure of maintaining breath hold.

**Equipment used:** Mercury manometer, sprit, cotton, forceps and stop watch.

**Procedure:** The subject was asked to sit on a chair comfortably and the equipment height was adjusted to the subject head level. Maximum expiratory pressure was determined by asking the subjects to blow against a mercury column after taking in a full breath. (i.e to TLC) and to maintain to column at the maximum level for about 2 seconds.

Maximum inspiratory pressure was determined by asking the subject to perform maximal inspiratory effort against the mercury column after breathing out fully (i.e to RV). The maximum inspiratory pressure that could be maintained for about 2 seconds was noted. The lips were secured tightly around the mouth piece with the help of fingers to ensure that there was no leak. Care was taken to see that the subject did not use oral muscles or tongue to develop pressure or to block the tubing. The mouth piece made of glass helped us to observe that the subject performed the maneuver properly.

**Scoring:** Maximum expiratory pressure, Maximum inspiratory pressure of maintaining breath holding values were recorded three times for each subject. The values were taken from the best of three similar readings.
Recording of Respiratory pressure by using Mercury Manometer (Maximum Expiratory pressure and Maximum Inspiratory pressure)

**Purpose:** To assess the breath holding capacity of the subject

**Equipment:** Nose clip and a stop watch

**Procedure:** The subject was asked to sit comfortably on the chair, while assessing the breath holding time. The left arm was to be kept on the right side of the chest and then the subject was asked to take a deep breath (Inhale) and the nose clip was applied tightly on the nose and lips were tightly closed and there should not be any leakage of air from the mouth as well as from the nose (inhale or exhale). The subject was told to maintain the breath holding as long as he could. If he felt it difficult to
maintain the breath holding, immediately he was asked to take the hand from the chest. The time in seconds up to which the subject breath holding time was taken for consideration.

**Scoring:** Breath holding capacity was recorded with the help of a stop watch three times for each subject. The values were taken from the best for three similar readings.

**Figure - VIII**

*Recording of Breath Holding Time by using a Stop Watch and a Nose Clip*
Test Administration of Psychological Variables

1. Trier Personality Inventory for Mental Health

Description

The Trier Personality inventory was devised by Peter Becker and it was used to assess mental health of the subjects. The Trier Personality Inventory contains 120 statements and these statements were categorized into 9 sub-areas. Among these nine sub-areas, one of them was mental health. In Trier Personality Inventory there was a section containing 20 statements to assess the mental health. These statements were given in a jumbled order and they include both positive and negative statements. These 20 statements were selected separately and these statements constituted the Trier Mental Health Inventory (TMHI) for the purpose of this investigation. This was a four Point scale and each statement had four alternative responses namely; ‘Always’, ‘Often’ ‘Sometimes’, and ‘Never’.

The reliability of the Inventory by the test-retest method was found to be 0.83. Since the reliability value was high, the inventory in its original form was made use of in this investigation. A copy of the inventory was given in the appendix VII.

Scoring

For the positive statements the four answers were given a weightage of 4 to 1 respectively for ‘Always’, ‘Often’, ‘Sometimes’ and ‘Never’. For the negative statements the reverse order was followed from 1 to 4, which is given below.

<table>
<thead>
<tr>
<th>Category</th>
<th>Scoring key (value)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Positive Statement</td>
</tr>
<tr>
<td>Always</td>
<td>4</td>
</tr>
<tr>
<td>Often</td>
<td>3</td>
</tr>
<tr>
<td>Sometimes</td>
<td>2</td>
</tr>
<tr>
<td>Never</td>
<td>1</td>
</tr>
</tbody>
</table>

The inventory yielded a maximum score of 80 and a minimum score of 20. A high score indicates a relatively high mental health.
2. Mukta Rani Rastogi Inventory for Self-Concept

Description of the scale

The self-concept scale which was constructed and standardized by Dr. (Miss) Mukta Rani Rastogi was used to assess the self concept of the subjects. It consisted of 51 statements and these statements were given in a jumbled order and they included both positive and negative statements.

The positive statements are 1, 2, 4, 6, 7, 8, 9, 18, 20, 22, 25, 27, 34, 36, 37, 40, 42, 43, 44, 46, 47, 48, 49 and the negative statements are 3, 5, 10, 11, 12, 13, 14, 15, 16, 17, 19, 21, 23, 24, 26, 28, 29, 30, 31, 32, 33, 35, 38, 39, 41, 45, 50, 51. Each statement has five responses namely ‘Strongly agree’, ‘Agree’, ‘Undecided’, ‘Disagree’, ‘Strongly Disagree’. The subject had to put a tick mark (✓) for any of the five responses that fits them best. Reliability was computed by using test and retest method. The reliability obtained was 0.85. Hence, the test in its original form was made use of in this study. A copy of the questionnaire is given in the appendix VIII.

