**CHAPTER FOUR**

**RESULT AND DISCUSSION**

## Introduction

This chapter contains the analysis of the mixed method study. The chapter analyses the supply chain management practices within Nigerian healthcare facilities and their consequential impact on the availability of medications. Through a lens focused on stakeholders' perceptions, the data used comprises ordinal responses, capturing a spectrum of agreement and disagreement. In this section, a range of statistical techniques tailored to the ordinal nature of the data is presented. The analysis unveils patterns and correlations as well as contributes valuable insights to the enhancement of healthcare supply chains in Nigeria.

## Descriptive statistics

To describe the dataset, percentages, mean, median and mode, standard deviations and variance were calculated. The following figures represent the study’s demographic distributions:

**Figure 1:** **Gender**

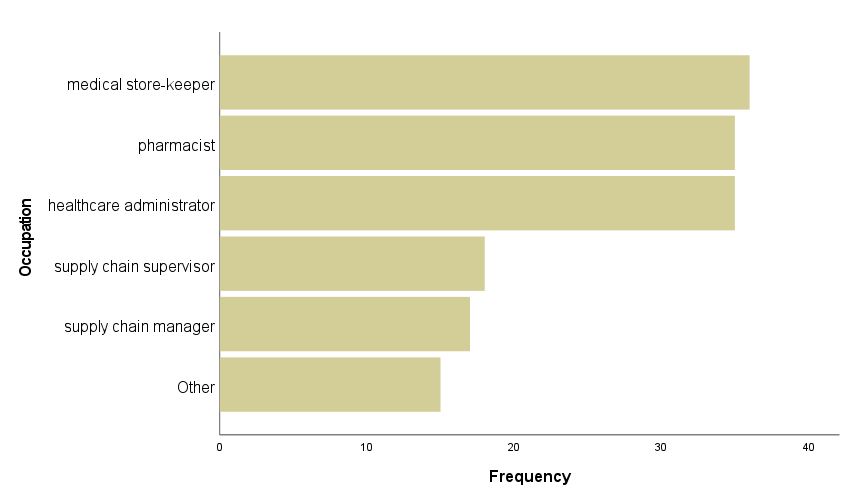
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*Source: Author’s analysis, 2024*

The respondents in this study exhibited a diverse representation in terms of gender. Out of the total sample (156), 43.6% identified as female, while 56.4% identified as male. This means the sample is not biased as the gender is almost 50/50 %, and the sample is random as ascertained by the runs test of hypothesis. This gender distribution also provides an opportunity to explore potential variations in perceptions of medication availability within Nigerian healthcare facilities. The significant Z-score and p-value indicate a non-random pattern, which is due to some systematic factors of having more males in the medical/pharmaceutical field than females.

**Figure 2: Occupational distribution**



*Source: Author’s analysis, 2024*

The distribution of occupational backgrounds among respondents in the sample is notably diverse, encompassing various professions within the healthcare and non-healthcare sectors. Healthcare administrators, medical storekeepers, and pharmacists emerge as the predominant occupational groups, collectively constituting a substantial portion of the sample. The diversity in occupation reflects perspectives from professionals engaged in healthcare management, logistics, and pharmaceutical services. The presence of supply chain managers and supervisors further adds depth to the insights, providing perspectives from individuals directly involved in supply chain processes. The inclusion of respondents from diverse backgrounds highlights a holistic approach to understanding supply chain management practices in Nigerian healthcare facilities.

