Indian Journal of Public Health Research & Development

EXECUTIVE EDITOR

Prof Vidya Surwade
Associate Professor, Dr Baba Saheb Ambedkar, Medical College & Hospital, Rohinee, Delhi

INTERNATIONAL EDITORIAL ADVISORY BOARD

1. Dr. Abdul Rashid Khan B. Md Jagar Din, (Associate Professor) Department of Public Health Medicine, Penang Medical College, Penang, Malaysia
2. Dr. V Kumar (Consulting Physician) Mount View Hospital, Las Vegas, USA
3. Basheer A. Al-Sum, Botany and Microbiology Deptt. College of Science, King Saud University, Riyadh, Saudi Arabia
4. Dr. Ch Vijay Kumar (Associate Professor) Public Health and Community Medicine, University of Buraimi, Oman
5. Dr. VMC Ramaswamy (Senior Lecturer) Department of Pathology, International Medical University, Bukit Jalil, Kuala Lumpur
6. Kartavya J. Vyas (Clinical Researcher) Department of Deployment Health Research, Naval Health Research Center, San Diego, CA (USA)
7. Prof. PK Pokharel (Community Medicine) BP Koirala Institute of Health Sciences, Nepal
8. Prof. G.S Meena (Director Professor) Maulana Azad Medical College, New Delhi
9. Prof. Pradeep Khanna (Community Medicine) Post Graduate Institute of Medical Sciences, Rohtak, Haryana
10. Dr. Sunil Mehra (Paediatrician & Executive Director) MAMTA Health Institute of Mother & Child, New Delhi
11. Dr Shailendranda Handu, Associate Professor, Phrma, DM (Pharma, PG1 Chandigarh)
12. Dr. A.C. Dharwai: Directorate of National Vector Borne Disease Control Programme, Dte. DGHS, Ministry of Health Services, Govt. of India, Delhi

Print-ISSN: 0975-0245-Electronic-ISSN: 0976-5506, Frequency: Quarterly (Four issues per volume)

Indian Journal of Public Health Research & Development is a double blind peer reviewed international journal. It deals with all aspects of Public Health including Community Medicine, Public Health, Epidemiology, Occupational Health, Environmental Hazards, Clinical Research, and Public Health Laws and covers all medical specialties concerned with research and development for the masses. The journal strongly encourages reports of research carried out within Indian continent and South East Asia.

The journal has been assigned International Standards Serial Number (ISSN) and is indexed with Index Copernicus (Poland). It is also brought to notice that the journal is being covered by many international databases. The journal is covered by EBSCO (USA), Embase, EMcare & Scopus database. The journal is now part of DST, CSIR, and UGC consortia.

Website: www.ijphrd.com

©All right reserved. The views and opinions expressed are of the authors and not of the Indian Journal of Public Health Research & Development. The journal does not guarantee directly or indirectly the quality or efficacy of any product or service featured in the advertisement in the journal, which are purely commercial.

Editor

Dr. R.K. Sharma
Institute of Medico-legal Publications
501, Manisha Building, 75-76, Nehru Place, New Delhi-110019

Printed, published and owned by

Dr. R.K. Sharma
Institute of Medico-legal Publications
501, Manisha Building, 75-76, Nehru Place, New Delhi-110019

Published at

Institute of Medico-legal Publications
501, Manisha Building, 75-76, Nehru Place, New Delhi-110019
   Syahrir Pasinringi, Fridawaty Rivai

2. Cost Effective Analysis on the Implementation of Clinical Pathway in Anwar Makkatutu Hospital, Bantaeng District, South Sulawesi, Indonesia ........................................ 1422
   Alimin Maidin Noer Bahry Noor, Fridawaty Rifa, Anwar Mallongi

3. Analysis of Inhibition Mechanism in Aluminum Corrosion Using Magnesium Citrate .......... 1428
   Tiurlina Siregar, Albaiti

4. The Analysis of Hearing Loss and Deafness of Elderly with Indonesia Version of Hearing Handicap Inventory for the Elderly-Screening (HHIE-S) ......................................................... 1434
   Richa Endah Prawesti Riskiana Djamin, Muhammad Fadjar Perkasa

