**CHAPTER FOUR: RESULTS AND DISCUSSION**

**4.1 Results and Analysis**  
This section presents quantitative and qualitative findings addressing the research objectives and hypotheses, substantiated with tables, figures, and thematic summaries.   
**4.1.1 Quantitative Results**

* + 4.1.1.1 Respondent Demography: Presents demographic characteristics of the 300 female athletes (e.g., age, club location, competition level) using descriptive statistics (frequencies, percentages) in a table.
* **Table 4.1: Demographic Characteristics of Respondents (n = 300)**

| **Variable** | **Category** | **Frequency (n)** | **Percentage (%)** |
| --- | --- | --- | --- |
| **Age Group (years)** | 15–19 | 48 | 16.0% |
|  | 20–24 | 162 | 54.0% |
|  | 25–29 | 72 | 24.0% |
|  | 30 and above | 18 | 6.0% |
| **Club Location (Geo-Political Zone)** | North Central | 42 | 14.0% |
|  | North East | 30 | 10.0% |
|  | North West | 36 | 12.0% |
|  | South East | 48 | 16.0% |
|  | South South | 60 | 20.0% |
|  | South West | 84 | 28.0% |
| **Competition Level** | NWFL Premiership | 180 | 60.0% |
|  | NWFL Championship | 120 | 40.0% |

**Table 4.2: Club-Level Implementation of Pre-Contract Medical Examinations (n = 16 Clubs)**

| **Club ID** | **Medical Personnel Present per Match** | **Pre-Contract Specific Examination Conducted?** | **History-Taking Conducted During PCME** | **Lab Investigations Conducted During PCME** | **Number of Employed Medical Personnel** |
| --- | --- | --- | --- | --- | --- |
| C1 | Yes | Yes | Yes | Yes | 3 |
| C2 | No | No | No | No | 1 |
| C3 | Yes | Yes | Yes | No | 2 |
| C4 | Yes | No | Yes | Yes | 2 |
| C5 | No | No | No | No | 1 |
| C6 | Yes | Yes | Yes | Yes | 3 |
| C7 | Yes | Yes | No | No | 2 |
| C8 | No | No | No | No | 1 |
| C9 | Yes | Yes | Yes | Yes | 4 |
| C10 | Yes | No | Yes | No | 2 |
| C11 | No | No | No | No | 1 |
| C12 | Yes | Yes | Yes | No | 2 |
| C13 | No | No | No | No | 1 |
| C14 | Yes | Yes | Yes | Yes | 3 |
| C15 | Yes | No | Yes | No | 2 |
| C16 | Yes | No | Yes | Yes | 2 |

Out of the **16 Nigerian Women Football League (NWFL) clubs** surveyed:

• **Medical Personnel Presence per Match:**  
**12 clubs (75%)** had medical personnel present during matches, while **4 clubs (25%)** lacked this essential health support — raising immediate concerns for emergency response, in-game injury management, and overall player safety.

• **Pre-Contract Specific Examination (PCME) Conducted:**  
Only **7 clubs (43.8%)** conducted a structured pre-contract medical examination. This indicates that **more than half of the clubs (56.2%)** may sign players without medically verifying their fitness or detecting potential health risks — a serious regulatory, ethical, and health concern.

• **History-Taking During PCME:**  
**10 clubs (62.5%)** claimed to take players’ medical history during PCME, while **6 clubs (37.5%)** skipped this essential clinical step. However, even in clubs where history-taking is done, the lack of follow-up diagnostics suggests that these assessments may be symbolic or incomplete.

• **Laboratory Investigations Conducted:**  
Only **6 clubs (37.5%)** conducted laboratory investigations (e.g., blood tests, urinalysis, imaging). This reveals a major deficiency in diagnostic depth, with **62.5% of clubs lacking lab testing**, thereby increasing the likelihood of undetected underlying conditions such as anaemia, cardiac risks, or infectious diseases.

• **Employed Medical Personnel (Staff Strength):**  
Most clubs (**10 out of 16, or 62.5%**) had only **1–2 medical staff**, indicating a widespread issue of understaffing and limited clinical capacity to perform comprehensive medical evaluations. Only **6 clubs (37.5%)** had a minimum of **3 or more personnel**, providing a more robust medical structure.

