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Knowledge, Attitude And Practice (Kap) Of Noise Exposure Among Workers At Industrial Area In Taman Sri Sulong

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Abstract
This Study Was Conducted Among The Workers At Industrial Area In Taman Sri Sulong, Parit Sulong, Johor. It Involved A Total Of 98 Respondents From Several Different Processing And Manufacturing Factories In The Residential Area. The Main Purpose Of This Study Was To Investigate The Level Of Knowledge, Attitude And Practice (Kap) Of Noise Exposure Among The Targeted Workers. The Data For This Study Was Obtained In Qualitative And Quantitative Studies Through Online Questionnaires. The Collected Data Were Then Undergo Analysis Via Ibm Spss Software. The Descriptive Statistics Were Performed On 5 Studied Variables Which Are The Demographic Characteristics, Employees Work Satisfaction Survey And The Three Kap Variables Of Noise Exposure. The Highest Mean Score Were For Knowledge Variable (M = 1.881) Followed By Attitude (M = 2.654) At Medium Level And Practice (M = 0.967) At The Lowest Level. Hence, Future Recommendations Are To Increase The Number Of Sample Size As Well As Expanding The Location Of Study Area.

Keywords: Kap, Noise Exposure, Effects, Descriptive Statistic, Statistical Test

Introduction

Noise Can Be Defined As Any Unwanted Sound That Can Become Hazardous When Exposed To Human's Hearing For Prolonged Time **(Ccohs, 2019)**. It Is An Unavoidable Phenomenon Faced By Everyone. Examples Of Common Sources Of Noise From Daily Activities Are Television, Washing Machine, Traffic, Working Place And Crowded Area. However, In Heavy Industry, Workers Directly Related To Industrial Machinery And Processes May Experience Excessive Noise. This May Resulted In Rises Of Occupational Diseases Related To Noise Exposure. In Malaysia, There Were A Total Of 2478 Cases Recorded As Occupational Noise Related Hearing Disorder Out Of 3890 Confirmed Cases Of Occupational Disease And Poisoning In 2017 **(Dosh, 2017)**. This Contribute About 63.7% As The Highest Most Experience Occupational Diseases By Workers In Workplace. The Occupational Noise Related Hearing Disorder Are Varies From Noise-Induced Hearing Loss (Nihl), Hearing Impairment And Permanent Standard Threshold Shift.

In This Study, 100 Industrial Employees From Various Factories In Taman Sri Sulong, Parit Sulong, Johor Are Expected To Be The Participants To Answer A Survey Or Questionnaire Of Knowledge, Attitude And Practice (Kap) Study On Noise Exposure. The Criteria For Respondent Will Be Focusing On Workers Or Personnel That Directly Involved With Machine And Processes That Produces Noise. The Duration Of The Data Collection Is In 2 Months From September 2020 To October 2020. After The Completion Of The Time Frame, The Data Collected Are Analyzed Via Ibm Spss Software. Hence, This Research Project Focusing On Generating Data For The Kap Study Of Noise Exposure Among Workers In Southern Region Of Malaysia. The Impact Of Noise Exposure Towards Workers May Resulted In Rises In Occupational Noise-Related Hearing Disorder. Availability Of Hearing Protection Device May Inefficient If The Knowledge, Attitude And Practice On It Are Not Applied. Besides, Kap

Study Also Provides A Substantial Data To Promote The Importance Of Hearing Conservation Program In The Industry.

Literature Review

Excessive Noise Exposure Towards Industrial Workers Have Become The Leading Occupational Hazard In Most Workplace Which Leads To Emergence Of Various Adverse Health Effects **(Iosh, 2018)**. Failure Of Hearing Functionality As Well As Poor Working Performance Are Among The Effects Faced By Affected Employees From The Occupational Noise Hazard. Besides, The Increasing Number Of Occupational Noise-Related Hearing Disorder Cases Have Also Become A Major Concern Among Osh Practitioners In Malaysia **(Hisam & Anua, 2018)**. Hence, Various Alternatives And Support From Related Agencies Are Needed To Curb The Issue From Becoming Worse. Primary Action Should Goes Towards The Employer Responsibility To Establish A Safety And Health Committee Team In Each Industry Meanwhile Ensuring Each Employee Aware On Their Own Rights To Work In Safe Working Environment. It Is The Duty For Each Employer To Ensure The Safety, Health And Welfare Of Their Employees Are Well Taken Care Of **(Osha 1994, 2019)**.

According To **Fink (2019)**, Noise Can Be Defined As An Unwanted, Unpleasant And/Or Harmful Sound. It Is Basically A Nuisance Sound That Can Cause Health Hazard Towards Human's Hearing. The Term Of Noise And Sound May Become Interchangeable. For Some, The Sound Heard May Not Be Considered As Noise As Long As It Is Pleasant Towards Their Hearing. Hence, Noise Can Be Regard When The Sound Heard Is Stressful And Can Interrupt Sleep, Impede Concentration Or Interfere Their Verbal Communication. On The Other Hand, Noise Exposure Refers To A Condition When The Noise Detected By Noise Measuring Equipment Exceeds 82 Db(A) For 8 Hours Duration Of Working Time. Thus, When The Noise Detected Happened To Exceeds The Allowable Limit, Employer Should Conduct Hazard Identification Steps As To Detect The Source Of Excessive Noise. Several Possibilities For Noise Exposure To Occur At Workplace Are Due To Changes Happened At Equipments, Machinery, Processes Or Factory Operation **(Dosh, 2018)**.