5. Assessment of Lead Contamination on Aquatic Habitat and Street Snacks in Makassar Coastal Area, Indonesia .......................................................... 1439
   Anwar Mallongi, Agus Bintara Birawida, Ruslan La An, Apollo Mattangang

6. The Effect of Ginger Soy Milk (Sulehe) Combination on Histopathology of Pancreas and Muscle of Mouse Model of Insulin Resistance .......................................................... 1444
   Wiwik Handayani, Karyono Mintaroem, Sri Andarini, Diana Lyrawati, Achmad Radijanto

7. The Effect of Plyometric and Resistance Training on Muscle Power, Strength, and Speed in Young Adolescent Soccer Players .................................................. 1450
   Saharuddin Ita, Tri Setyo Guntoro

8. Utilization of Extract Tailings and Cow Manure for Increasing of Soil Quality and Uptake of Micronutrients of Xanthosoma sagittifolium (L.) Schott on Sub Optimal Land of Wondama ............... 1456
   Bertha Mangallo, Sartji Taberima, Ishak Musaad

   Fadhilah Syamsuri, Mochammad Hatta, Rosdiana Natzir, Gemini Alam, Muhammad Nasrum Massi, Ressy Dwiyanti, Burhanuddin Bahar

10. Determinant Factors Analysis of PCC (Paracetamol, Caffein, Carisoprodol) Drug Abuse in Kendari City .......................................................... 1466
    Yusuf Sabilu, Nur Malfianti, Hariati Lestari, Andi Faizal Fachlevy

11. Correlation between Work Duration of Gas Station Operators With Mucociliary Transport Time, Hair Pb Level, and Nasal Cytogram .......................................................... 1472
    Riskiana Djamin, Novimaryana Drakel, Sutji Pratiwi Rahardjo, Abdul Qadar Punagi, Idham Jaya Ganda, Mansyur Arief, Amira Trini Raihanah
12. Frangipani Aromatherapy Oil in the Massage of Labor First Stage Reduced Events Perineum Ruptur
Spontan at the Labor .......................................................... 1477
Ni Gusti Kompiang Sriasih, Ni Wayan Ariyani, Juliana Mauliku, Ni Nyoman Budiani, Anwar Mallongi

13. Traditional Balinese Youth Groups as Peer Educator to Improving Knowledge and Attitude Adolescents
about Reproductive Health in South Denpasar .......................................................... 1483
Nengah Runiari, Ida Erni Sipahutar, Ni Nyoman Hartati, I Dewa Made Ruspawan, I Dewa Ayu Ketut
Surinat, Saratiah Nengah Runiari

14. The Spatial Pattern and Risk Factors of Leprosy Occurrence in Barru, Indonesia ..................... 1489
Anwar Mallongi, Handayani, Makmur Selomo, Anwar daud, Stang Abdul Rahman,
Apollo Mattangang Abdul Muhith

15. Analysis of Causes and Impacts of Early Marriage on Madurese Sumenep East Java Indonesia ....... 1495
Abdul Muhith, Arief Fardiansyah, M.H. Saputra, Nurmiyati

16. Working Position Improvement by Adding Supporting Tool Reduced Subjective Complains and Increase
Productivity of Weavers in Tenganan Village Karangasem Regency ................................... 1500
I W Merta, I G Sudarmanto, I G.A. Sri Dyanaaputri, I.A. Made Sri Arijani, Anwar Mallongi

17. The Influence of Media Booklet in Behavior Change of Waste Management In Elementary School
Students, South Denpasar, Bali .................................................................................. 1506
Dewa Ayu Posmaningsih, Gusti Ayu Made Aryasih, Mochkmad Choirul Hadi, Ni Made Marwati, Anwar
Mallongi

18. Environmental Analysis Related to Pulmonary TB Incidence in Work Area of Puskesmas Kaluku Bodoa
Makassar City ........................................................................................................... 1512
A Rizki Amelia Ridwan Amiruddin Arsunan A.A Burhanuddin Bahar, Sutrianingsi Hasnik,
Sutji Pratiwi Rahardjo