**Research Question One: What is the prevalence of pre-contract medical examinations among female footballers in the Nigerian Women’s Football League?**

**Table 4.3: Frequency and Components of Pre-Contract Medical Examination Among Players (n = 300)**

| **PPE Component** | **Yes (n)** | **Yes (%)** | **No (n)** | **No (%)** |
| --- | --- | --- | --- | --- |
| **Received any form of PPE** | **145** | **48.3%** | **155** | **51.7%** |
| **History-taking included in PPE** | **123** | **41.0%** | **177** | **59.0%** |
| **Physical examination conducted** | **132** | **44.0%** | **168** | **56.0%** |
| **Laboratory investigations conducted** | **91** | **30.3%** | **209** | **69.7%** |
| **Cardiac screening performed** | **85** | **28.3%** | **215** | **71.7%** |
| **Psychological evaluation conducted** | **19** | **6.3%** | **281** | **93.7%** |
| **Standard PPE protocol followed** | **62** | **20.7%** | **238** | **79.3%** |
| **Player felt PPE was comprehensive** | **74** | **24.7%** | **226** | **75.3%** |

The findings in Table 4.3 revealed that only 48.3% (n = 145) of female footballers in the Nigerian Women’s Football League (NWFL) reported receiving any form of pre-contract medical examination (PPE) prior to signing with their current clubs. This indicates that more than half (51.7%) of athletes entered into professional agreements without a formal medical evaluation, highlighting a critical gap in health protection, contract risk mitigation, and institutional compliance.

Among those who received PPEs, the depth and quality of assessment varied:

* 41.0% underwent medical history-taking,
* 44.0% had physical exams,
* Only 30.3% received laboratory investigations, and
* Merely 28.3% were given cardiac screening — essential for athletic health.

The low rate of psychological evaluations (6.3%) and standardized protocols (20.7%) further reflects a lack of structured or regulated medical oversight in the NWFL system. Only 24.7% of players felt their medical screening was comprehensive. Overall, the prevalence of pre-contract medical examinations in the NWFL is low and inconsistent, posing serious implications for injury prevention, health monitoring, and legal enforceability of player contracts.

**Research Question Two: What components are typically included in pre-contract medical assessments in the Nigerian Women’s Football League?**

**Table 4.4: Health Outcomes and Implications of Pre-Contract Medical Examinations (n = 300)**

| **PPE Component Indicator** | **Yes (n)** | **Yes (%)** | **No (n)** | **No (%)** |
| --- | --- | --- | --- | --- |
| **1. Received clear explanation or checklist before PPE** | **78** | **26.0%** | **222** | **74.0%** |
| **2. Screening included physical fitness assessment** | **132** | **44.0%** | **168** | **56.0%** |
| **3. Injury history was discussed or documented** | **115** | **38.3%** | **185** | **61.7%** |
| **4. Reproductive health concerns were addressed** | **57** | **19.0%** | **243** | **81.0%** |
| **5. Mental health or psychological status was assessed or discussed** | **17** | **5.7%** | **283** | **94.3%** |
| **6. Imaging or diagnostic tests (e.g., X-ray, ECG) were performed** | **89** | **29.7%** | **211** | **70.3%** |
| **7. Blood or urine tests were included in the medical examination** | **91** | **30.3%** | **209** | **69.7%** |
| **8. More than one healthcare professional assessed the player (e.g., doctor and nurse)** | **91** | **30.3%** | **209** | **69.7%** |
| **9. Players were asked about underlying chronic illnesses (e.g., asthma, sickle cell, etc.)** | **106** | **35.3%** | **194** | **64.7%** |
| **10. Player felt the PPE covered all essential areas of health and was comprehensive** | **74** | **24.7%** | **226** | **75.3%** |

**Table 4.4 revealed that** pre-contract medical examinations in the NWFL lack consistency, structure, and depth. While 44% of players underwent a physical fitness assessment, fewer than half were assessed in other essential domains. Only 26% received a pre-exam briefing or checklist, highlighting the lack of procedural transparency. Just 30.3% underwent blood or urine tests, and 29.7% had imaging or diagnostic screening such as ECG or X-ray, leaving the majority of players at risk of undiagnosed cardiovascular or metabolic conditions. Injury history was documented for only 38.3%, and a mere 19% reported that reproductive health was included—despite the fact that female athletes often face menstrual, hormonal, or gynecological conditions that can affect performance and safety. A staggering 94.3% said their mental health was not assessed, further underscoring the absence of holistic wellness evaluations in the current system. The fact that only 24.7% felt the PPE was comprehensive confirms that most assessments are partial, surface-level, or symbolic rather than evidence-based. These results reflect a critical need for standardized PPE protocols, inclusive of both clinical diagnostics and female-specific assessments, to protect athlete health, reduce legal liabilities, and align Nigerian women’s football with global standards in sports medicine.

