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The Effect of Participatory Ergonomic on Fatigue Disorders of Workers in PT. Industri Kapal Indonesia (Persero)

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Abstract

AIM: This study aimed to determine the effect of participatory ergonomics intervention on worker fatigue.

METHODS: The research conducted in PT. Industri Kapal Indonesia (Persero) Makassar. The method used quasi-experimental with repeated measure design with 3 times repeated in within 15 days for total 60 participants. The sample was collected by simple random sampling. Data analyzed using Paired-Samples T-Test.

RESULTS: The results found that there was an effect of participatory ergonomics intervention on fatigue (p-value of each repeated = 0.001).

COCNLUSION: Participatory ergonomics is appropriate for preventing and reducing fatigue on workers. It is recommended that the company, including workers and management of policymakers, pay attention to this finding.

Introduction

Implementation of Occupational Health and Safety (OHS) is vital in all sectors, mainly for the industrial sector, either formal or informal. Meanwhile, the Work Accident Rate is an indicator of Company or Industry Work Safety such as the shipyard industry must have Zero Accident which means no work accident. However, data from Employees Social Security System or BPJS in 2016 showed that the accident rate is still high. In 2015, there were 105,182 work accidents, and it was increased to 114,000 cases in 2019 [1].

Fatigue is a common complaint in the general and working populations. In workers, about 20% have symptoms of work fatigue. Work fatigue can be characterized by decreased work performance or all conditions that affect all organismal processes, including several factors such as subjective feeling of fatigue, decreased motivation, and decreased mental and physical activity [2]. Tarwaka [3] listed ten common symptoms or feelings related to work fatigue including feeling heavy in the head, tired of the whole body, weight on the feet, yawning, disorganized mind, sleepy, there is a burden on the eyes, movement is awkward and stiff, standing unstable, and wants to lie down. The number of fatigue complaints occurrence has a major contribution to the number of work accidents. According to *Health and Safety Executive*, 8.9 million working days were lost [4]. The complaints experienced by daily workers make them experience chronic fatigue [2].

The main activity of PT. Industri Kapal Indonesia (Persero) as shipyard industry consists of ships building and repairs (docking) [5]. Ships building is the manufacture or construction of a ship by lifting the iron plate materials, wood, machines with tools or manual then making them one with welding process [6], [7]. This process may lead to many ship workers experiencing fatigue.

A structured ergonomics approach is required to eliminate hazards [8] and reduces the risk of fatigue due to material handling in the workplace. Ergonomics is important for the facility planning process in the workplace because it can increase worker satisfaction and productivity [9]. One of the ergonomics methods in the macro ergonomics approach is the participatory

ergonomics. The application of this approach in preventing and reducing fatigue and injury can be utilized to design a work system and create a better workplace design [10].

Participatory ergonomics is one of the philosophies, strategic approaches, programs, or a set of tools and techniques. Nagamachi [11] defines it as the active involvement of workers in knowledge and ergonomics procedures in the workplace and is supported by supervisors and managers to improve working conditions and good product quality. Kuorinka also defines it as practical ergonomics in solving problems by workers' participation [12] (Table 1).

Table 1: Participatory ergonomics framework by order of interest according to Hignett, Wilson, and Morris

Level	Dimension	Dimensional ordering
1	Decision-making	Group delegation – Group consultation – Individual consultation
2	Participants	Operator – Supervisor – Middle management – Trade union – Technical staff – Upper management
3	Tasks (remit)	Process development – Problem identification – Solution generation – Solution evaluation – Solution implementation – Process maintenance
4	Role of ergonomist	Initiating and directing process – Act as team member – Train participants – Consultation
5	Involvement	Full direct – Partial direct – Representative
6	Focus	Designing tools or tasks – Designing work and team or work organization – Formulating policies or strategies
7	Levels of influence	Whole organization – Department/workgroup
8	Needs	Mandatory – Voluntary
9	Sustainability (permanency)	Activities that take place continuously so that they remain consistent

This method implements technology in organizational systems by actively involving end-users to complete knowledge about participatory ergonomics and workplace procedures [13], [14]. For assessment, it refers to International Labor Organization – Participatory Action Orientation Training check sheet for operators (ILO – PAOT check sheet) [15] and the International Labor Organization – Participatory Action Training by evaluating working conditions with a simple score using a combination. This could be implemented at PT. Industri Kapal Indonesia (Persero) involves a formal sector from the company and subcontractors consisting of workers categorized as the informal sector. The steps of participatory ergonomics to develop working conditions are:

a) Observe working conditions by monitoring the items contained in the check sheet
b) Documenting working conditions
c) Discuss with workers regarding working conditions with monitoring items.
d) Filling out the check sheet according to the results of observations
e) Implementing solution with Occupational Safety and Health (K3) training

Therefore, we investigated the effectiveness of participatory ergonomics implementation to reduce workers fatigue in PT. Industri Kapal Indonesia (Persero).