19. Reduce Violent Behavior Schizophrenia: A New Approach Using LT (Laughing Therapy) and DRT (Deep
Relaxation Therapy) ............................................................................................... 1518
Muhammad Suhron, Faisal Amir

20. The Efficacy of Physiotherapy Combination Technique on Pain and Functional Independence of People
with Lumbar Disc Herniation (Physiotherapy Combination Technique: A Conservative Treatment for
Lumbar Disc Herniation) ......................................................................................... 1524
Djohan Aras, Hasnia Ahmad

21. Effectiveness of Risk Reduction (RR) and Risk Avoidance (RA) Approach to Reduce Risk Behavior in the
Senior High School Student in Denpasar City and Palangka Raya City ................................ 1530
Ni Komang Yuni Rahyani, Asih Rusman, Gusti Ayu Marinaeni, Ni Nyoman Suindri

22. Socio-Cultural and Behavioral Effects on the Incidence of Anemia in Pregnant Mothers .............. 1537
Ruslan Majid, Hartati Bahar, Nani Yuniar

23. Characteristics of Multi-drug Resistant Tuberculosis (MDR-TB) Patients in Medan
City in 2015-2016 ..................................................................................................... 1541
Syarifah, Erna Mutiara, Sri Novita

24. Evidence of Rickettsia typhi in Rat Fleas of Various Habitat and the Potential Transmission of Murine
Typhus in Banjarnegara, Central Java, Indonesia ......................................................... 1548
Nova Pramestuti, Sitti Rahmah Umniyati, Budi Mulyaningsih, Dyah Widiastuti, 
Jarohman Raharjo
Working Position Improvement by Adding Supporting Tool Reduced Subjective Complains and Increase Productivity of Weavers in Tenganan Village Karangasem Regency

I W Merta, I G Sudarmanto, I G.A Sri Dhyanaputri, I.A. Made Sri Arjani, Anwar Mallongi:

Health Analyst Department, Polytehnic of Health Denpasar Bali, Department of Environmental Health, Faculty of Public Health Hasanuddin University

ABSTRACT

Background Pegiringsingan weaving products is a part of handicraft or home industry. They are still confessed at present and produced by simple technology with hand in hand. This activity as a business of income from the most of women in Tenganan village of Manggis sub district, Karangasem Regency. A work position with no planned well and they do not use a tool instruments for helping their working correctly, it is caused a subjective complaints of the workers so the production is not maximally and will cause the productivity of the workers come down. Woven products workers is required a carefulness and neatness of the workers, by long sitting position on the flour covered by something material. It is not aware of this problem into the anatomy and physiology of the workers and they will have a lot of complaint, sick, or pain on their next, hand, low back, anus, thigh, eyes. It is caused static work load frequently, so that they will be to come a decrease activity and low motivation, it’s activity and the work is not done efficient and effective.

Objective The variable that is measured in this study is decrease workload, subjective complaint, work efficiency (long work), and work productivity.

Methods The research has been studied to the sixteen weaving workers that were chosen without rules with treatment by subject program with cross over design, its analyses unit considering group variance. It has been intervened by work positions with supporting tool for instant ‘peliper, tinglik, por (supported by sponge), barble, and using eyes glasses and group workers.

Results This study is analyzed by t-paired, and there is a significant work load reduction (p< 0.005), which is the pulse of the workers come down from 89.62 beats per minutes to be 82.56 beats per minutes (±5.60) in the same of the light work load category. The subjective complaints of the work load come down showed significant value (p< 0.005) that is from Nordic body map score 56.92 (16.14) to be 28.86 (7.32). By the efficient work 7 hours a day with support tools, it is to be come the productivity increase (0.34%) and work productivity (7.9%) significantly (p< 0.005).

Keywords: Woven supporting tools; subjective complaint; productivity; Pegiringsingan weavings

INTRODUCTION

Pegiringsingan weavings is an heritage home industry which combines art and simple technology fully produced by hand. To make Pegiringsingan weavings is the job of some of women in Tenganan village, in Manggis sub-district, Karangasem regency. Based on preliminary survey, the weaving process is done by women workers by themselves, starting from making the threads, coloring, and weaving. Weaving is a manual job using muscle power, the body locomotive organs, by sitting on the floor, with simple mat, and legs straight to the front.