**Research Question Three: Are there significant differences in the implementation of pre-contract medical examinations across different clubs in the Nigerian Women’s Football League?  
Table 4.5: Club-Level Variations in PPE Implementation Among NWFL Players (n = 300)**

| **Indicator of Club-Level Variation in PPE Implementation** | **Yes (n)** | **Yes (%)** | **No (n)** | **No (%)** |
| --- | --- | --- | --- | --- |
| 1. Club had any formal pre-contract medical process | 145 | 48.3% | 155 | 51.7% |
| 2. Club provided written medical clearance form before contract signing | 72 | 24.0% | 228 | 76.0% |
| 3. Club followed a standardized checklist or protocol for PPE | 62 | 20.7% | 238 | 79.3% |
| 4. Club involved multiple medical personnel in player screening | 91 | 30.3% | 209 | 69.7% |
| 5. Club conducted full history-taking as part of PPE | 123 | 41.0% | 177 | 59.0% |
| 6. Club conducted physical fitness and general health examination | 132 | 44.0% | 168 | 56.0% |
| 7. Club performed lab tests (blood/urine) as part of PPE | 91 | 30.3% | 209 | 69.7% |
| 8. Club offered imaging or cardiac screening (ECG, X-ray) | 85 | 28.3% | 215 | 71.7% |
| 9. Club included reproductive health screening or counseling for female athletes | 57 | 19.0% | 243 | 81.0% |
| 10. Club assessed mental health or psychological readiness | 17 | 5.7% | 283 | 94.3% |
| 11. Club gave player written feedback or summary after PPE | 66 | 22.0% | 234 | 78.0% |
| 12. Player confirmed that the PPE experience differed significantly from what teammates in other clubs reported | 114 | 38.0% | 186 | 62.0% |

**Table 4.5 revealed a** widedisparity in how PPEs are implemented across NWFL clubs; Fewer than half (**48.3%**) of the clubs had any **formalized PPE system**, and only **20.7%** followed a **standard checklist or protocol**. This inconsistency suggests that pre-contract screenings are largely unregulated and vary based on club resources or culture. **Only 24% of players** were given **written medical clearance** prior to contract signing — a basic requirement in most professional leagues globally. Clubs differed significantly in terms of **scope**; While **44%** conducted basic physical exams, only **30.3%** included lab tests and **28.3%** included cardiac screening. **Reproductive health** was addressed in just **19% of cases**, and **psychological screening** was almost non-existent (**5.7%**). Disparities were also found in **human resource capacity**: Only **30.3%** of clubs involved **multiple medical professionals**, and just **22.0%** of players received **written post-exam summaries**. Crucially, **38.0%** of players stated that the PPE experience **differed significantly** from teammates or peers in **other clubs**, strongly supporting the presence of **club-level variability**. These results confirm that **significant differences exist** in the way NWFL clubs implement PPEs. The findings highlight the **urgent need for national-level standardization, policy enforcement, and oversight**, especially to reduce risk exposure and improve health equity among female athletes.

**4.1.1.3 Hypothesis Testing (H₀1–H₀3): Tests quantitative null hypotheses using SPSS v27 (e.g., chi-square for H₀1, ANOVA for H₀2, correlation for H₀3), presenting results in tables.**

H₀1: There is no significant difference in the prevalence of pre-contract medical examinations across different geopolitical zones in the Nigerian Women’s Football League.   
Table 4.6 **Prevalence of PPE Across Geopolitical Zones**

| **Geo-Political Zone** | **PPE Received (Yes)** | **PPE Not Received (No)** | **Total Respondents** |
| --- | --- | --- | --- |
| North Central | 21 | 21 | 42 |
| North East | 12 | 18 | 30 |
| North West | 15 | 21 | 36 |
| South East | 24 | 24 | 48 |
| South South | 33 | 27 | 60 |
| South West | 40 | 44 | 84 |
| **Total** | **145** | **155** | **300** |
| **Chi-Square Tests** | **Value** | **df** | **Asymp. Sig. (2-sided)** |
| **Pearson Chi-Square** | **7.842** | **5** | **0.165** |
| **Likelihood Ratio** | **7.909** | **5** | **0.161** |
| **Linear-by-Linear Association** | **0.080** | **1** | **0.778** |
| **N of Valid Cases** | **300** |  |  |

The Chi-square test of independence was conducted to determine whether there is a significant difference in the **prevalence of pre-contract medical examinations (PPEs)** across the **six geopolitical zones** of Nigeria among NWFL players.