Heavy Industries That Involved In Businesses Related To Production, Manufacturing, Construction And Mining Have Contribute A Lot Of Sound Generation That Eventually Converted Into Noise Due To Usage Machineries And Processes **(Gerges, *Et Al.*, N.D.)**. The Example Of Processes Are Printing, Grinding, Molding, Drilling, Compressing And Blasting That Usually Produced A Higher Spl Which In Turned Cause Noise To Become The Primary Occupational Hazard In Workplaces. Spl Also Dependant On The Amount Of Electrical And/Or Mechanical Energy That Being Converted Into Acoustical (Sound) Energy. In Industry, There Are Two Common Sources Of Noise Which Are Mechanical And Fluid Noise. Despite, Sound Or Noise Generated From Mechanisms Inside Machinery And Equipment Are Well Presumed As Tolerable As Somes Noise Produced Cannot Be Remove. In A Close Environment, Production Of Noise From Workplace Are Often Results From Multiplex Reasons In Which One Of Them Is The Type And Size Of Building Material.

Referring To The Hierarchy Of Control, Noise Exposure Prevention Can Be Performed At Two Levels Of Administration Control And Personal Protective Equipment (Ppe). In Administration Level, The Top Management And Safety Officer Shall Work Together To Execute A Proper Hearing Conservation Program To All Employees. This Is Important As To Prevent Any Possibility For Occupational Hearing Loss As Well As To Preserve And Equip Each Employees With Adequate Knowledge To Reduce Chances From Getting Exposed To Noise. The Hearing Conservation Program Should Consists Of 5 Important Components Namely (1) Noise Risk Assessment (2) Noise Reduction Measures, (3) Audiometric Testing, (4) Information, Instruction And Training Program And Lastly (5) Recordkeeping **(Dosh Malaysia, 2019)**. Meanwhile, Ppe For Noise Prevention Is The Usage Of Personal Hearing Protectors (Php) Such As Ear Muff And Ear Plugs.

Methodology

This Research Is Using A Cross-Sectional Study By Conducting A Survey Based On Kap Of Noise Exposure Among Factory Workers In Taman Sri Sulong Who Are Working In A Noisy Environment. As The Nature Of This Study Is A Survey-Based, There Were Few Steps Need To Be Followed As To Ensure The Smooth Running Of The Research From Preliminary Stage Of Sample Size Estimation, Questionnaire Preparation, Survey Distribution Up Until The Analysis Of Data. The Primary Data Is The Response Gathered From The Questionnaire Answered By The Respondents. The Questionnaire Made Consists Both Quantitative And Qualitative Approaches. Meanwhile,

The Secondary Data Is The Findings From Journals And Researches Available Online As Well As Literature Review From Previous Related Study On Noise. A Sample Of 100 Respondents Were Constituted As Participants In This Study Population. In Finding The Relation Between The Variables, A Descriptive Statistics Approach Were Applied By Using Statistical Software Of Ibm Spss Windows Version 26.

Study Area

Taman Sri Sulong Is Located In A Small Town Of Parit Sulong, Johor. Taman Sri Sulong Residency Have The Capacities Of Moderately Dense With 20 000 Number Of Residents **(N.A., 2018)**. There Is More Than 30 Shop Lots That Ranging From Small Medium Businesses, Retail Store, Workshop, Hypermarket And Pet Store. Next, There Is A Boarding School Namely Mara Junior Science College And Two Primary School Of Sekolah Kebangsaan Seri Laksana And Sekolah Agama Seri Laksana Located Less Than 1 Km Away From The Residency. Taman Sri Sulong Have Also Been The Centre Of Workplace For Local Residents, Nearby Villagers And Foreign Workers In The Housing Area. The Factor Of Choosing This Location For Study Area Is Because It Is Closer With Researcher's Home And Due To Restrictions Of Movement Control Order Due To Covid19 Pandemic.

Figure 1 Shows The Imagery View Of Taman Sri Sulong Maps. The Labeled Numbers Depict The Location Of The Factories. Number 1 Is The Factories That Located Near To The Archway Of The Housing Estate Such As Everlast Cat Perindustrian (M) Sdn. Bhd. Which Are The Manufacturer For Paint And Coating Industry. Number 2 Is The Factories That Located Near To The Palm Oil Plantations Such As Nexus Electronics Sdn. Bhd. That Manufactures Inductor And Transformer Components. Number 3 Is The Factories That Located Near To The Housing Area Such As Eb Packaging Sdn. Bhd. That Involved In Trading And Manufacturing Of Various Plastic Packaging Materials.

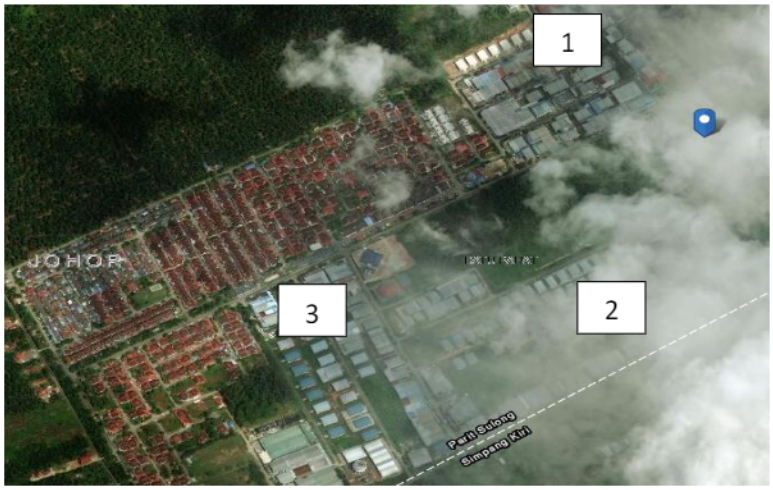

Figure 1: Location Of Study Area In Taman Sri Sulong.