### 4.2.1 Evaluating current supply chain management practices within Nigerian healthcare facilities.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Mean | Mode | Std. Deviation | Variance |
|
| Inventory management practices in healthcare facilities adequately meet medication demand | 1.81 | 1 | 1.131 | 1.279 |
| The distribution process of medications in Nigerian healthcare facilities is well-organised | 1.71 | 1 | .985 | .971 |
| From my experience, stakeholders are satisfied with the current procurement procedures in healthcare facilities. | 1.82 | 1 | 1.050 | 1.103 |
| Medication distribution timelines are consistently met in Nigerian healthcare facilities | 1.72 | 1 | .994 | .988 |
| In Nigeria, stakeholders perceive the inventory tracking systems in healthcare facilities as ineffective | 3.15 | 5 | 1.665 | 2.772 |
| The communication channels between procurement and distribution departments are seamless | 2.31 | 1 | 1.501 | 2.253 |
| The training programs for staff involved in procurement and distribution are sufficient | 2.21 | 1 | 1.462 | 2.138 |
| Our healthcare facility relies on external suppliers for the procurement of medications | 3.67 | 5 | 1.542 | 2.378 |
| Resource availability strongly influences our distribution processes | 3.84 | 5 | 1.461 | 2.135 |
| External stakeholders have limited influence on decision-making in our healthcare facility during the procurement process | 3.81 | 5 | 1.345 | 1.808 |
| Regulatory pressures have minimal impact on our medication procurement strategies | 3.85 | 5 | 1.330 | 1.770 |
| Industry trends have a substantial impact on our medication procurement and distribution strategies | 4.06 | 5 | 1.162 | 1.351 |
| Medication availability in Nigerian healthcare facilities is consistent | 1.56 | 1 | .859 | .738 |
| Shortages of critical medications are rare in Nigerian healthcare facilities | 1.65 | 1 | 1.045 | 1.092 |
| Stakeholders perceive the supply chain monitoring systems as reliable | 1.83 | 1 | 1.124 | 1.262 |
| Factors contributing to medication shortages are well-understood by healthcare facility staff | 2.55 | 1 | 1.504 | 2.262 |
| Information flow within the supply chain is effective in preventing medication shortages | 2.47 | 1 | 1.517 | 2.303 |
| External factors have minimal influence on the availability of medications in our healthcare facility | 2.84 | 1 | 1.576 | 2.484 |
| External dependencies have no impact on the turnaround times for receiving medication supplies | 2.92 | 1 | 1.590 | 2.528 |
| Industry norms have minimal guidance on our healthcare facility in managing medication shortages | 3.67 | 5 | 1.447 | 2.092 |
| Adherence to institutional norms does not significantly affect our response to stock-level fluctuations. | 3.50 | 5 | 1.584 | 2.510 |
| Industry trends do not influence our facility's response to medication shortages | 3.69 | 5 | 1.523 | 2.320 |
| Our healthcare facility addresses shortages in compliance with external regulations | 4.02 | 5 | 1.356 | 1.838 |

*Source: Author’s analysis, 2024*

Exploring responses where respondents expressed strong disagreement illuminates critical areas of concern within the surveyed healthcare facilities. Firstly, respondents strongly disagreed with the assertion that inventory management practices adequately meet medication demand, suggesting potential shortcomings or dissatisfaction with the existing inventory management procedures. According to the two interviewees, despite that the general motive of the inventory system is to ensure that procurement makes provision of medication available to hospitals, the process can be “frustrating and so annoying.” When such frustration sets in, it hampers “the medications available in the hospital which in turn affect the patients” (Interview 2, 5 March 2024). They identified a lack of accountability and maintenance culture as the greatest challenges creating dissatisfaction in Nigeria’s healthcare inventory management system. One of them states:

It [the inventory system] is very poor because no one is accountable for anything, and no one wants to take charge i.e., there is a lack of accountability and responsibility in the system.

Despite these challenges, however, the interviewees identified some advantages. One, “they help to bridge the gap between procurement department and drug distributors” (Interview 1, 5 March 2024). Also, “their strength is group work (team of doctors)” (Interview 2, 5 March 2024).

Similarly, respondents conveyed a pronounced disagreement regarding the organisation of medication distribution processes, indicating perceived inefficiencies or challenges in the distribution system. Notably, there is a significant disagreement concerning stakeholders' satisfaction with current procurement procedures, implying a prevailing sense of discontent among stakeholders.

Additionally, respondents strongly disagreed with the statement that medication distribution timelines are consistently met, hinting at perceived inconsistencies or delays in the distribution process. Both interviewees, on the contrary, had mixed responses. The first one described the timelines as “not fully satisfactory.” For the second interviewee, on the contrary, “It is fair but the agency (NDLEA) needs to curb fake drugs in the country and also see to it that expired drugs are pushed out of healthcare facilities.” The interpretation is nuanced for the question about stakeholders' perception of inventory tracking system effectiveness, where respondents did not strongly agree on the ineffectiveness, revealing a more complex view of these tracking systems.