Corresponding Author :
I Wayan Merta, Senior Lecturer of Health Analyst Department, Polytehnic of Health Denpasar Bali.: email address: rawnaenvi@gmail.com
An unwell-designed working condition could create subjective complaints, working loads and works can be not efficient, which could caused decreasing in work quality. Weaving job unconsciously could make a forced pose that is not according to natural pose of the worker, at the end will caused tiredness and or neck pain, shoulder, arms, waist, butt, hips and legs. So the work cannot be done effective and efficiently.

Based on preliminary survey, founded that average working artery pulse of the weavers is 84,62 per minutes, and subjective complaints as follows: wrist pain and pain on legs from the knee down average 46,03%, weaken in activities 68,4%, weaken in motivation 38,6%, physical tiredness (after working more than 3-4 hours) 78,2%, complains on eyes 42,5%, complains on fingers 72,4%.

Sitting position on the floor with 90 degree angle between trunk and thigh, slowly will make the trunk stressed out which caused flexion on the lumbar-spinal. With that position for a long period of time, will occurs tiredness and possibly caused the organ degradation.

Through a participatory approach to the workers and operator (Kelian Banjar Tengah Tegeh Tenganan), there are some alternatives in order to reduce subjective complaints and the way to increase productivity, such as working position improvement by adding supporting equipment: 1). Using eyeglasses, 2). Using barbel on fingers during rest time, 3). Using tingklik short stool, 4). Adding kapok cushion on por and 5). Using plipir. The position improvement alternative by adding supporting equipments was chosen because considered easy to do, also by their request, hence it could reduce subjective complaints and increase productivity.

MATERIALS AND METHOD

This research is an experimental design with treatment by subject in the shape of cross over design and the analysis unit is considering group’s variance not individual variance. Research held in Tenganan village, in Manggis sub-district, Karangasem regency.

Women weaving workers resides in Tenganan village on the list is 65 persons. From that number sample 18 persons that meet the inclusive criteria is chosen. In this case 16 persons was chosen randomly according to Pocock formula.

Data is presented in table and textual form, then processed and analyzed using statistic analysis to test the normality of productivity and working load, between control and treated ones using Kolmogorov Smirnov (KS) test; evaluation of the working duration between control and treated ones using t-Paired test; evaluation of the working load between control and treated ones using t-Paired test.

RESULTS

Subject’s characteristic data after evaluated using KS test, shown that it’s normally distributed (p > 0.05).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Average</th>
<th>Deviation Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Age (years)</td>
<td>34.81</td>
<td>± 5.10</td>
</tr>
<tr>
<td>Height (cm)</td>
<td>158,310</td>
<td>± 7.32</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>59.69</td>
<td>± 4.97</td>
</tr>
<tr>
<td>Blood Pressure :</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Systole (mm Hg)</td>
<td>120</td>
<td>± 0.00</td>
</tr>
<tr>
<td>- Diastole (mm Hg)</td>
<td>70</td>
<td>± 7.32,00</td>
</tr>
<tr>
<td>Working Experience (years)</td>
<td>15.50</td>
<td>± 7.82</td>
</tr>
</tbody>
</table>

Anthropometry data characteristic of research subjects with calculation of persentil 5, 50 and 95 can be seen in Tabel 2.

| Waist width (cm)               | 32.56   | 34.14 | 37.30 |
| Butt width/length (cm)         | 37.00   | 38.50 | 40.00 |
| Leg length from knee to sole (cm)| 49.62 | 52.81 | 56.00 |
| Feet range from butt to sole (cm)| 82.28 | 88.24 | 95.48 |
| Leg length from butt to knee (cm)| 46.14 | 50.84 | 54.02 |
| Length from knee to sole (cm)  | 46.00   | 51.50 | 57.00 |

Working climate condition consists of Wet Temperature, Dry Temperature, and Relative Humidity, are still in normal range. Working climate condition during the research is shown in Tabel 3. From the Average data of working climate that consists Wet
Temperature, Dry Temperature, and Relative Humidity after evaluated using K.S test, proofed that the data is in normal distribution (p > 0.05).