For This Study, The Type Of Sampling Method Used Is A Non-Probability Sampling. It Is A Sampling Technique Applied When The Individuals Are Chosen From A Specific Criteria. There Are 4 Major Criteria Listed For Each Potential Candidates. Among The Criteria For The Respondents Were They Must Age Between 18 To 50 Years Old, Worked With The Factory For At Least 6 Months, Have Direct-Involved With Usage Of Machines And Processes That Produces Noise And Have No Historical Background On Hearing Disorder. The Data Gathered By Using A Structured Questionnaire Of Google Form.

Questionnaire Preparation

The Questionnaires Were Prepared In Bilingual Of Malay And English Language Via Google Form. To Ensure Sufficient Amount Of Participants Data, The Questionnaire Prepared Were Structured Into 5 Distinctive Parts Or Domain Which Are (I) Demographic Characteristics (Ii) Employees' Work Satisfaction (Iii) Knowledge On Noise Exposure (Iv) Attitudes Towards Noise Exposure And (V) Practices On Noise Exposure. Next, The Questionnaire Undergo Validation Process To Test Whether The Questions Prepared Are Sufficient Or Appropriate Enough To Address The Issue Towards The Respondents. In This Study, The Prepared Questionnaire And A Validation Form Was Sent Out To Several Panelist To Test For The Questionnaire Reliability And Validity Before It Is Distributed

To Potential Respondents. There Were 4 Panelist Involved In The Validation Process With Different Professional Background In Osh Field Which Are Academicians And Certified Noise Risk Assessors (Nra) From Dosh.

Pilot Study

Pilot Study Is A Preliminary Study To Assess The Reliability Of The Questionnaire And How Does It Works Before Testing It On Real Desired Respondents **(Van Teijlingen & Hundley, 2010)**. It Is Conducted In A Small-Scale Basis As Experimental Study For Confirmatory Bias In A Study Protocol And To Ensure That The Prepared Questionnaire Accurately Convey The Research Questions, Can Be Clearly Understood And Displayed In A Consistent Manner **(In, 2017)**. 20 Volunteers Took Part In The Pilot Study (Factory Worker = 14, Public = 6). 15 Out Of 20 Pilot Respondents Able To Understand The Questionnaire Well In Both Malay And English Language. 5 Of Them Commented That The Term Used Should Be Adjusted Into Layman's Terms As The Targeted Respondents Of Factory Worker May Find It Hard To Understand The Questions.

Next, Reliability Test Is Conducted To Test For Internal Consistency Of Scoring Measures For The Research Questions **(Bonett & Wright, 2015)**. Cronbach's Alpha Value Act As The Reliability Coefficient For The Research. In This Study, Reliability Analysis Was Conducted On Satisfaction, Knowledge, Attitude And Practice Questions. Table 1 Shows The Result From Spss Reliability Test On Pilot Respondents. A Good Reliability Value Is From 0.8 To 0.9 Meanwhile For $A \geq 0.9$ Shows An Excellent Result Of Questions Scoring Consistency. It Can Be Deduced That The Questionnaire Prepared In This Study Have Passed The Reliability Test.

Table 1 : Reliability Test On Noise Exposure Variables For Pilot Respondents, N=20.

Items Analyzed	N	Reliability Coefficient (Cronbach's Alpha, A)
Satisfaction	5	0.966
Knowledge	15	0.871
Attitude	23	0.907
Practice	11	0.904

Data Collection

The Data Collection Process Was Conducted Online Via Google Form. Several Phone Calls Were Made To The Company's Office As To Request For The Workers' Participation On The Survey. Once The Request Was Accepted, The Google Form Link Was Emailed To Their Company's Email Address As Well As To Some Worker's Personal Email. There Was No Face-To-Face Interaction With All The Respondents As To Avoid Any Physical Contact And To Reduce Risk Of Covid19 Infection. Besides, As The Survey Is Conducted Online, The Google Form Link Also Being Distributed On Online Messaging Application Via Whatsapp As Well As On Social Media Of Facebook. The Respondents Are Required To Answer A Set Of 49 Questions Which Have Been Constructed To Meet The Need Of Kap Of Noise Exposure Among Workers In Industrial Area Of Taman Sri Sulong. It Tooks About 7 To 10 Minutes Per Respondent To Answer The Questionnaire.

Data Analysis

The Data Gathered From The Online Survey Is Further Analyzed Using Both Wps Office Spreadsheets And Ibm Statistical Package For Social Science (Spss) Statistics For Window Version 26. Every Questionnaire Together With Their Answers Are Assigned With Particular Coding From Spreadsheets To Spss As Spss Only Read Numbered Data Set. Next, Normality Test Was Conducted As The Prerequisite Before Conducting Any Statistical Parametric Testing. If The Sample Of Data Follows A Continuous Normal Distribution, The Overall Data Can Be Represented In The Mean Value **(Mishra *Et Al.*, 2019)**. In This Study, The Number Of Sample (N) Is 100. When The Data Were Run In Spss For Normality Test, The Assumption Of Normally Distributed Population Are Violated Due To The Present Of Outliers. Hence, After The Removal Of Outliers, The N Value Become 98 And The Data Are Now Considered As Normally Distributed.

On The Other Hand, Descriptive Analysis Was Used To Summarize The Sample Of Data. There Are 3 Types Of Measurement Conducted Namely The Measures Of Frequency, Measures Of Central Tendency And Measures Of

Dispersion. Measures Of Frequency Is Related To Occurence Where It Helps To Count The Number Of Times For Each Variables To Occur. One Of The Example In This Study Is The Number Of Males And Females Employees In The Data Set. Moreover, The Frequency Value Can Also Be Represented In Percentage. Next, Measures Of Central Tendency Is Used To Detect The Representative Value For A Data Set. It Helps To Make Comparison Between Two Or More Variables For The Entire Distribution. The Common Measurs Used Are Mean, Mode And Median. Lastly, Measures Of Dispersion Helps To Evaluate The Variation Of A Data Set. It Tells How Spread Out The Data From The Mean Or Median Values. The Common Measures Used Are Standard Deviation, Variance, Range And Standard Error.