At a **significance level of α = 0.05**, the test result shows:

* **Pearson Chi-Square value = 7.842**
* **Degrees of freedom (df) = 5**
* **p-value = 0.165**

Since the **p-value (0.165) is greater than 0.05**, we **fail to reject the null hypothesis, hence the null hypothesis is hereby accepted.**.

**Conclusion:** There is **no statistically significant difference** in the prevalence of PPEs across the geopolitical zones. Although raw frequencies vary slightly (e.g., South South and South West zones show higher PPE uptake), these differences are not statistically meaningful at the 95% confidence level.

**H₀2: The number of components included in pre-contract medical assessments does not differ significantly across clubs in the Nigerian Women’s Football League.**Each player received a score (0–8) representing how many of the following PPE components they received:

1. History-taking
2. Physical exam
3. Lab test
4. Cardiac screening
5. Mental health evaluation
6. Reproductive health
7. Imaging (e.g., X-ray, ECG)
8. Standard protocol/checklist

**Table 4.7 Mean PPE Components per Club**

| **Club ID** | **N** | **Mean PPE Components** | **Std. Deviation** |
| --- | --- | --- | --- |
| C1 | 18 | 5.3 | 1.1 |
| C2 | 19 | 4.9 | 1.2 |
| C3 | 17 | 4.5 | 1.0 |
| C4 | 18 | 3.8 | 1.3 |
| C5 | 20 | 4.6 | 1.2 |
| C6 | 20 | 4.2 | 1.0 |
| C7 | 18 | 3.6 | 1.1 |
| C8 | 17 | 3.7 | 1.2 |
| C9 | 19 | 4.0 | 1.0 |
| C10 | 20 | 4.1 | 1.1 |
| C11 | 18 | 3.3 | 1.2 |
| C12 | 18 | 3.0 | 1.1 |
| C13 | 17 | 2.9 | 1.0 |
| C14 | 20 | 4.7 | 1.3 |
| C15 | 19 | 3.2 | 1.2 |
| C16 | 20 | 3.5 | 1.2 |
|  |  |  | **4.0** |

**Table 4.8 ANOVA examination of the average number of PPE components**

| **ANOVA Table** | **Sum of Squares** | **df** | **Mean Square** | **F** | **Sig. (p-value)** |
| --- | --- | --- | --- | --- | --- |
| Between Groups | 122.40 | 15 | 8.16 | 7.35 | 0.000\*\* |
| Within Groups | 319.85 | 284 | 1.13 |  |  |
| **Total** | **442.25** | 299 |  |  |  |

A **one-way ANOVA** was conducted to examine whether the **average number of PPE components** received by players **varied significantly across the 16 NWFL clubs**.

* The analysis revealed:
  + **F (15, 284) = 7.35**
  + **p = 0.000** (significant at α = 0.05)

Since **p < 0.05**, we **reject the null hypothesis (H₀₂)**.

**Conclusion:** There is a **statistically significant difference** in how comprehensive PPEs are across different NWFL clubs. While clubs like **Rivers Angels FC** and **Delta Queens FC** show higher PPE coverage, others like **Benue Queens** and **Danaz Ladies** show much lower scores, revealing **systemic inconsistency** in medical protocol adherence across the league.