In examining the responses where most respondents displayed strong agreement, several noteworthy trends emerged. Firstly, respondents strongly concurred with the statement that their healthcare facility relies on external suppliers for medication procurement, although the mean fell slightly below 4. This suggests a significant dependence on external sources for medications. Additionally, respondents indicated robust agreement regarding the substantial impact of industry trends on medication procurement and distribution strategies, underscoring a keen awareness and consideration of industry dynamics.

Furthermore, there is a strong alignment with compliance with external regulations in addressing medication shortages, reflecting a commitment to regulatory adherence. Notably, respondents believed that regulatory pressures minimally affect medication procurement strategies, indicating a perceived independence from regulatory constraints. However, a nuanced perspective arises concerning the understanding of factors contributing to medication shortages by healthcare facility staff, as the mean for this question fell below 4, suggesting a less unanimous consensus on this aspect. The two interviewees corroborated the survey findings by identifying “poor communication, poor means of transportation, environment, selling drugs without a medical license and lack of power supply” as key factors leading to the shortage of critical medications that jeopardise Nigeria’s healthcare facilities. Specifically, whenever the power supply is not steady, the second interviewer submitted that it negatively affects the healthcare sector in areas “such as X-ray, ultrasound surgeries and some other health attentions.”

Most responses tend to cluster toward the lower end of the scale, indicating a general tendency for disagreement or lower agreement with the statements. Questions related to inventory management, distribution processes, and stakeholder satisfaction show a consistent trend of lower agreement. Questions assessing perceptions of external influences and industry-related factors exhibit a more diverse range of responses, reflecting varied perspectives within the sample.

## 4.2.2 Examining relevant factors responsible for the availability of medications within Nigerian healthcare facilities and factors influencing shortages of medications.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  | | --- | --- | --- | | **Our healthcare facility addresses shortages in compliance with external regulations** | | | |  | N | % | | D | 10 | 6.4% | | U | 15 | 9.6% | | SD | 16 | 10.3% | | A | 29 | 18.6% | | SA | 86 | 55.1% | | |  |  |  | | --- | --- | --- | | **Medication availability in Nigerian healthcare facilities is consistent** | | | |  | N | % | | SA | 2 | 1.3% | | U | 5 | 3.2% | | A | 7 | 4.5% | | D | 49 | 31.4% | | SD | 93 | 59.6% | | |  |  |  | | --- | --- | --- | | **Inventory management practices in healthcare facilities adequately meet medication demand** | | | |  | N | % | | U | 3 | 1.9% | | SA | 7 | 4.5% | | A | 14 | 9.0% | | D | 50 | 32.1% | | SD | 82 | 52.6% | |

*Author’s analysis, 2024*

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Correlations** | | | | | | | | |
|  | | | The distribution process of medications in Nigerian healthcare facilities is well-organised | | From my experience, stakeholders are satisfied with the current procurement procedures in healthcare facilities. | | Medication distribution timelines are consistently met in Nigerian healthcare facilities | |
| Spearman's rho | From my experience, stakeholders are satisfied with the current procurement procedures in healthcare facilities. | Correlation Coefficient | | .810\*\* | |  | |  | |
| Sig. (2-tailed) | | .000 | |  | |  | |
| N | | 156 | |  | |  | |
| Medication distribution timelines are consistently met in Nigerian healthcare facilities | Correlation Coefficient | | .715\*\* | | .724\*\* | |  | |
| Sig. (2-tailed) | | .000 | | .000 | |  | |
| N | | 156 | | 156 | |  | |
| Medication availability in Nigerian healthcare facilities is consistent | Correlation Coefficient | | .527\*\* | | .489\*\* | | .465\*\* | |
| Sig. (2-tailed) | | .000 | | .000 | | .000 | |
| N | | 156 | | 156 | | 156 | |
| \*\*. Correlation is significant at the 0.01 level (2-tailed). | | | | | | | | |

*Author’s analysis, 2024*

The correlation analysis reveals compelling insights into the interconnected dynamics within the healthcare supply chain in Nigerian facilities. Notably, a robust and positive correlation is observed between stakeholders' satisfaction with current procurement procedures and their perception of the well-organised distribution process of medications, emphasising a mutually reinforcing relationship. Similarly, stakeholders who express higher satisfaction with procurement procedures are inclined to perceive medication distribution timelines as consistently met. Moreover, moderate to strong positive correlations exist between stakeholders' satisfaction, the distribution process, and distribution timelines with the perceived consistency of medication availability. According to one of the interviewees, “it is fairly reliable” to say that the supply chain monitoring systems ensure medication availability in Nigeria. Similarly, the second interviewee gave NAFDAC, the government agency in charge of drug monitoring and legalization, a 45% pass mark in that regard. When medication is not available as it is supposed to be, the patient suffers. One of the interviewees captured this thus:

It (slow or lack of medication distribution) makes patients not to get medication on time. Sometimes, it could just be because the drug personnel resumes work late or absent for unknown cause (Interview 1, 3 March 2024)

These findings underscore the pivotal role of stakeholders' contentment with procurement processes in shaping perceptions of the overall efficacy of the distribution system and its impact on medication availability.

## 4.2.2.1 Ordinal Regression

Ordinal regression is a statistical technique used when the dependent variable is ordinal, meaning it has ordered categories, but the intervals between the categories are not assumed to be equal. In other words, the response variable has a meaningful order, but the differences between the categories may not be uniform or known. Examples of ordinal variables include educational levels (e.g., high school, bachelor's degree, master's degree), Likert scale responses (e.g., strongly disagree, disagree, neutral, agree, strongly agree), or socio-economic status (e.g., low income, middle income, high income). This statistical technique was used to examine relevant factors responsible for the availability of medications within Nigeria using (question 18 “Medication availability in Nigerian healthcare facilities is consistent”) as the dependent variable. This is represented in the figure below:

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Parameter Estimates** | | | | | | | | |
|  | | Estimate | Std. Error | Wald | df | Sig. | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| Threshold | [Q18 = 1] | -16.653 | 4.002 | 17.312 | 1 | .000 | -24.497 | -8.808 |
| [Q18 = 2] | -8.207 | 3.608 | 5.174 | 1 | .023 | -15.279 | -1.136 |
| [Q18 = 3] | -6.360 | 3.525 | 3.255 | 1 | .071 | -13.269 | .549 |
| [Q18 = 4] | -2.165 | 3.198 | .458 | 1 | .498 | -8.433 | 4.103 |
| Location | [Q6=1] | -8.527 | 5.284 | 2.604 | 1 | .107 | -18.883 | 1.829 |
| [Q6=2] | -5.142 | 5.761 | .797 | 1 | .372 | -16.433 | 6.150 |
| [Q6=3] | 9.929 | 8.266 | 1.443 | 1 | .230 | -6.272 | 26.130 |
| [Q6=4] | -5.888 | 6.372 | .854 | 1 | .355 | -18.376 | 6.600 |
| [Q6=5] | 0a | . | . | 0 | . | . | . |
| [Q7=1] | -13.250 | 13.482 | .966 | 1 | .326 | -39.674 | 13.174 |
| [Q7=2] | -12.109 | 12.849 | .888 | 1 | .346 | -37.292 | 13.073 |
| [Q7=3] | -5.768 | 14.966 | .149 | 1 | .700 | -35.101 | 23.565 |
| [Q7=4] | -10.530 | 16.775 | .394 | 1 | .530 | -43.409 | 22.348 |
| [Q7=5] | 0a | . | . | 0 | . | . | . |
| [Q8=1] | -1.313 | 14.411 | .008 | 1 | .927 | -29.559 | 26.932 |
| [Q8=2] | -1.195 | 14.301 | .007 | 1 | .933 | -29.225 | 26.836 |
| [Q8=3] | 1.492 | 13.814 | .012 | 1 | .914 | -25.583 | 28.567 |
| [Q8=4] | -3.323 | 15.315 | .047 | 1 | .828 | -33.340 | 26.694 |
| [Q8=5] | 0a | . | . | 0 | . | . | . |
| [Q9=1] | 2.476 | 7.183 | .119 | 1 | .730 | -11.603 | 16.555 |