Results

The Structured Questionnaire Consist Of 5 Different Sections Namely The Respondent Demographic Characteristics, Employee's Work Satisfaction, Knowledge, Attitude And Practice Of Noise Exposure At Workplace. Each Of The Questions Or Statements Had Been Analysed By The Value Of Frequency, Percentage And Mean Scores. For Employee's Work Satisfaction, Attitude And Practice Variables, The Scoring Were Conducted By Using Likert Scale Method.

Demographic Characteristics

The Total Of Respondents Participated In This Survey Are 98 Industrial Workers. They Are The Employees From Manufacturing Industries Of Wood And Furniture, Electronics, Paint And Coating, Plastics And Also Poultry Processing Plants. Based On Table 2, The Industrial Workers Participated In The Questionnaire Consists Of 71 Male And 26 Female. This Shows That The Number Of The Male Respondents Are Higher Than Female Respondents By Almost Thrice. Next, According To Table 4.1, Majority Of The Respondents Are Aged From 21 To 30 Years Old (54.1%). It Is More Than Half Of The Total Respondents. The Results Then Followed By Aged From 31 To 40 Years Old (33.7%), 41 To 50 Years Old (9.2%) And Lastly 18 To 20 Years Old (3.1%). In Addition, The Number Of Employees Who Have A Smoking Habit Is 70.4% And All Of Them Are Male Workers.

On The Other Hand, Looking From The Result Of Respondent's Background Of Education, 43 Of Them Have Post Secondary Education Of At Least Stpm, Matriculation And Certificate Holders. It Is Followed With Higher Education Holders Such As Diploma, Bachelor, Degree, Master And Phd Which Is 40, Secondary School 13 And 2 Respondent Have Education Background Of Primary School. Next, 57.1% Of The Respondents Experienced Intermittent Noise Exposure And 42.9% Of Them Faced Continuous Noise Exposure. The Last Variable For Demographic Profile Is Sources Of Noise Exposure At Workplace. Result Shows That 44.9% Worker Were Exposed To The Noise Produced From Their Working Environment Meanwhile 55.1% Exposed To Noise From Specific Process, Equipment Or Machinery During Work.

Table 2 : The Demographic Characteristics Of Respondents, N = 98.

Demographic	Characteristics	Frequency	Percent (%)
Gender	Male	71	72.4
	Female	27	27.6
Age Group	18 To 20 Years Old	3	3.1
	21 To 30 Years Old	53	54.1
	31 To 40 Years Old	33	33.7
	41 To 50 Years Old	9	9.2
Smoking	Yes	69	70.4
	No	29	29.6
Level Of Education	Primary School	2	2.0
	Secondary School	13	13.3
	Post Secondary (Eg: Stpm, Matriculation, Certificate)	43	43.9
	Higher (Eg: Diploma, Bachelor Degree, Master, Phd)	40	40.8
Type Of Noise Exposure	Intermittent	56	57.1
	Continuous	42	42.9

Source Of Noise Exposure	Working Environment	44	44.9
	Specific (Eg: Rotors, Fans, Vibrating Panels)	54	55.1

Employees' Work Satisfaction

The Satisfaction Questionnaire Have 5 Set Of Questions About The Employee Satisfaction On Company's Work Culture Of Working Time, Feedback Value, Communication, Transparency And Opportunities For Career Growth. Responses Was Measured In Likert Scale Of Very Unsatisfied (Vu), Unsatisfied (U), Neutral (N), Satisfied (S) And Very Satisfied (Vs). In Spss, The Scoring Were Input As 1 For Very Unsatisfied, 2 For Unsatisfied, 3 For Neutral, 4 For Satisfied And 5 For Very Satisfied. Hence, The Mean Score Analysis Ranged From 1 To 5. Table 3 Shows The Summary For Employees Work Satisfaction Survey.

Table 3 : Employees Work Satisfaction For Summary Of Respondents, N = 98.

Company Work Culture	**Percent, %**					**Mean**	**Mode**
	Vu	**U**	**N**	**S**	**Vs**		
Working Time	0.0 (0)	4.1 (4)	4.1 (4)	24.5 (24)	67.3 (66)	4.55	5
Feedback Value	0.0 (0)	2.0 (2)	6.1 (6)	28.6 (28)	63.3 (62)	4.53	5
Communication	0.0 (0)	4.1 (4)	8.2 (8)	26.5 (26)	61.2 (60)	4.45	5
Transparency	0.0 (0)	4.1 (4)	7.1 (7)	31.6 (31)	57.1 (56)	4.42	5
Opportunities	0.0 (0)	8.2 (8)	10.2 (10)	25.5 (25)	56.1 (55)	4.30	5

Majority Of The Employees At The Factories In Industrial Area Of Taman Sri Sulong Are Satisfied With Their Company Work Culture. For Working Time Variable, 67.3% Are Very Satisfied With Their Duration Of Working Hours. Meanwhile, 24.5% Respondents Are Satisfied, 4.1% Are Neutral And 4.1% Are Unsatisfied. On A Side Note, The Normal Working Hours At The Factory Were From 8.00 Am To 5.00 Pm With Break For Lunch At 1.00 Pm To 2.00 Pm. On The Other Hand, 57.1% Of The Respondents Are Very Satisfied With The Company's Transparency. Meanwhile, 31.6% Are Satisfied, 7.1% Are Neutral And 4.1% Are Unsatisfied With The Company Work Culture On Transparency. This Variable Is Closely Related With The Business Practice Of Being Open In Sharing The Company's Information, Performance And Internal Processes Towards Public. Next, 56.1% Of The Industrial Worker Are Very Satisfied And 25.5% Are Satisfied With The Opportunity For Career Growth Or Promotion At The Company They Work For. The Rest 18.4% Respondent Are Neutral And Unsatisfied With The Company Work Culture On Opportunity.