**Table 3. Average Working Climate**

<table>
<thead>
<tr>
<th>No</th>
<th>Variable</th>
<th>Average ± Dev.Std</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Wet Temp (°C)</td>
<td>27.16 ± 0.81</td>
</tr>
<tr>
<td>2</td>
<td>Dry Temp (°C)</td>
<td>28.58 ± 1.21</td>
</tr>
<tr>
<td>3</td>
<td>Relative Humidity (%)</td>
<td>79.66 ± 1.21</td>
</tr>
</tbody>
</table>

The weaving cloth production using existing position (control) and new one using supporting equipments peliper, por with foam cushion, using eyeglasses and massaging barbell during rest time (treated) in this research measured in the width of product (cm²) of woven cloth produced in 7 hours in a group. The average of production in existing position (control) is 349.68 (±111.79) cm², while the average production with supporting equipments position (treated) is 352.12 (±112.27) cm². The average product of woven cloth (control and treated) after evaluated using paired t-test is significantly different (p >0.05).

Resting pulse per minute, Working pulse per minute, Recovery pulse per minute, and Work pulse per minute in control (weaving in existing old position) and treated (weaving with supporting equipments position peliper, por with foam cushion, using eyeglasses and massaging barbell during rest time) shown in Table 4.

**Table 4. Rest pulse, working pulse, recovery pulse, and Work pulse**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Control (ppm)</th>
<th>Treated (ppm)</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Average ± S.D</td>
<td>Average ± S.D</td>
<td></td>
</tr>
<tr>
<td>Resting pulse</td>
<td>80.25 ± 2.68</td>
<td>80.50 ± 2.20</td>
<td>0.78</td>
</tr>
<tr>
<td>Working pulse</td>
<td>89.62 ± 3.96</td>
<td>82.56 ± 5.60</td>
<td>0.01</td>
</tr>
<tr>
<td>Recovery pulse</td>
<td>79.75 ± 4.64</td>
<td>75.31 ± 4.84</td>
<td>0.00</td>
</tr>
<tr>
<td>Work pulse</td>
<td>8.75 ± 4.55</td>
<td>2.06 ± 0.85</td>
<td>0.00</td>
</tr>
</tbody>
</table>

ppm = pulse per minute. SD = standard deviation. p = probability

Productivity incline by changing the working position, from weaving in existing old position (control) in working position using supporting equipments (treated), from above calculation founded that the average control productivity: 5.33 (±1.41) is lower than the treated one: 21.96 (±0.13). From both productivity value after evaluated using statistic test t-Paired shown significant different (p < 0.05).

**Table 5. Average Working Productivity of Control and Treated**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Average (±Std.Dev)</th>
<th>Value p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working Productivity:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control (old working position)</td>
<td>5.33 (± 1.41)</td>
<td></td>
</tr>
<tr>
<td>Treated (with support equipments)</td>
<td>21.96 (± 0.13)</td>
<td>0.001</td>
</tr>
</tbody>
</table>

Subjective complaints data before and after work measured using Nordic Body Map. Average Data and Standard Deviation shown in Tabel 6. Subjective complaints Score of control : 56.92 (± 16.14) bigger than treated one: 28.86 (± 7.32) with t-Paired test founded p = 0.00 means significantly different (p < 0.05).
### Table 6. Average and Standard Deviation of Subjective complaints of Control (C) and Treated (T)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Average ± S.D</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subjective Complaints change:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control (old working position)</td>
<td>56.92 ± 16.14</td>
<td>0.00</td>
</tr>
<tr>
<td>Treated (with support equipments)</td>
<td>28.86 ± 7.32</td>
<td></td>
</tr>
</tbody>
</table>

**DISCUSSION**

From Subjects characteristic including body weight dan hight, founded that the average body weight 53.19 (± 2.07) in the range of 48 kg - 65 kg, average 53.19 (± 2.07) kg, while height is in the range of 148 cm - 170 cm, average 153.50 (± 2.00) cm. By observing the comparison of that body weight and height, shows that weavers in Tenganan Pegringsingan has a normal weight and height or ideal according to Broca index, while body weight is ideal when the value is smaller than the height deducted by 100 ± (the value than times 10%)8,9.