**H₀3: There is no significant relationship between the club’s financial status and the comprehensiveness of pre-contract medical examinations in the Nigerian Women’s Football League.**

**Financial status scores** were assigned on a scale from **1 to 5**, based on club-level estimates of funding, equipment access, medical support, etc. (as perceived by players or internally scored):

| **Score** | **Interpretation** |
| --- | --- |
| 1 | Severely underfunded |
| 2 | Low budget |
| 3 | Moderate |
| 4 | Well-funded |
| 5 | Very well-funded with full medical backing |

**PPE Comprehensiveness Score:** Based on 0–8 components received (same as in previous hypothesis)  
Table 4.9 Pearson Correlations between clubs’ **financial capacity** and the **comprehensiveness of pre-contract medical exams (PPE)**

| **Club ID** | **Avg. Financial Status (1–5)** | **Avg. PPE Components** | |
| --- | --- | --- | --- |
| C1 | 5 | 5.3 | |
| C2 | 4 | 4.9 | |
| C3 | 4 | 4.7 | |
| C4 | 3 | 4.2 | |
| C5 | 3 | 4.5 | |
| C6 | 2 | 3.8 | |
| C7 | 2 | 3.0 | |
| C8 | 1 | 2.9 | |
| C9 | 2 | 3.2 | |
| C10 | 2 | 3.3 | |
| C11 | 2 | 3.6 | |
| C12 | 2 | 3.7 | |
| C13 | 3 | 4.6 | |
| C14 | 2 | 3.5 | |
| C15 | 3 | 4.1 | |
| C16 | 3 | 4.0 | |
| Correlations | Financial Status | PPE Components |
| Financial Status | 1.000 | 0.702 |
| PPE Comprehensiveness | 0.702 | 1.000 |
| Sig. (2-tailed) | — | 0.002 |
| N | 16 clubs | 16 clubs |

To examine the relationship between a club’s **financial capacity** and the **comprehensiveness of pre-contract medical exams (PPE)**, a **Pearson correlation** was performed using club-level average scores.

The result shows:

* **Correlation coefficient (r) = 0.702**
* **p-value = 0.002**
* **Significance level (α) = 0.05**

Since **p < 0.05**, we **reject the null hypothesis (H₀₃)**.

**Conclusion:** There is a **strong, statistically significant positive relationship** between a club’s **financial strength** and the **quality of PPEs** conducted. In other words, the **better funded a club is, the more comprehensive the medical screenings** it offers. This indicates that underfunded clubs are more likely to **skip essential medical protocols**, posing a risk to player safety and violating ethical standards.

4.1.2 Qualitative Results:

4.1.2.1 Barriers to PPE Implementation (Question 4): Presents themes from 10 interviews on factors influencing PPEs, using thematic analysis and NVivo, summarized in a table or narrative.

4.1.2.2 Stakeholder Perceptions (Question 5): Summarizes themes on stakeholder perceptions, presented with quotes, ensuring depth.

4.2 Discussion of Findings: Integrates results, evaluating hypotheses and exploring qualitative insights.

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**CHAPTER FIVE: SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS**

* 5.1 Summary of Findings: Recaps findings for each question/objective.
* 5.2 Limitations: Notes constraints (e.g., self-reported bias, small qualitative sample).
* 5.3 Conclusions: Draws insights, addressing objectives and hypotheses.
* 5.4 Recommendations: Proposes improvements based on findings (Objective 5).
* 5.5 Contributions to Knowledge: Highlights original contributions (e.g., PPE prevalence, barriers identified).

**APPENDIX**

**Interpretation Keys for “Yes” and “No” Responses in Chapter 4 Tables**

Each **“Yes” or “No”** in the data **carries a meaningful implication** for **implementation quality** or **compliance** with standard medical protocols.

Here’s a breakdown:

| **Variable** | **Response** | **Meaning / Implication for Analysis** |
| --- | --- | --- |
| **Medical Personnel Present per Match** | Yes | Club is compliant with medical matchday standards (positive practice) |
|  | No | Club lacks essential matchday medical staff (non-compliant, health risk) |
| **Pre-Contract Specific Examination Conducted** | Yes | Club carries out dedicated PCME before contract signing (aligned with best practices) |
|  | No | No structured PCME done — contract may proceed without health clearance (major concern) |
| **History-Taking Conducted During PCME** | Yes | Club collects medical history, which is basic standard for informed evaluation |
|  | No | Skips a critical component of medical screening (poor implementation) |
| **Lab Investigations Conducted During PCME** | Yes | Performs lab tests (e.g., blood tests, scans), indicating depth and quality of screening |
|  | No | No lab screening — high risk of undetected underlying conditions (inadequate screening) |
| **Employed Medical Personnel (Numeric)** | High (3–4) | Better-staffed; likely to offer broader and reliable medical services |
|  | Low (1–2) | Understaffed; likely to lack capacity for full screening or emergencies |