

Tabel 8. Data pengaruh kebisingan terhadap abnormalitas morfologi spermatozoa (%)

a. Data abnormalitas morfologi spermatozoa pada bagian ekor (%)

| Ulangan | Perlakuan | | | | |
|----------|-----------|-------|-------|-------|-------|
| | P0 | P1 | P2 | P3 | P4 |
| 1 | 0 | 7,14 | 20 | 5,71 | 19,64 |
| 2 | 0 | 0 | 20,58 | 14,11 | 0 |
| 3 | 0 | 5,25 | 14,48 | 24,35 | 0 |
| 4 | 0 | 6,06 | 0 | 12,93 | 40 |
| 5 | 0 | 0 | 15,56 | 34,54 | 17,74 |
| Σ | 0 | 18,45 | 70,62 | 91,64 | 77,38 |
| X | 0 | 6,15 | 17,48 | 18,38 | 25,79 |

b. Data abnormalitas morfologi spermatozoa pada bagian kepala (%)

| Ulangan | Perlakuan | | | | |
|----------|-----------|-------|-------|-------|-------|
| | P0 | P1 | P2 | P3 | P4 |
| 1 | 0 | 0 | 25,92 | 3,44 | 45,45 |
| 2 | 0 | 7,14 | 20,58 | 10,35 | 19,14 |
| 3 | 0 | 1,53 | 14,18 | 11,45 | 4,16 |
| 4 | 0 | 1,15 | 12,5 | 2,36 | 0 |
| 5 | 0 | 43,72 | 0 | 14,47 | 0 |
| Σ | 0 | 53,54 | 72,18 | 42,07 | 68,75 |
| X | 0 | 13,38 | 18,37 | 8,41 | 22,91 |

Keterangan :

- Σ : Jumlah
 X : Rata –rata
 * : Nyata
 tn : Tidak Nyata
 N : Ulangan
 F : Faktor Kuadrat
 P0 :Kontrol, tidak diberi perlakuan pemaparan
 P1 :Perlakuan 1, diberi pemaparan kebisingan 85-90 dBA dengan lama pemaparan 6 jam/hari
 P2 :Perlakuan 2, diberi pemaparan kebisingan 85-90 dBA dengan lama pemaparan 8 jam/hari
 P3 :Perlakuan 3, diberi pemaparan kebisingan 85-90 dBA dengan lama pemaparan 10 jam/hari
 P4 :Perlakuan 4, diberi pemaparan kebisingan 85-90 dBA dengan lama

pemaparan 12 jam/hari

Persentase Perhitungan morfologi abnormal:

$$\% \text{ abnormalitas} = \frac{a}{a+b} \times 100 \%$$

Keterangan :

a = Spermatozoa Abnormal

b = Jumlah spermatozoa yang dihitung (100)

1. Perhitungan morfologi abnormal pada waktu pemaparan 6 jam/hari

| | | | |
|------|---------------|---|----------|
| I. | Ekor bengkok | $= \frac{2}{2+6} \times 100 \% = 25 \%$ | } 28,24% |
| | Kepala jarum | $= \frac{5}{5+6} \times 100 \% = 45,45 \%$ | |
| | Ekor terputus | $= \frac{1}{1+6} \times 100 \% = 14,28 \%$ | |
| II. | Ekor bengkok | $= \frac{4}{4+6} \times 100 \% = 40 \%$ | } 26,42% |
| | Kepala jarum | $= \frac{2}{2+6} \times 100 \% = 24 \%$ | |
| | Kepala bulat | $= \frac{1}{1+6} \times 100 \% = 14,28 \%$ | |
| III. | Ekor bengkok | $= \frac{6}{6+23} \times 100 \% = 20,68 \%$ | } 16,15% |
| | Kepala bulat | $= \frac{1}{1+23} \times 100 \% = 4,16 \%$ | |
| | Ekor terputus | $= \frac{4}{4+23} \times 100 \% = 14,81 \%$ | |

$$\text{Jumlah total abnormal spermatozoa (\%)} = \frac{28,24 + 26,41 + 16,15}{3} = 23,73 \%$$