Materials and Methods

Location and design

This research conducted in PT. Industri Kapal Indonesia (Persero). A Shipyard industry located at Galangan Kapal street No.1 Makassar City, South Sulawesi. This research used quasi-experimental design with 3 times repeated measure [16].

Population and sample

The population is all workers who work in PT. Industri Kapal Indonesia (Persero). The sample was 60 people who met the inclusion criteria: Men aged ≥ 20 years with a minimum one year working period. The participants were involved after informed consent issued by the ethics committee.

Method of collecting data

Data collection was carried out using pre-test and 3 times repeated post-test. Biomedical data (i.e., age, height, weight, and smoking), socioeconomic (i.e., education and length of work), participatory ergonomic data scores collected by interview using a questionnaire Combination of ILO – PAOT checksheet and ILO-PATRIS checksheet and KAUPKK (Questionnaire Tool) Measure Feelings of Work Fatigue) for 15 consecutive days. On the first day, a pre-test was conducted, and a participatory ergonomics intervention was implemented for the next day. The post-test was conducted for five days for each repeated.

Data analysis

Data were analyzed using Microsoft Excel and SPSS 25. A Paired-sample t-test was used for testing the hypothesis [16].

Results

Characteristics of workers

The average age of workers is 36.57 years with the youngest being 20 years old and the oldest being 65 years old. For education level, the average education level is high school with a total of 33 people or 55%, the lowest is at least 1 school and the highest is D3/S1 as much as 23 or 38.3%. The average tenure of service is 6.7 years with the minimum working period of 1 year and the highest working period of 29 years at PT. Indonesian Ship Industry (Persero). The average length of work/duration is 1283 with 43 people presenting

71.7% more than 8 h/day as many as 17 people with a presentation of 28.3%. The average smoking habit is 1.57 with 34 people with a percentage of 56.7% working and not smoking as many as 26 people with a percentage of 43%. Average Nutritional Status with Body Mass Index (BMI) 2483 with a total of 30 people or 50%, the lowest being underweight 3 or 5% and very fat weight as much as 1 or 1.7% (Table 2).

Table 2: Characteristics of workers

Characteristics	Range	Sum (*n*)	Percentage (%)	Mean
Age/year	20–30	25	41.8	36.57
	31–40	11	18.5	
	41–50	15	25.1	
	51–60	7	11.8	
	<60	2	3.4	
Education	No school	1	1.7	4.27
	Primary school	1	1.7	
	Junior high school	2	3.3	
	Senior high school	33	55	
	Bachelor	23	38.3	
Working period/year	1–5	40	66.8	6.703
	6–10	6	10.1	
	11–15	4	6.6	
	15–20	4	6.6	
	21–25	4	6.8	
	<26	2	3.3	
Length/duration of work (h)	1–8	43	71.7	1.283
	<8	17	28.3	
Smoking	Smoking	34	56.7	1.57
	No smoking	26	43.3	
Nutritional status/Body Massa Indeks	Less<18.4	3	5	2.4833
	Ideal 18.5–24.9	30	50	
	Over 25–29.9	23	28.3	
	Fat 30–39.9	3	5	
	Very Fat<40	1	1.7	
Total		60	100	

Fatigue

Table 3 shows that 31.7% and 68.3% participants felt fatigue in level of mild to severe, respectively. The decrease of severe fatigue to 25% was effective after three-repeated intervention for detailed of each participants' fatigue score (Appendix 1).

Table 3: The average distribution of fatigue on the workers of PT. Industri Kapal Indonesia (Persero) before and after Participatory Ergonomics intervention

Serial number	Fatigue complaint rate	Pretest		Posttest 1		Posttest 2		Posttest 3	
		n	%	*n*	%	*n*	%	*n*	%
1	Not tired	0	0	0	0	0	0	0	0
2	Mild fatigue	19	31.7	18	30	24	40	45	75
3	Severe fatigue	41	68.3	42	70	36	60	15	25
4	Very heavy fatigue	0	0	0	0	0	0	0	0
Total		60	100	60	100	60	100	60	100

Source: Primary Data 2021.