Knowledge On Noise Exposure

The Noise Exposure Knowledge Questionnaire Have A Total Of 15 Questions With Answer Choice Of 'True (T), False (F) And Don't Know (Dk) Format Used As Instrument To Test The Noise Exposure Literacy Among Employees. The Level Of Knowledge On Noise Exposure Among 98 Respondents Are Being Evaluated On The Basis Of Percentage, Mean And Mode Score. For Each Correct (True) Answer, The Score Given Is 2 Meanwhile For 'Do Not Know' And Incorrect (False) Answer The Score Given Are 1 And 0 Respectively. Table 4 Shows The Descriptive Analysis For The Scoring Of Knowledge On Noise Exposure. K1, K2 And K3 Questions Evaluated The General Knowledge On Noise Exposure Among The Respondents And 77.6% Employees Understand That Noise Is Regard When The Sound Heard Is Too Loud Meanwhile 82.7% Acknowledged That Excessive Loud Noise Can Lead To Hearing Problems. For Knowledge On Causes Of Noise Exposure, 99% Of The Respondents Recognize That Noise From Workplace Came From The Industrial Machinery And Processes And 27.6% Respondents Do Not Know That A Sound Level Exceeding 82 Db Is Considered As Noise.

K6 Is A False Statement On Risk Factors Of Noise Exposure At Workplace. Only 12 Respondents Scored The Actual True Answer For Gender Prevalence In Workplace Noise Exposure. The Comparison Between Gender And Noise Exposure Risk Can Be Deduced If And Only If The Amount Of Male And Female Worker Involved In The Survey Are Equal. Majority Of The Respondents Also Understood That K7, K8 And K9 Are Among The Signs And Symptoms For Noise Exposure. More Than 85% Acknowledged That The Symptoms Of Feeling Pressure Or Fullness In Ear, Ringing And Buzzing Sounds As Well As Difficulty In Speech Indicates The Signs Of Getting Exposed To Noise. Next, Three Quarter Of The Respondents (74.5%) Grasp That The Usage Of Personal Hearing Protectors May Be Insufficient During The Exposure Of A Super Intense Noise. The Law Subdomains On Knowledge Of Noise Exposure Also Displayed A Fairly Positive Results In Which Only 20.4% Do Not Know That It Is The Employees Duty To Use Php While Working At A Noisy Condition.

Table 4 : Knowledge Towards Noise Exposure Of Respondents, N=98.

Code	Statements/Questions	Correct Answer	Percent, %			Mean	Mode
			T	F	Dk		
K1	A Sound Has To Be Very Loud To Be Considered As Noise.	T	77.6 (76)	6.1 (6)	16.3 (16)	1.71	2
K2	Loud Noise Can Cause Hearing Problems.	T	82.7 (81)	2.0 (2)	15.3 (15)	1.81	2
K3	Noise Exposure Is Common In Industry.	T	77.6 (76)	12.2 (12)	10.2 (10)	1.65	2
K4	Noise Exposure At Workplace Comes From Machinery And Processes.	T	99.0 (97)	1.0 (1)	0 (0)	1.98	2
K5	Sound Level More Than 82 Db Is Considered As Noise.	T	71.4 (70)	1.0 (1)	27.6 (27)	1.70	2
K6	Male Are At Higher Risk To Be Exposed With Noise Compared To Female.	F	78.6 (77)	10.2 (10)	11.2 (11)	1.68	2
K7	Among Signs Of Getting Noise Exposure Is Feeling Of Pressure Or Fullness In The Ears.	T	87.8 (86)	0 (0)	12.2 (12)	1.88	2
K8	Among Signs Of Getting Noise Exposure Is Ringing And Buzzing Sounds In The Ears Or Head.	T	95.9 (94)	0 (0)	4.1 (4)	1.96	2
K9	Among Signs Of Getting Noise Exposure Is Speech Seems Muffled Or Far Away.	T	93.9 (92)	1.0 (1)	5.1 (5)	1.93	2
K10	Working Away From Sources Of Noise Can Reduce Noise Exposure.	T	95.9 (94)	1.0 (1)	3.1 (3)	1.95	2
K11	Lower Sound Level And Shorter Time Of Exposure Can Reduce Noise Exposure.	T	93.9 (92)	2.0 (2)	4.1 (4)	1.92	2
K12	Earplug And Earmuff Is Useful To Reduce And Prevent Noise Exposure.	T	91.8 (90)	3.1 (3)	5.1 (5)	1.89	2
K13	Usage Of Earplug And Earmuff During Exposure To A Very Intense Noise May Be Insufficient.	T	74.5 (73)	8.2 (8)	17.3 (17)	1.66	2
K14	It Is The Responsibility Of The Employers To Provide Hearing Protection Devices To All Employees That Exposed To Noise Exceeding 85 Db.	T	68.4 (67)	0.0 (0)	31.6 (31)	1.68	2
K15	It Is The Responsibility Of The Employees To Wear Hearing Protection Device While Working In Noisy Area.	T	77.6 (76)	2.0 (2)	20.4 (20)	1.76	2

In Addition, The Noise Exposure Knowledge Scores Are Further Divided Into 3 Categories Of Low, Medium And High Score. The Lowest Score Recorded Is 23 Meanwhile The Highest Score Is 30. In Short, The Respondents

Knowledge And Level Of Understanding About Noise Exposure Is High. This Is Proven With Total Score Value For All Participants Exceeds 20.