| [Q9=2] | -4.378 | 7.832 | .312 | 1 | .576 | -19.728 | 10.973 |
| [Q9=3] | -10.122 | 9.777 | 1.072 | 1 | .301 | -29.283 | 9.040 |
| [Q9=4] | 13.523 | 9.086 | 2.215 | 1 | .137 | -4.285 | 31.331 |
| [Q9=5] | 0a | . | . | 0 | . | . | . |
| [Q10=1] | -1.666 | 2.690 | .384 | 1 | .536 | -6.937 | 3.606 |
| [Q10=2] | -3.838 | 2.498 | 2.360 | 1 | .124 | -8.733 | 1.058 |
| [Q10=3] | -1.261 | 6.490 | .038 | 1 | .846 | -13.981 | 11.460 |
| [Q10=4] | -2.252 | 2.871 | .615 | 1 | .433 | -7.880 | 3.376 |
| [Q10=5] | 0a | . | . | 0 | . | . | . |
| [Q11=1] | 1.721 | 2.815 | .374 | 1 | .541 | -3.796 | 7.239 |
| [Q11=2] | 1.313 | 4.196 | .098 | 1 | .754 | -6.912 | 9.538 |
| [Q11=3] | 7.899 | 4.937 | 2.559 | 1 | .110 | -1.778 | 17.575 |
| [Q11=4] | 3.068 | 3.501 | .768 | 1 | .381 | -3.793 | 9.930 |
| [Q11=5] | 0a | . | . | 0 | . | . | . |
| [Q12=1] | 2.017 | 3.334 | .366 | 1 | .545 | -4.518 | 8.551 |
| [Q12=2] | 3.224 | 4.834 | .445 | 1 | .505 | -6.250 | 12.698 |
| [Q12=3] | 7.511 | 4.817 | 2.431 | 1 | .119 | -1.931 | 16.953 |
| [Q12=4] | .137 | 4.969 | .001 | 1 | .978 | -9.603 | 9.877 |
| [Q12=5] | 0a | . | . | 0 | . | . | . |
| [Q13=1] | -1.027 | 3.036 | .114 | 1 | .735 | -6.977 | 4.924 |
| [Q13=2] | 1.682 | 5.901 | .081 | 1 | .776 | -9.884 | 13.249 |
| [Q13=3] | -5.885 | 5.434 | 1.173 | 1 | .279 | -16.536 | 4.766 |
| [Q13=4] | -3.757 | 2.607 | 2.077 | 1 | .149 | -8.865 | 1.352 |
| [Q13=5] | 0a | . | . | 0 | . | . | . |
| [Q14=1] | -1.707 | 4.541 | .141 | 1 | .707 | -10.608 | 7.193 |
| [Q14=2] | 8.812 | 5.644 | 2.438 | 1 | .118 | -2.250 | 19.875 |
| [Q14=3] | 2.982 | 4.085 | .533 | 1 | .465 | -5.025 | 10.989 |
| [Q14=4] | 1.598 | 2.465 | .420 | 1 | .517 | -3.234 | 6.430 |
| [Q14=5] | 0a | . | . | 0 | . | . | . |
| [Q15=1] | 4.497 | 4.092 | 1.208 | 1 | .272 | -3.523 | 12.516 |
| [Q15=2] | -7.457 | 5.863 | 1.618 | 1 | .203 | -18.948 | 4.034 |
| [Q15=3] | -.084 | 3.136 | .001 | 1 | .979 | -6.230 | 6.061 |
| [Q15=4] | -3.350 | 3.401 | .970 | 1 | .325 | -10.015 | 3.316 |
| [Q15=5] | 0a | . | . | 0 | . | . | . |
| [Q16=1] | -7.756 | 4.899 | 2.506 | 1 | .113 | -17.358 | 1.847 |
| [Q16=2] | -2.435 | 7.740 | .099 | 1 | .753 | -17.605 | 12.735 |
| [Q16=3] | -3.501 | 4.164 | .707 | 1 | .400 | -11.662 | 4.659 |
| [Q16=4] | 1.489 | 3.897 | .146 | 1 | .702 | -6.150 | 9.128 |
| [Q16=5] | 0a | . | . | 0 | . | . | . |
| [Q17=1] | 4.050 | 3.682 | 1.210 | 1 | .271 | -3.167 | 11.267 |
| [Q17=2] | 14.003 | 15.786 | .787 | 1 | .375 | -16.937 | 44.942 |
| [Q17=3] | -1.685 | 4.276 | .155 | 1 | .694 | -10.066 | 6.696 |
| [Q17=4] | -.476 | 2.757 | .030 | 1 | .863 | -5.879 | 4.927 |
| [Q17=5] | 0a | . | . | 0 | . | . | . |
| [Q19=1] | -20.744 | 8.307 | 6.236 | 1 | .013 | -37.025 | -4.462 |
| [Q19=2] | -10.617 | 8.701 | 1.489 | 1 | .222 | -27.669 | 6.436 |
| [Q19=3] | -3.551 | 5.949 | .356 | 1 | .551 | -15.211 | 8.109 |
| [Q19=4] | -17.335 | 9.194 | 3.555 | 1 | .059 | -35.354 | .684 |