Participatory ergonomics

The overall results showed an increased score of participatory ergonomic from 22 before implementation to 44 after implementation by management of PT. Industri Kapal Indonesia (Persero) (Table 4).

Bivariate analysis

The results showed that there were difference mean score pre- and post-test ($p = 0.001$) on participants fatigue score after implementing participatory ergonomics intervention for each repeated intervention (Table 5).

Discussion

The average age of respondents is 36.56 years which is still classified as productive age, where respondents can still carry out their activities with optimal physical strength. According to Grandjean [17], the peak muscle strength of men and women is between 25 years and 40 years. Therefore, in this study, samples were taken with a minimum age limit of 20 years because they are included in the productive age, which means they are at their optimal physical capacity. According to Riihimaki *et al.* [18], age and tenure strongly relate to muscle complaints, especially neck and shoulder muscles. Some experts state that age is the main cause of muscle complaints and fatigue. Fatigue is a common complaint among the general public and the working population [19], especially shipyard workers exposed to hazards. Fatigue itself is a body mechanism to protect the body from further damage to recover after rest [20].

According to Waters and Bhattacharya [21], both static and dynamic muscle contractions can cause localized muscle fatigue. This fatigue occurs in the critical muscles' endurance (endura time). The endurance time of the muscle depends on the amount of energy that the muscle will develop as a result of the maximum percentage of power achieved by the muscle. Then for a dynamic maximum metabolic requirement and activity exceeds the capacity of the energy capacity produced by the workers' energy [22], due to muscle contractions, it will interfere and cause fatigue throughout the body. An extended period of work exposure will accumulate for years and cause fatigue [23]. The length of work should be between 6 and 10 (an average of 8 h) h/day or 40 h/week. Extended work hours can impact the workers, such as fatigue [20]. In this study, only three workers had a BMI of fat/obesity. Body Mass Index against fatigue [24], the more a person gains weight, the greater the risk of experiencing fatigue. The person with a high BMI will try to support the weight from the front by contracting the lower back muscles. If keep continue will cause pressure on the spinal cord, which can lead to fatigue in workers [25]. The smoking habit of workers is hazardous because working near a fire area has a high hazard risk. However, workers usually smoke during recess and come home from work. According to research conducted by Boshuizen that there is a significant relationship between smoking habits and fatigue, especially in jobs that require muscle exertion [26]. This is in line with research conducted by Prastuti and Martiana [27] that there is a relationship between smoking habits and fatigue in workers who work as taxi drivers.

Fatigue using the KAUP2K questionnaire, the score was statistically significant with the average decrease for each intervention from the first intervention of 35,383 down to 33.9, the second intervention dropping again to 31,067 and the third

Table 4: Ergonomic Partisipatory in PT. Industri Kapal Indonesia (Persero)