2. Perhitungan morfologi abnormal pada waktu pemaparan 8 jam/hari

| | | | |
|----|---------------|--|----------|
| I. | Ekor bengkok | $= \frac{2}{2+18} \times 100 \% = 10 \%$ | } 14,28% |
| | Ekor terputus | $= \frac{1}{1+18} \times 100 \% = 4,28 \%$ | |

$$\text{II. Kepala jarum} = \frac{5}{5+65} \times 100 \% = 7,14 \%$$

$$\begin{array}{lcl} \text{III. Ekor bengkok} & = \frac{6}{6+60} \times 100 \% = 9,09 \% \\ \text{Kepala bulat} & = \frac{1}{1+60} \times 100 \% = 1,53 \% \\ \text{Ekor terputus} & = \frac{1}{1+60} \times 100 \% = 1,42 \% \end{array} \left. \vphantom{\begin{array}{l} \\ \\ \end{array}} \right\} 13,04\%$$

$$\begin{array}{lcl} \text{IV. Ekor bengkok} & = \frac{6}{6+64} \times 100 \% = 8,57 \% \\ \text{Kepala putus} & = \frac{1}{1+64} \times 100 \% = 1,15 \% \\ \text{Ekor terputus} & = \frac{3}{3+64} \times 100 \% = 3,56 \% \end{array} \left. \vphantom{\begin{array}{l} \\ \\ \end{array}} \right\} 14,28\%$$

$$\text{V. Kepala jarum} = \frac{20}{9+24} \times 100 \% = 43,72 \% \quad 72,72\%$$

$$\text{Jumlah total abnormal spermatozoa (\%)} = \frac{14,28 + 7,14 + 13,04 + 14,28 + 72,72}{5} = 24,29 \%$$

3. Perhitungan morfologi abnormal pada waktu pemaparan 10 jam/hari

$$\begin{array}{lcl} \text{I. Ekor bengkok} & = \frac{4}{4+63} \times 100 \% = 5,71 \% \\ \text{Kepala jarum} & = \frac{3}{3+63} \times 100 \% = 3,44 \% \\ \text{Ekor putus} & = \frac{4}{4+63} \times 100 \% = 5,71\% \end{array} \left. \vphantom{\begin{array}{l} \\ \\ \end{array}} \right\} 14,86\%$$

$$\begin{array}{lcl} \text{II. Ekor putus} & = \frac{3}{3+24} \times 100 \% = 8,10 \% \\ \text{Kepala bulat} & = \frac{1}{1+24} \times 100 \% = 4 \% \\ \text{Ekor bengkok} & = \frac{13}{13+24} \times 100 \% = 20,13 \% \\ \text{Kepala jarum} & = \frac{6}{6+24} \times 100 \% = 16,70 \% \end{array} \left. \vphantom{\begin{array}{l} \\ \\ \\ \end{array}} \right\} 48,93\%$$

$$\begin{array}{lcl} \text{III. Ekor bengkok} & = \frac{19}{19+59} \times 100 \% = 24,35 \% \\ \text{Kepala jarum} & = \frac{10}{10+59} \times 100 \% = 11,45 \% \end{array} \left. \vphantom{\begin{array}{l} \\ \end{array}} \right\} 38,80\%$$

| | | | |
|-----|--------------|---|----------|
| IV. | Ekor putus | $= \frac{9}{9+43} \times 100 \% = 17,30 \%$ | } 29,50% |
| | Kepala bulat | $= \frac{1}{1+43} \times 100 \% = 2,32 \%$ | |
| | Ekor bengkok | $= \frac{6}{6+43} \times 100 \% = 8,57 \%$ | |
| | Kepala jarum | $= \frac{2}{2+43} \times 100 \% = 2,41 \%$ | |
| V. | Ekor bengkok | $= \frac{19}{19+36} \times 100 \% = 34,54 \%$ | } 49,01% |
| | Kepala jarum | $= \frac{6}{6+36} \times 100 \% = 14,47 \%$ | |

$$\text{Jumlah total abnormal spermatozoa (\%)} = \frac{14,86 + 48,93 + 29,50 + 49,01 + 35,80}{5} = 35,62 \%$$

4. Perhitungan morfologi abnormal pada waktu pemaparan 12 jam/hari

| | | | |
|------|---------------|---|----------|
| I. | Ekor bengkok | $= \frac{5}{5+20} \times 100 \% = 20 \%$ | } 37,5% |
| | Kepala jarum | $= \frac{7}{7+20} \times 100 \% = 25,92 \%$ | |
| II. | Abnormalitas | $= \frac{14}{14+20} \times 100 \% = 41,17 \%$ | |
| III. | Abnormalitas | $= \frac{21}{21+53} \times 100 \% = 28,37 \%$ | |
| IV. | Ekor bengkok | $= \frac{16}{16+35} \times 100 \% = 20,37 \%$ | } 42,62% |
| | Kepala putus | $= \frac{5}{5+35} \times 100 \% = 12,5 \%$ | |
| | Ekor terputus | $= \frac{3}{3+64} \times 100 \% = 10,75 \%$ | |

$$\text{Jumlah total abnormal spermatozoa (\%)} = \frac{37,5 + 41,17 + 28,37 + 42,62}{4} = 37,41 \%$$