Attitude On Noise Exposure

The Questionnaire On Attitude Towards Noise Exposure Have A Total Of 23 Questions. The Answer Choice Varies From 'Strongly Disagree (Sd), Disagree (D), Neutral (N), Agree (A) And Strongly Agree (Sa). The Scoring Were As Follows; Sd = 0; D = 1; N = 2; A = 3 And Sa = 4. Table 5 Shows The Descriptive Analysis For The Scoring Of Attitude Towards Noise Exposure. There Are 6 Negatively Constructed Statements In The Attitude Part. 50% Respondents Agreed That All Industrial Workers Are Exposed Towards Noise And 32.7% Felt That The Noise Production At Work Is A Disturbance. 43.9% Respondent Agreed That Excessive Noise Exposure Can Cause A Temporary Or Permanent Hearing Loss. Next, 38.8% Employees Disagreed That They Did Not Care If They Are Exposed To Noise For A Long Period (A5). It Was A Negative Statement Hence By Disagreeing, The Employees Presented A Positive Attitude Towards Noise Exposure.

Besides, 31.6% Believes That Hearing Problem At An Early Stage May Cure By Itself And 44.9% Are Neither Agree Nor Disagree To Inform Their Employer If They Experienced A Prolong Noise Exposure. For Attitude On Prevention Of Noise Exposure, 46.9% Strongly Agreed On The Use Of Php During Work. Respective Scores Of 43.9% And 45.9% For A14 And A16 Indicates The Respondents Positive Attitude Towards The Noise Prevention. Majority Of The Respondents Agreed That Both Employers And Employees Need To Know The Law Governing Noise Exposure In Malaysia Which Is The Osh (Noise Exposure) Regulations 2019. The Regulation Is Updated From Time To Time To Ensure The Welfare Of All Workers Are Well-Taken Care Of. Lastly, The Risk Taking Attitude Of The Respondents Also Scored Much Favorable Results. 49% Agreed That Employees Should Know The Ways To Reduce Noise Exposure During Working And 45.9% Felt That Learning The Strategy To Minimize Chance From Getting Hearing Problems.

Table 5 : Respondents Attitude Towards Noise Exposure, N=98.

Code	Statements/Questions	Percent, %					Mean	Mode
		Sd	D	N	A	Sa		
A1	All Industrial Workers Are Exposed To Noise.	0.0 (0)	8.2 (8)	5.1 (5)	50.0 (49)	36.7 (36)	3.15	3
A2*	Noise At My Workplace Did Not Bothers Me.	6.1 (6)	32.7 (32)	20.4 (20)	31.6 (31)	9.2 (9)	2.05	1
A3	I Do Not Like The Machine If It Produces Excessive Noise.	2.0 (2)	0.0 (0)	7.1 (7)	53.1 (52)	37.8 (37)	3.24	3
A4	Excessive Noise Exposure Can Cause Permanent Or Temporary Hearing Loss.	0.0 (0)	2.0 (2)	13.3 (13)	43.9 (43)	40.8 (40)	3.23	3
A5*	I Do Not Care If I Am Exposed To Noise For A Long Period.	15.3 (15)	38.8 (38)	29.6 (29)	13.3 (13)	3.1 (3)	1.50	1
A6*	I Do Not Worry If My Hearing Starts To Deteriorate.	28.6 (28)	37.8 (37)	27.6 (27)	5.1 (5)	1.0 (1)	1.12	1
A7	I Seek Medical Treatment If My Hearing Deteriorates Due To Noise Exposure During Working.	0.0 (0)	0.0 (0)	11.2 (11)	48.0 (47)	40.8 (40)	3.30	3
A8	I Do Not Worry For Hearing Problems At Early Stage Because The Hearing May Cure By Itself.	14.3 (14)	20.4 (20)	20.4 (20)	31.6 (31)	13.3 (13)	2.09	3
A9*	I Don't Have To Inform My Employer If I Experienced Prolong Noise Exposure.	21.4 (21)	18.4 (18)	44.9 (44)	15.3 (15)	0.0 (0)	1.54	2
A10	It Is Important To Prevent Excessive Noise Exposure To All Workers.	0.0 (0)	0.0 (0)	11.2 (11)	45.9 (45)	42.9 (42)	3.32	3
A11	All Workers Should Wear Earmuff And Earplug To Prevent Noise Exposure.	1.0 (1)	1.0 (1)	12.2 (12)	38.8 (38)	46.9 (46)	3.30	4
A12	Workers Must Accept Whatever Type Of Hearing Protection Device Given To Them.	1.0 (1)	9.2 (9)	21.4 (21)	36.7 (36)	31.6 (31)	2.89	3