Serial number	Item monitoring	Before		After	
		Score (0–2)	Observation/changes	Score (0–2)	Observation/changes
a. Physical envirotement					
1	Dust	0	Workplace has a potential hazard, especially the respiratory system in the form of dust from quartz sand which is used when blasting before the painting process	1	Some workers use PPE masks Before starting blasting there is a voice from the implementation team so that the area to be blasted immediately starts
2	Chemicals (Label and MSDS, Strorage, ventilation)	1	There are general welding activities, welding activities produce smoke (very small particles of 1 micron that have solidified with hot gases) which cause respiratory tract disorders There is a painting process and includes materials (B3) The presence of hazardous materials from ship propulsion engine products such as diesel fuel	2	By using a special mask to make the welding process There is a substitution and elimination control process Cooperate with the environmental service in handling B3 waste
3	Noise	0	The noise generated from the iron grinding process, iron forging in the machine shop produces 95.6 dB which works around 3–5 h per day and 150 dB of blasting work. Threshold value allowed by the Minister of Manpower Decree No. 51 of 1999 85 dB	1	Use of PPE in the form of Ear Plugs and Ear Muffs
4	Heat	0	Workshop room temperature is 32.3 degrees Celsius and in the shipyard area is 38–39 degrees Celsius, which is hot from the sea coast	1	Using a blower for work in the workshop area using tarpaulins or temporary tents in outdoor
5	Lingthing	1	For repair work because it is in a closed and confined area under the ship 76 lux	2	Using ship lights and flashlights
	Total score (10)	20%	(2×10) 100%	60%	(6×10) 100%
b. Premises					
6	Fire prevention	1	There are fire extinguishers available but have been expare	2	The expiration date has been found and each ship uses at least 1–2 fire extinguishers
7	Material storage and heandling	1	All tools and materials are available	2	Renewed materials and generators have been arranged
8	Housekeeping/general order and cleanliness/waste disposal	1	Cleanliness and tidiness of the shipyard, especially the remains of pieces of iron plate	2	Every friday every 2 weeks the policy is to give the rest of the plate
9	Drainage sewage sistem	1	Towing area/dock cleaning	2	Every sunday the doking rail is cleaned
	Total score (8)	32%	(4×8) 100%	64%	(8×8) 100%
c. Walfare fasilities					
10	Toilets	1	There is only a toilet that is not enough water	2	After purchasing the car, take water every 3 days and get a water source from drilled wells
11	Rest/sleep/eating	1	Availability of places to rest and rest	2	It has been managed by the company's female dharma mothers for catering the food
12	Dringking water	1	Drinking water is only available in the restaurant	2	Has been given the distribution of water balloons near the workers
	Total (6)	18%	(6×3) 100%	36	(6×3) 100%
d. Ergonomics					
13	Hazards Posture	1	Some work postures/attitudes that are not suitable for ergonomics	2	It has been fixed with an educational video of the appropriate position so that there are no MSD complaints and Work Fatigue
14	Lifting	1	Some workers lift too much weight	2	Provide manual lifting video education with body fit limits
15	Tools machines equiment	1	Availability of mobile cranes and forklifts	2	Phone repair and certification
	Total (6)	18%	(6×3) 100%	36	(6×3) 100%
e. Working organisation					
16	Interation with workers	2	Worker interaction with workers and company management is good	2	Worker interaction with workers and company managers is good
17	Work Rotation	1	There needs to be a rotation of improvements for overtime	2	Distribution of overtime that is adjusted to personal capacity
18	Work-rest cycles	2	Break time is 1 h from 12.00 to 13.00 WITA.	2	In addition to resting activities during the day for 1 hour, there are also short rest activities while waiting for your shift
	Total (6)	30%	(5×6) 100%	36%	(6×6) 100%
f. Personal protection equipment					
19.	Helm, Gloves, Apron, Maks, Goggles, etc.	1	There are several PPE available but not used	2	Provide education on the Importance of PPE for all workers
	Total (2)	2%	(1×2) 100%	4%	(2×2) 100%
g. Day to day management					
20	Safety induction	2	Every morning at 7.30 WITA with 5–10 min the bell sounds doing safety induction	2	Safety Induction per part team in each job
21	First aid and health service	2	Availability of Health Facilities Polyclinic PT. IKI	2	Availability of Health Facilities Polyclinic PT. IKI with Company Nurses and Doctors
22	Delegation of safety responsibility to workes	1	Lack of awareness about Occupational Health and Safety as seen from the lack of PPE use	2	Workers have used PPE and work attitudes are starting to change.
	Total (6)	30%	(5×6) 100%	36%	(6×6) 100%
	Total (all)	22		44	

Scoring: 0 - Major Improvement needed, 1 - Minor Improvement needed, 2 - Satisfactory. Source: Primary Data 2021. PPE: Personal protective equipment.

Table 5: Paried-samples *t*-test of fatigue mean score on workers before and after participatory ergonomics intervention

Fatigue	Mean	*t*-test	*p**
Pretest	35,3833	6524	0.001
Posttest1	33,9000		
Pretest	35,3833	10,601	0.001
Posttest2	31,0667		
Pretest	35,3833	12,410	0.001
Posttest3	28,2667		

Source: Primary data, 2021. *Paired sample *t*.

intervention dropping again to 28,267. Fatigue statistical test before 3 times participatory ergonomic intervention t-count of 6.524; 10,601; and 12,410. This means Participatory Ergonomics is effective in reducing fatigue in workers. This is in line with the fatigue intervention with stretching exercises at work for workers at PT. X International Indonesia, the decrease in average

fatigue before the intervention was 454.8133, and the average fatigue after the intervention was 321.9133 [28].