Ambient Temperature in Tenganan Pegringsingan during research between 08.00 - 17.00 wita is; wet temperature is around 26° C – 28,50° C average 27,16 (± 2,50)°, dry temperature is around 27° C - 30° C average 28.58 ± 3.00°C. Topographic of Tenganan Pegringsingan is located in high plateau with lush trees, has a lower temperature compared to other research location. Lowest Ambient Dry temperature is 27° C considered comfortable. The lowest threshold is 21° C and the highest is 30° C. Relative Humidity is around 78% - 81 %, average 79,66 (± 3.00)% is still in comfortable range with threshold of 70% - 80%10.

Treatment given to the weavers, by giving working position on a supporting equipment called peliper, sit on tingklik small stool, por (with foam cushion) on the waist, using eyeglasses, and massaging barbel during resting time for 5 minutes each time. With those several treatments, the weavers has a chance to reduce their tiredness, because the weight of the body caused by sitting on the floor and the legs to the front rests on the feet in a long period of time, possibly caused cumulative tiredness, and feet organ degenerative1,11.

Weaving job need accuracy since the tools is operated by each women worker with high sight accuracy. So it needs eyeglasses to operate, beside to avoid the eyes tiredness it is also to avoid the thread dust get in into their eyes, hence the products become maximum results. For one unit of Control Group (C) weavers, founded that average production of cloth daily in existing old position is 349,68 (±111,79) cm². This is different with the job using new working position, where one unit Treated Group (T) produced 352,12(±112,2) cm² of cloth. This is mean working with supporting equipments is more efficient by producing 2.44 cm² of cloth daily or 0.34% compared to old position.

From the research we know the subject’s resting pulse is not significantly different (p > 0.05) between old working position (control) and working position using supporting equipments (treatment). Old working position (control), average resting pulse is 80.25 (±2.68) pulse per minute, while with working position using supporting equipments (treatment) is 80.50 (±2.20) pulse per minute. It means that subject’s resting pulse between both condition (control and treated) relatively the same, or we can say the starting condition (before working) is the same.

Average Work pulse before and after treatment declined by 7.06 pulse per minute (4.1%). With statistic test t-Paired founded p = 0.01 < 0.05. it means subject’s working pulse between both condition (control and treated) significantly different, hence the end condition (after working with supporting equipments) is better than the old condition (when on existing working position). This situation shows that weaving job can be objectively seen from physiologic reaction such as working pulse increase, it is not only related to how hard the work is, but also related to accuracy and the frequency accurat13,14.

Recovery pulse on subjects with old working position (control) shows decline from average 79.75 (±4.64) to (working position using supporting equipments) average 75.31 ±(4.84) pulse per minute. It shows that the working load is considered easy, because the lower the recovery pulse, means that the working load being done considered easy or the subject’s condition is good, usually when condition is good and the work is easy, so within 5 minutes the recovery pulse is back to normal15.

Working productivity on Treated (working position using supporting equipments) is 23.06 (± 14,32) and on
Control (old working position) is 6.09 (± 3.24) shows significant difference (p=0.001<0.05). This is caused by the decrease of working pulse and also by the increase of product by using supporting equipments. Hence we can say that using the supporting equipments peliper, por (with foam cushion, tingklik, eyeglasses and massaging barbell (during resting time) in this research can boost productivity of weavers in Tenganan Pegringsingan up to 60.93%. The ergonomic changes in working position, could increase economic value related to performance, indirectly reduce operational cost that have to spent16. In other words, productivity boost means efficiency boost17.

The working position with suppoting equipments (treated) can reduce subjective complaints of the weaving workers in Tenganan Pegringsingan significantly (p < 0.05). Before practicing working position with supporting equipments, subjective complaints shown by the value of nordic body map up to 56.92%. By practicing working position with supporting equipments, the value of nordic body map becomes 28.86 %, that means the subjects felt their working load become easier and the feeling of disturbance can be solved10,12,18,19.

CONCLUSION

The different of working and resting pulse also decreasing from 9.37 pulse per minute that shown light working load, becomes 2.29 pulse per minute which also indicating light working load.