Method of Scoring

For the positive statements, the five responses were given a weight age of 5, 4, 3, 2, 1 respectively for the ‘Strongly Agree’, ‘Agree’, ‘Undecided’, ‘Disagree’, ‘Strongly Disagree’. For the negative statements, the reverse order was followed 1 to 5\textsuperscript{10} which was given below

<table>
<thead>
<tr>
<th>Category</th>
<th>Scoring key (value)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Positive Statement</td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>5</td>
</tr>
<tr>
<td>Agree</td>
<td>4</td>
</tr>
<tr>
<td>Undecided</td>
<td>3</td>
</tr>
<tr>
<td>Disagree</td>
<td>2</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>1</td>
</tr>
</tbody>
</table>
3. Eysenck’s Personality Inventory for Personality Dimensions

Eysenck’s Personality inventory (EPI) Questionnaire was administered to all the subjects to measure the personality dimensions.

Test Administration

The Eysenck’s personality Inventory\textsuperscript{11} was developed to describe two major patterns of psychological behaviour. The age ranged from grade eighteen to twenty three (18 – 23). These two dimensions were extroversion, Introversion (E – Scale) and Neuroticism stability (N- Scale). The inventory consists of 57 Yes or No responses with a scale Test – retest reliabilities ranged from .80 to .97.

The subjects were administered the EPI – Questionnaire with 57 test items. The investigator conducted only the E – Scale item (24 Questions). A copy of the questionnaire is given in the appendix IX.

Scoring

For those with E – score below 8, they considered as the introvert group while those scoring above 17 formed the extrovert group, and those scoring between 8 and 16 formed the ambivert group. Those scored more than 6 in the lie scale were not selected for this investigation.

Orientation of Subjects

Before administering the psychological questionnaire, the investigator briefly explained the purpose of the study and their role in data collection to all the subjects. All the subjects were motivated to give relevant personal data and to co-operate to complete the psychological questionnaire.

Administration of Questionnaire

The investigator met the principal of Pope John Paul II College of Education in Puducherry region and obtained permission to collect data from the students. As per the instruction given by the principal, the investigator met the directors of physical education and the students and fixed the date and time for data collection. The
investigator distributed the questionnaire to the subjects along with sharpened pencils for marking the responses. The subjects went through the instructions, read each statement carefully and indicated their responses. All the questionnaires were administered by the researcher in person in a face to face relationship. Data was collected as per the programme fixed. All the filled in questionnaires were collected from the subjects and scored according to the scoring key. The total scores obtained were tabulated and statistically treated to arrive at meaningful conclusions.

**Training Program**

During the training period, the experimental group underwent their respective training programme five days a week for 12 weeks in addition to their regular physical education activities. On the training days, practices lasted in the morning from 6.30 to 7.30 A.M. approximately. The control group did not participate in any specific training. However, they performed regular physical education activities. A copy of the training programme was given in the appendix X.

**Figure - IX**

*The subject is performing the Halasana*
Figure - X
The subject is performing the Mayurasana

Figure - XI
The subject is performing the Nadi Sodhana Pranayama
Figure- XII
The subject is performing the Bhramari Pranayama

Figure -XIII
The subject is performing the AUM Meditation
Collection of Data

The pre test data on biochemical, physiological and psychological variables from both control and experimental groups were collected as per the method prescribed above. The twelve weeks of select yogasanas, pranayama and meditation training programme were given in a systematic way only for the experimental group. The control group was not allowed to participate in any of the training programme. Much care was taken to administer during the physiological and biochemical variables. The identical conditions were kept by using the same apparatus, testing personnel and testing procedures. Prior to the twelve weeks of yoga training, preprandial blood test was conducted for the both groups. The pre test was administered one day before the training programme and the post test blood samples were drawn from both groups after the completion of the yoga training with a gap of 48 hours. Psychological data were collected by using the psychological questionnaire. Pre test data were collected one day before the training programme and the post test data one day after the training programme in two batches for two days in the evening.

Statistical Technique

The data collected from the two groups on the selected Biochemical, Physiological and Psychological variables were used for the statistical treatment to find out whether or not there was any significant difference between the two groups by the analysis of covariance (ANCOVA) method. The level of significance was fixed at 0.05 level of confidence. All the statistical calculation was carried out using SPSS, 11.05 packages.
REFERENCES


6. Ibid.