The scoring results before the implementation of participatory ergonomics 22 after the performance of participatory ergonomics got the results of 44 score points divided into two, which required major repairs of three parts and minor improvements of 15 parts. With the highest order in important places from 32% to 64%; both physical environment (Physical Environment) 20% to 60%; third place organizations in the workplace 30% to 36%; fourth place daily management (day to day management) 30% to 36%; the fifth priority for implementing ergonomics (Ergonomics) from 18% to 36%; to the six welfare facilities from 18% to 36%; and last place Personal Protective Equipment 2% to 4%. This was obtained because of the overall application of participatory ergonomics starting from the physical environment intervention from the risk of dust hazards, chemicals/ MSDS (Material Safety Data Sheets), increased/ noise, heat from the lighting yard area working in a closed room, the implementation of the use of alarm indicators before blasting work, and the use of Personal Protective Equipment (PPE) Masks. This is in line with research [29] with 19 potential hazards nine requiring major repairs and ten requiring minor repairs. Moreover, administration and substitution for chemicals (Material Safety Data Sheet) in handling B3 waste. The use of PPE Ear Plug/Ear Muf to overcome the noise exposure at 95.6dB [30], or use for pumping and grinding/cutting iron plates process, and blasting at 150 dB. The use of blowers to overcome heat exhaustion from coastal areas and confined spaces, the use of floodlights more than 76 lux [31]. Fatigue can be reduced by better arrangement of warehouse materials and equipment and fire extinguishers that are always available to reduce the risk of stress due to feeling safe at work. Fatigue is also reduced by improving the quality of workers' welfare in terms of the availability of several toilets in several areas near the production building and tents to cope with the heat and rest. Fatigue can occur because muscle contractions exceed the maximum energy limit generated both statically and dynamically during work, which can improve the ergonomic hazard settings in work attitudes, manual handling of manual handling educational videos [32], and lifting/lifting with regular maintenance tool. The organization of workers starts from shift work; the soft rotation of work is increased by 1 h and by the existence of short rest activities that are given while workers wait for the next post work [33]. The use of Personal Protective Equipment/PPE has been required for both company workers and sub-contractors. The implementation of participatory ergonomics also reduces fatigue with daily Occupational Health and Safety (K3) management by starting safety induction every morning at 07.30 in the morning and a delegation of Safety officers who always help every job, both production work and repair work.

This is in line with the research on the application of participatory ergonomics to molten steel metal workers with the use of Ladle-kowi, there was a decrease in fatigue in two stages before and before the intervention as much as 12.9% by participatory ergonomic intervention that changing work attitudes in pouring molten steel. Therefore, the burden of using the body's muscles is more natural, work activities are more effective so that the use of new Ladle-kowi takes into account the wishes of the workers [14]. Hari Purnomo [34] reported that fatigue can be reduced by 16.1% by applying a participatory ergonomics approach to operators who do grinding finishing workers. In a participatory intervention study in a furniture manufacturing company in Southern Brazil, the Tayloristic model used improvements in work design to increase worker satisfaction and reduce the risk of postural, fatigue and body pain complaints. Workload reduced by 42% and productivity increased by 46%. Participation is very instrumental in problems, solutions, implementation, and evaluation [35].

Conclusions and Recommendations

There is an effect of a participatory ergonomics intervention in reducing fatigue of workers. The decrease of fatigue is due to the comprehensive application of all dimensions of participatory ergonomics. It also should be applied continuously. It is recommended that the company, including workers and management of policymakers, pay attention to this finding.

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Appendix Table

Appendix 1: Fatigue of workers at PT. Indonesian Ship Industry (Persero)