Subjective complaints of the weavers also declined. It shown from the score before using supporting equipments was 56.92%, then becomes 28.86%.

Working duration or time needed to weave is still the same, 7 hours a day, before and after conditioning, hence the efficiency is remain the same.

With the decrease of working load, the same subjective complaints and working duration efficiency, the productivity is increasing 16.97%, because with the decline of working load then the ratio of products (output) compared to working load and working duration (input) becomes bigger.

Conflict of Interests: The authors declare that they have no competing interests

Ethical Clearance: Ethical clearance was obtained from the University committee and respondent’s approval.

Source of Funding: Indonesia Ministry of Health

REFERENCES

5. William J. W and Fred, T. Ergonomics assessment of muskeloskeletal risk factors art Four Mines States, Underground Coal, Surface Copper, Surface phosphate and underground limestone. [Internet]. 2004. Available from:


Call for Papers / Article Submission

The editor invites scholarly articles that contribute to the development and understanding of all aspects of Public Health and all medical specialities. All manuscripts are double blind peer reviewed. If there is a requirement, medical statistician review statistical content. Invitation to submit paper: A general invitation is extended to authors to submit papers papers for publication in IUPHD.

The following guidelines should be noted:

- The article must be submitted by e-mail only. Hard copy not needed. Send article as attachment in e-mail.
- The article should be accompanied by a declaration from all authors that it is an original work and has not been sent to any other journal for publication.
- As a policy matter, journal encourages articles regarding new concepts and new information.
- Article should have a Title
- Names of authors
- Your Affiliation (designations with college address)
- Abstract
- Key words
- Introduction or back ground
- Material and Methods
- Findings
- Conclusion
- Interest of conflict
- References in Vancouver style.
- Please quote references in text by superscripting
- Word limit 2500-3000 words, MSWORD Format, single file

All articles should be sent to : editor.ijphrd@gmail.com

Our Contact Info:
Institute of Medico-Legal Publications
501, Manisha Building, 75-76, Nehru Place, New Delhi-110019,
Mob: 09971888542, E-mail: editor.ijphrd@gmail.com
Website: www.ijphrd.com
CALL FOR SUBSCRIPTIONS

About the Journal

Print-ISSN: 0976-0245  Electronic - ISSN: 0976-5506, Frequency: Monthly

Indian Journal of Public Health Research & Development is a double blind peer reviewed international journal. The frequency is half yearly. It deals with all aspects of Public Health including Community Medicine, Public Health, Epidemiology, Occupational Health, Environmental Hazards, Clinical Research, Public Health Laws and covers all medical specialities concerned with research and development for the masses. The journal strongly encourages reports of research carried out within Indian continent and south east Asia.

The journal has been assigned international standards (ISSN) serial number and is indexed with Index Copernicus (Poland). It is also brought to notice that the journal is being covered by many international databases.

Subscription Information

<table>
<thead>
<tr>
<th>Journal Title</th>
<th>Pricing of Journals</th>
</tr>
</thead>
<tbody>
<tr>
<td>IJPHRD</td>
<td>Print Only</td>
</tr>
<tr>
<td>Indian</td>
<td>INR 7000</td>
</tr>
<tr>
<td>Foreign</td>
<td>USD 450</td>
</tr>
<tr>
<td></td>
<td>Print+Online</td>
</tr>
<tr>
<td></td>
<td>INR 9000</td>
</tr>
<tr>
<td></td>
<td>USD 550</td>
</tr>
<tr>
<td></td>
<td>Online Only</td>
</tr>
<tr>
<td></td>
<td>INR 5500</td>
</tr>
<tr>
<td></td>
<td>USD 350</td>
</tr>
</tbody>
</table>

Note for Subscribers

Advance payment required by cheque/demand draft in the name of *Institute of Medico-Legal Publications* payable at New Delhi.

Cancellation not allowed except for duplicate payment.

Claim must be made within six months from issue date.

A free copy can be forwarded on request.

Send all payment to:

Institute of Medico-Legal Publications

501, Manisha Building, 75-76, Nehru Place, New Delhi-110019,

Mob: 09971888542, E-mail: editor.ijphrd@gmail.com,
Website: www.ijphrd.com