A13	I Do Like Wearing Earplug And/Or Earmuff.	3.1 (3)	6.1 (6)	18.4 (18)	40.8 (40)	31.6 (31)	2.92	3
A14	It Is Important To Undergo Hearing Check-Up Annually.	1.0 (1)	1.0 (1)	12.2 (12)	43.9 (43)	41.8 (41)	3.24	3
A15	We Should Inform The Employers If The Machine Is Noisier Than Before.	0.0 (0)	0.0 (0)	18.4 (18)	41.8 (41)	39.8 (39)	3.21	3
A16	Training And Education On Noise Exposure Should Be Perfomed Regularly.	0.0 (0)	0.0 (0)	11.2 (11)	45.9 (45)	42.9 (42)	3.32	3
A17*	Discussion With Employer Regarding Noise At Workplace Will Not Reduce The Noise Exposure And/Or Hearing Problems.	6.1 (6)	15.3 (16)	49.0 (48)	21.4 (21)	8.2 (8)	2.10	2
A18	Only Employers Should Know The Details Of Occupational Safety And Health (Noise Exposure) Regulations 2019.	7.1 (7)	19.4 (19)	24.5 (24)	28.6 (28)	20.4 (20)	2.36	3
A19	Workers Should Know The Occupational Safety And Health (Noise Exposure) Regulations 2019.	0.0 (0)	0.0 (0)	17.3 (17)	49.0 (48)	33.7 (33)	3.16	3
A20	Workers Should Know How To Reduce Exposure To Noise During Working.	0.0 (0)	3.1 (3)	14.3 (14)	49.0 (48)	33.7 (33)	3.13	3
A21	Workers Should Learn How To Minimize The Chance From Getting Hearing Problems.	0.0 (0)	2.0 (2)	16.3 (16)	45.9 (45)	35.7 (35)	3.15	3
A22	A Noisy Workplace Is A Normal Situation For Me.	9.2 (9)	18.4 (18)	22.4 (22)	36.7 (36)	13.3 (13)	2.27	3
A23*	It Is Easier To Cover My Ear With Finger/Hand To Avoid Noise Rather Than Wearing Earplug At All Times.	18.4 (18)	40.8 (40)	25.5 (25)	10.2 (10)	5.1 (5)	1.43	1

**Negative Questions/Statements*.

The Noise Exposure Attitude Scores Are Divided Into 3 Categories Of Low, Medium And High Score. The Lowest Score Recorded Is 41 Meanwhile The Highest Score Is 83. 51 Respondents Scores The Medium Category And 47 On High Category. In Short, The Respondents Attitude Towards Noise Exposure Is At Medium Level And Fairly Good.

Practice On Noise Exposure

There Are A Total Of 11 Questions On Employees Practice Towards Noise Exposure. The Answer Choice Are 'Never (N), Seldom (S), Frequent (F) And Always (A)'. There Are 2 Subdomains In Practice Part Which Are Prevention And Law. Questions P1 To P9 Are Related To The Preventive Actions Against Noise Exposure Meanwhile P10 And P11 Is The Law Related To Practices On Noise. The Scoring Format Are Following Likert Scale Where N = 0, S = 1, F = 2 And A = 3. The Mean Scores Of 2 And Above Are Considered As Positive Practice Meanwhile For Mean Scores Below Than 2, It Is Rated As Poor Or Negative Practice.

Table 6 Shows The Descriptive Analysis For The Scoring Of Practices Towards Noise Exposure. 33.7% Of The Respondents Seldomly Use Php To Protect Their Ears Meanwhile 11% Never Use It. Majority Of The Employees Chose To Stay Away From Noisy Condition At Work Whenever It Feasible (P2). This Is An Example Of A Good Preventive Action To Avoid Getting Exposed To Unnecessary Noise. P4 Is A Negatively Structured Question As It Is About The Usage Of Unsafe Equipment For Replacement Of Php. The Mean Score For This Particular Question Is 1.12 In Which It Falls Under Negative Practice Scale. Next, Only 10.2% Of Respondents Consistently Having Discussion With Their Employer Whenever There Is Defects On Their Phps.

P6, P7, P8 And P9 Are The Questions Related To The Noise Prevention Control Under Hearing Conservation Program. 56.1% Of The Participants Had Never Undergone An Audiometry Assessment During Their Working Life And 49% Admitted That Their Company Never Conduct A Training Prior To Hearing Conservation Program. These Data Proves That The Awareness Regarding Practices Towards Noise Exposure Among Some Of The Employers Are At A Worrying State. The Mean Scores For P6 To P9 Are Between 0.49 To 0.59 And It Indicates Majority Of

The Employees Have Negative Practices Towards Noise Exposure. Moreover, 76.5% Of The Respondents Had Never Read The Law Of Osh (Noise Exposure) Regulations 2019 And The Mean Score Is Below 0.5 Which Is 0.36.

Table 6 : Practices Towards Noise Exposure Of Respondents, N=98.

Code	Statements/Questions	Percent, %				Mean	Mode
		N	S	F	A		
P1	I Use Earplug And/Or Earmuff To Protect My Ear.	9.2 (9)	37.8 (37)	33.7 (33)	19.4 (19)	1.63	1
P2	I Stay Away From The Noisy Machine Or Environment If It Is Possible.	1.0 (1)	8.2 (8)	48.0 (47)	42.9 (42)	2.33	2
P3	I Always Use Earplugs And/Or Earmuff During Working.	10.2 (10)	46.9 (46)	34.7 (34)	8.2 (8)	1.41	1
P4	When Earplugs Are Not Available, I Use Something (Eg: Cotton Bud) To Cover My Ears.	24.5 (24)	42.9 (42)	28.6 (28)	4.1 (4)	1.12	1
P5	I Discuss With My Employer When The Earplug Or Earmuff Is Defect.	30.6 (30)	38.8 (38)	20.4 (20)	10.2 (10)	1.10	1
P6	Have You Ever Undergo An Audiometry Assessment?	56.1 (55)	39.8 (39)	3.1 (3)	1.0 (1)	0.49	0
P7	Have You Ever Attended Seminar Or Course Related To Noise?	54.1 (53)	42.9 (42)	2.0 (2)	1.0 (1)	0.50	0
P8	Have Your Company Conducted Hearing Conservation Program?	49.0 (48)	42.9 (42)	7.1 (7)	1.0 (1)	0.60	0
P9	Have Your Company Conducted Training On Hearing Conservation Program?	51.0 (50)	39.8 (39)	8.2 (8)	1.0 (1)	0.59	0
P10	I Read The Law Of Occupational Safety And Health (Noise Exposure) Regulations 2019.	76.5 (75)	14.3 (14)	6.1 (6)	3.1 (3)	0.36	0
P11	I Read The Industrial Code Of Practice For Occupational Noise Exposure And Hearing Conservation.	65.4 (64)	24.5 (24)	5.1 (5)	5.1 (5)	0.50	0

The Noise Exposure Practice Scores Are Divided Into 3 Categories Of Low, Medium And High Score. The Lowest Score Recorded Is 1 Meanwhile The Highest Score Is 25. 53 Respondents Scores The Low Category And 43 On Medium Category. In Short, The Respondents Practice Towards Noise Exposure Is Poor And Fairly Low.