| [Q19=5] | 0a | . | . | 0 | . | . | . |
| [Q20=1] | 16.706 | 8.898 | 3.525 | 1 | .060 | -.733 | 34.145 |
| [Q20=2] | 17.000 | 10.029 | 2.873 | 1 | .090 | -2.657 | 36.657 |
| [Q20=3] | 12.591 | 7.763 | 2.631 | 1 | .105 | -2.623 | 27.805 |
| [Q20=4] | 15.932 | 8.727 | 3.333 | 1 | .068 | -1.172 | 33.036 |
| [Q20=5] | 0a | . | . | 0 | . | . | . |
| [Q21=1] | -.618 | 4.407 | .020 | 1 | .888 | -9.257 | 8.020 |
| [Q21=2] | -.856 | 4.939 | .030 | 1 | .862 | -10.536 | 8.824 |
| [Q21=3] | -.403 | 4.493 | .008 | 1 | .929 | -9.208 | 8.402 |
| [Q21=4] | -.328 | 4.634 | .005 | 1 | .944 | -9.410 | 8.754 |
| [Q21=5] | 0a | . | . | 0 | . | . | . |
| [Q22=1] | 1.054 | 3.897 | .073 | 1 | .787 | -6.584 | 8.691 |
| [Q22=2] | 1.754 | 4.687 | .140 | 1 | .708 | -7.433 | 10.940 |
| [Q22=3] | 2.529 | 5.695 | .197 | 1 | .657 | -8.633 | 13.692 |
| [Q22=4] | 1.334 | 3.916 | .116 | 1 | .733 | -6.342 | 9.010 |
| [Q22=5] | 0a | . | . | 0 | . | . | . |
| [Q23=1] | 4.424 | 2.963 | 2.230 | 1 | .135 | -1.383 | 10.231 |
| [Q23=2] | .932 | 4.355 | .046 | 1 | .831 | -7.605 | 9.469 |
| [Q23=3] | 1.420 | 3.683 | .149 | 1 | .700 | -5.799 | 8.639 |
| [Q23=4] | 1.023 | 3.301 | .096 | 1 | .757 | -5.446 | 7.492 |
| [Q23=5] | 0a | . | . | 0 | . | . | . |
| [Q24=1] | -2.090 | 3.638 | .330 | 1 | .566 | -9.219 | 5.039 |
| [Q24=2] | 1.645 | 6.311 | .068 | 1 | .794 | -10.725 | 14.015 |
| [Q24=3] | 3.995 | 3.003 | 1.770 | 1 | .183 | -1.890 | 9.881 |
| [Q24=4] | -2.147 | 4.440 | .234 | 1 | .629 | -10.849 | 6.554 |
| [Q24=5] | 0a | . | . | 0 | . | . | . |
| [Q25=1] | -3.121 | 3.865 | .652 | 1 | .419 | -10.696 | 4.454 |
| [Q25=2] | .763 | 7.837 | .009 | 1 | .922 | -14.597 | 16.123 |
| [Q25=3] | -6.104 | 3.945 | 2.394 | 1 | .122 | -13.835 | 1.628 |
| [Q25=4] | -4.231 | 2.914 | 2.108 | 1 | .146 | -9.941 | 1.480 |
| [Q25=5] | 0a | . | . | 0 | . | . | . |
| [Q26=1] | -.831 | 2.756 | .091 | 1 | .763 | -6.232 | 4.570 |
| [Q26=2] | -1.639 | 6.857 | .057 | 1 | .811 | -15.079 | 11.801 |
| [Q26=3] | -2.360 | 3.811 | .383 | 1 | .536 | -9.830 | 5.110 |
| [Q26=4] | 2.658 | 3.866 | .473 | 1 | .492 | -4.920 | 10.236 |
| [Q26=5] | 0a | . | . | 0 | . | . | . |
| [Q27=1] | 5.135 | 2.857 | 3.231 | 1 | .072 | -.464 | 10.734 |
| [Q27=2] | 4.216 | 5.125 | .677 | 1 | .411 | -5.829 | 14.261 |
| [Q27=3] | -2.794 | 3.913 | .510 | 1 | .475 | -10.464 | 4.875 |
| [Q27=4] | 5.758 | 3.643 | 2.497 | 1 | .114 | -1.383 | 12.899 |
| [Q27=5] | 0a | . | . | 0 | . | . | . |
| [Q28=1] | -1.980 | 4.669 | .180 | 1 | .672 | -11.131 | 7.171 |
| [Q28=2] | 5.037 | 7.322 | .473 | 1 | .491 | -9.313 | 19.387 |
| [Q28=3] | -.367 | 4.121 | .008 | 1 | .929 | -8.445 | 7.711 |
| [Q28=4] | -2.022 | 3.570 | .321 | 1 | .571 | -9.018 | 4.975 |
| [Q28=5] | 0a | . | . | 0 | . | . | . |
| Link function: Logit. | | | | | | | | |
| a. This parameter is set to zero because it is redundant. | | | | | | | | |