Serial number	Worker	Pretest	Category pretest	Posttest 1	Category Posttest 1	Posttest 2	Category Posttest 2	Posttest 3	Category Posttest 3
1	IFN	28	Mild	24	Mild	24	Mild	22	Mild
2	HRD	29	Mild	25	Mild	23	Mild	23	Mild
3	DNP	30	Mild	31	Mild	25	Mild	26	Mild
4	BD	32	Heavy	30	Mild	33	Heavy	25	Mild
5	ND W	30	Mild	30	Mild	26	Mild	24	Mild
6	MSD	35	Heavy	35	Heavy	29	Mild	26	Mild
7	FRN	37	Heavy	37	Heavy	34	Heavy	27	Mild
8	RDT	27	Mild	25	Mild	22	Mild	22	Mild
9	ABD S	35	Heavy	34	Heavy	33	Heavy	30	Mild
10	MK	39	Heavy	36	Heavy	38	Heavy	35	Heavy
11	HNL	40	Heavy	39	Heavy	35	Heavy	30	Mild
12	HRT	37	Heavy	38	Heavy	33	Heavy	33	Heavy
13	EFM	48	Heavy	46	Heavy	36	Heavy	30	Mild
14	IRW	38	Heavy	37	Heavy	28	Mild	28	Mild
15	WD	40	Heavy	37	Heavy	35	Heavy	33	Heavy
16	WHY	36	Heavy	32	Heavy	31	Heavy	29	Mild
17	MS	35	Heavy	33	Heavy	33	Heavy	29	Mild
18	KSM	43	Heavy	41	Heavy	40	Heavy	29	Mild
19	JFR	30	Mild	28	Mild	30	Mild	29	Mild
20	MBR	27	Mild	25	Mild	28	Mild	22	Mild
21	H.RST	26	Mild	27	Mild	26	Mild	27	Mild
22	SMR	48	Heavy	46	Heavy	36	Heavy	29	Mild
23	MRK	27	MIld	25	Mild	26	Mild	29	Mild
24	M.D Ak	27	MIld	26	Mild	24	Mild	22	Mild
25	BMBk	36	Heavy	32	Heavy	31	Heavy	29	Mild
26	AC	30	Mild	34	Heavy	30	Mild	29	Mild
27	AGS	36	Heavy	31	Heavy	32	Heavy	29	Mild
28	AGNG	38	Heavy	36	Heavy	34	Heavy	27	Mild
29	FRDY	49	Heavy	46	Heavy	36	Heavy	30	Mild
30	ERDI	40	Heavy	37	Heavy	35	Heavy	33	Heavy
31	PARM	40	Heavy	37	Heavy	35	Heavy	33	Heavy
32	BDI	28	Mild	24	Mild	24	Mild	22	Mild
33	TUF	30	Mild	30	Mild	26	Mild	24	Mild
34	MLT	35	Heavy	35	Heavy	29	Mild	26	Mild
35	AF	37	Heavy	37	Heavy	34	Heavy	27	Mild
36	RHMT	27	Mild	25	Mild	22	Mild	22	Mild
37	SKR	35	Heavy	34	Heavy	33	Heavy	30	Mild
38	ATO	39	Heavy	36	Heavy	38	Heavy	35	Heavy
39	SDY	37	Heavy	38	Heavy	33	Heavy	33	Heavy
40	FRMN	40	Heavy	37	Heavy	35	Heavy	33	Heavy
41	IRF	37	Heavy	38	Heavy	33	Heavy	33	Heavy
42	FJR	40	Heavy	37	Heavy	35	Heavy	33	Heavy
43	AJNG	30	Mild	30	Ringan	26	Mild	24	Mild
44	SML	35	Heavy	35	Heavy	29	Mild	26	Mild
45	WLY	37	Heavy	37	Heavy	34	Heavy	27	Mild
46	FRMS	27	Mild	25	Mild	22	Mild	22	Mild
47	KRN	35	Heavy	34	Heavy	33	Heavy	30	Mild
48	TMRN	39	Heavy	36	Heavy	38	Heavy	35	Heavy
49	ABDNT	48	Heavy	46	Heavy	36	Heavy	30	Mild
50	BD	37	Heavy	38	Heavy	33	Heavy	33	Heavy
51	SYMD	49	Heavy	46	Heavy	36	Heavy	30	Mild
52	DGTY	37	Heavy	38	Heavy	33	Heavy	33	Heavy
53	ALMD	28	Mild	24	Mild	24	Mild	22	Mild
54	AGS J	30	Mild	30	Mild	26	Mild	24	Mild
55	TLH	35	Heavy	35	Heavy	29	Mild	26	Mild
56	AKT	37	Heavy	37	Heavy	34	Heavy	27	Mild
57	RSL	27	Mild	25	Mild	22	Mild	22	Mild
58	HSG	35	Heavy	34	Heavy	33	Heavy	30	Mild
59	WHYu	39	Heavy	36	Heavy	38	Heavy	35	Heavy
60	RSW	40	Heavy	37	Heavy	35	Heavy	33	Heavy

Source: Primary Data 2021.