Conclusion

In Conclusion, This Study Was Successfully Carried Out To Evaluate The Level Of Kap Of Noise Exposure Among Workers At Industrial Area In Taman Sri Sulong. Based On The Findings, It Is Determined That The Level Of Noise Exposure Acknowledgement Among Workers At Industrial Area In Taman Sri Sulong Are High Although The Practices Towards Prevention Of Noise Is Low. Thus, It Is Suggested For Future Study To Undertaken The Details Of The Noise Exposure Experienced By The Participants Including By Performing An Audiometric Testing To All Potential Respondents And Considering The Type Of Machines, Industrial Processes Or Equipments That Became The Noise Point Source.

Besides, It Is Recommended For Further Research To Focus More On The Noise Assessment At The Factory Itself. Involvement Of Nra And Safety Health Committee Team From Each Potential Company Can Help To Establish A Reliable Research Program. On The Other Hand, It Is Also Suggested To Increase The Amount Of Sample Size And To Expand The Location Of Study Area. For Future Work, It Is Suggested For Researcher To Come Out With Intervention Program. Intervention Program Can Be Conducted By Using A New Or Pre-Existed Data On The Kap Study To Develop An Educational Program About Noise Exposure Towards The Potential Workers. Following That, The Researcher May Proceed With A New Kap Study To Study The Effects Of The Intervention Program.

References

1. Canadian Centre For Occupational Health & Safety. (2019). *Hearing Protectors*. Retrieved On May 20, 2020 From Https://Www.Ccohs.Ca/Oshanswers/Prevention/

2. Ppe/Ear_Prot.Html

3. Canadian Centre For Occupational Health And Safety. (2019). *Noise - Basic Information : Osh Answers*. Retrieved On April 25, 2020 From Https://Www.Ccohs.Ca/Oshanswers/Phys_Agents/ Noise_Basic.Html

4. Department Of Occupational Safety And Health. (2017). *Occupational Diseases And Poisoning Investigation*. Retrieved On May 25, 2020 From Http://Tpg2.Dosh.Gov.My/Index.Php/En/
5. Occupational-Diseases-And-Poisoning-Statistic/1862-Occupational-Diseases-And-Poisoning
6. Investigation

7. Department Of Occupational Safety And Health. (2018). *Introduction Of Noise & Legal Requirement*. Industrial Noise Control Module.

8. Department Of Occupational Safety And Health Malaysia. (2019). *Industry Code Of Practice For Management Of Occupational Noise Exposure And Hearing Conservation 2019*. Ministry Of Human Resource Malaysia.

9. Fink, D. (2019, December). A New Definition Of Noise: Noise Is Unwanted And/Or Harmful Sound. Noise Is The New 'Secondhand Smoke'. In *Proceedings Of Meetings On Acoustics 178asa* (Vol. 39, No. 1, P. 050002). Acoustical Society Of America.

10. Gerges, S., Sehrndt, G.A. & Parthey, W. (N.D.). *Noise Sources*. Occupational Health, Publications. World Health Organization.

11. Hisam, A., & Anua, S. M. (2018, June). Noise Exposure And Hearing Symptoms Among Laundry Workers And Mechanical Cutters In A Teaching Hospital. *Journal Of Occupational Safety And Health*, *15*(1).In, J. (2017). Introduction Of A Pilot Study. *Korean Journal Of Anesthesiology*, *70*(6), 601. Doi:10.4097/Kjae.2017.70.6.601

12. Iosh. (2018). *Noise*. Retrieved On November 11, 2020 From Https://Iosh.Com/ Resources-And-Research/Our-Resources/Occupational-Health-Toolkit/Noise/

13. Ismail, A. F., Daud, A., Ismail, Z., & Abdullah, B. (2013). Noise-Induced Hearing Loss Among Quarry Workers In A North-Eastern State Of Malaysia: A Study On Knowledge, Attitude And Practice. *Oman Medical Journal,28*(5), 331-336. Doi:10.5001/Omj.2013.96

14. Mishra, P., Pandey, C. M., Singh, U., Gupta, A., Sahu, C., & Keshri, A. (2019). Descriptive Statistics And Normality Tests For Statistical Data. *Annals Of Cardiac Anaesthesia*, *22*(1), 67. Doi:10.4103/Aca.Aca_157_18

15. Mohd Rus, R., Daud, A., Musa, K., & Naing, L. (2008). Knowledge, Attitude And Practice Of Sawmill Workers Towards Noise-Induced Hearing Loss In Kota Bharu, Kelantan. *Malaysian Journal Of Medical Sciences,15*(4), 28-34.

16. N.A. (2018). *Keputusan Terkini Parlimen*. Suruhanjaya Pilihan Raya Malaysia. Retrieved On July 3, 2020 From Http://Pru14.Spr.Gov.My/#!/Home

17. *Occupational Safety And Health Act 1994 (Act 514) Regulations And Orders: As At 1st April 2016*. (2016). Petaling Jaya, Selangor: International Law Book Services.

18. Van Teijlingen, E., & Hundley, V. (2010). The Importance Of Pilot Studies. *Social Research Update*, *35*(4), 49-59.