The parameter estimates from the ordinal regression analysis provide valuable insights into the factors influencing the perception of medication availability in Nigerian healthcare facilities. For instance, regarding the thresholds for medication availability (Q18), negative estimates across categories indicate a decreasing log-odds of perceiving higher medication availability compared to the reference category of strongly agreeing. Location variables (Q6, Q7, Q8, Q9, Q10) demonstrate varied impacts, with positive coefficients suggesting an increase in the log odds of perceiving higher medication availability and negative coefficients indicating a decrease. These results suggest that respondents' geographical locations play a role in shaping their perceptions. Similarly, variables related to industry trends (Q11, Q12, Q13) show varying impacts on medication availability perception. Statistically significant coefficients highlight the significance of these variables in influencing respondents' perceptions.

The findings from this in-depth analysis of healthcare supply chain practices in Nigerian facilities uncovered a noteworthy trend regarding the perception of consistent medication availability. Most respondents strongly disagreed with the notion that medication availability is consistent. The regression analysis identified several significant variables influencing this perception. Notably, participants expressing reluctance towards heavy reliance on external suppliers, recognising the impact of resource availability on distribution processes, and minimising the influence of external stakeholders during procurement tended to have a more positive view of medication availability. Additionally, those who disagreed with external dependencies affecting turnaround times and compliance with external regulations for addressing shortages also leaned towards perceiving medication availability as more consistent. These findings suggest specific areas within the supply chain that, when addressed, could contribute to enhancing the perceived consistency of medication availability in Nigerian healthcare facilities. To solve these myriads of challenges, the two interviewees suggested the following:

|  |  |
| --- | --- |
| Interviewer 1 | Interviewer 2 |
| * Nigeria should be able to produce her own drugs. * Power supply needs to be made constant in the country. * The roads need to be fixed to reduce accidents or theft on the road, making these drugs not available. | * Teamwork * Relearning and unlearning and then keep learning the right way * Being dedicated |

*Author’s analysis, 2024*

### CHAPTER FIVE

### DISCUSSION OF FINDINGS

Paragraph: Summary of Results •

The analysis explains prominent challenges in Nigerian Healthcare supply chains. Respondents strongly disagreed on Inventory Management adequacy (32.1% disagreement) and distribution process efficiency (31.4% disagreement). Correlation analysis shows a significant positive correlation (Spearman’s rho = 0.810, p < 0.01) between stakeholders’ satisfaction with the procurement procedures and perceived well-organized medication distribution. Also, Ordinal Regression identified significant variables influencing medication availability perception.

Negative coefficients indicated decreasing log-odds of higher availability, with location variables showing varied impacts. Notably, participants expressing reluctance towards external reliance and minimizing external stakeholder influence leaned towards perceiving more consistent medication availability.

Paragraph: Discussion of Finding 1 •

Paragraph: Discussion of Finding 2 •

Paragraph: Discussion of Finding 3 •

Paragraph: Discussion of findings & theory •

Paragraph: Discussion of findings & other research areas •

Paragraph: Limitations •

Paragraph: Social Implication and Future Research

The Concluding section / paragraph may be brief and should be tightly reasoned, self-contained and not overstate