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High-Intensity Skill Training to Improve Fast-Break Performance among Young Basketball Players

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Abstract

Objectives: This study aimed to examine the effect of high-intensity skill training on fast-break performance among young basketball players.

Materials and Methods: A one-group experimental design with pre-test and post-test measurements was used. The participants were 10 male youth basketball players aged 16–17 years from Al-Kut Sports Club. The training program lasted eight weeks and consisted of 24 sessions, conducted three times per week. Each session included 30 minutes of skill-based high-intensity exercises focusing on dribbling, long passing, layup scoring, rebounding, and fast-break execution. Data were analyzed using SPSS with paired-sample t-tests.

Results: The findings showed significant improvements in dominant-arm dribbling, layup scoring between obstacles, layup accuracy, rebounding/follow-up performance, and total fast-break execution time. However, long passing did not show a statistically significant improvement.

Conclusions: High-intensity skill training was effective in improving several fast-break-related skills among young basketball players, particularly dribbling speed, layup performance, rebounding actions, and overall fast-break execution. Coaches are encouraged to integrate game-like high-intensity skill drills into youth basketball training programs.

Keywords: high-intensity training; skill training; fast break; youth basketball; offensive performance.

Introduction

Basketball is a dynamic team sport that requires speed, technical accuracy, tactical awareness, and rapid decision-making(Lestari & Dewi, 2022; McCormack, 2020). Among offensive strategies, the fast break is one of the most decisive methods because it allows a team to attack before the opponent establishes an organized defensive structure(Pizarro, D., ., Travassos, B., & Moreno, A., 2020; Wang et al., 2022). Successful fast-break execution depends not only on sprinting ability but also on coordinated dribbling, passing, rebounding, finishing, and timing(Hidayat et al., 2024; Isnaini et al., 2026).

In youth basketball, fast-break performance often becomes inconsistent because players may possess adequate physical speed but lack the technical ability to perform skills accurately under high-intensity conditions(Kuswoyo et al., 2020). This problem is commonly observed when players delay their transition, make inaccurate long passes, or fail to finish layups under pressure. Therefore, training methods should combine speed, intensity, and basketball-specific technical actions in situations that resemble match demands(Putri et al., 2025; Riyanto & Kuswoyo, 2019).

Previous studies have shown that high-intensity and game-based basketball training can improve physical and technical performance among young players. Arslan et al. reported that small-sided games and high-intensity interval training produced positive effects on performance responses and technical skills in young basketball players(Dello Iacono et al., 2021; Young et al., 2015). Similarly, recent evidence suggests that high-intensity training can improve basketball-specific skills such as dribbling, passing, and shooting. However, fast-break-specific skill training remains an important area for further investigation, especially in youth basketball contexts.

Therefore, this study aimed to examine the effect of high-intensity skill training on selected fast-break skills among young basketball players.

Materials and Methods

Study Design

This study used a one-group experimental design with pre-test and post-test measurements (Sugiyono, 2012). This design was selected to examine changes in fast-break skill performance before and after the implementation of a high-intensity skill training program.

Study Participants

The participants were 10 male youth basketball players from Al-Kut Sports Club, aged 16–17 years. Initially, 11 players were selected purposively, but one player was excluded because he did not consistently attend the training program. All participants were active basketball players and were treated as one experimental group.

Study Organization

The training program was conducted for eight weeks, consisting of 24 training sessions. Training was held three times per week on Saturday, Monday, and Thursday. Each session lasted 90 minutes, with 30 minutes allocated to the high-intensity skill training component. The exercises focused on fast-break-related skills, including dominant-arm dribbling, long passing, layup scoring, layup accuracy, rebounding/follow-up actions, and total fast-break execution.

Pre-tests were conducted before the training program, while post-tests were conducted after the completion of the eight-week intervention. The researchers attempted to maintain similar testing conditions for both measurements, including time, place, equipment, and assisting staff.

Statistical Analysis

Data were analyzed using SPSS. Descriptive statistics were used to calculate the mean and standard deviation. The paired-sample t-test was used to compare pre-test and post-test results. The significance level was set at $p \leq 0.05$.

Results

The results showed that most fast-break-related skills improved after the training program.

Table 3. Comparison of Pre-test and Post-test Results for Fast-Break Skill Performance

Variable	Pre-test Mean	Post-test Mean	t-value	Sig.	Interpretation
Dominant-arm dribbling	4.11	3.66	7.50	0.000	Significant
Long passing	8.67	10.00	1.58	0.110	Not significant
Layup scoring between obstacles	5.55	5.07	3.82	0.020	Significant
Layup accuracy	7.00	8.25	2.81	0.041	Significant
Rebounding/follow-up	16.33	18.25	6.78	0.000	Significant
Total fast-break time	3.65	3.50	3.75	0.026	Significant

The data indicate that high-intensity skill training improved dribbling speed, layup performance, layup accuracy, rebounding ability, and total fast-break execution. However, the improvement in long passing was not statistically significant.

Discussion

The findings demonstrate that high-intensity skill training contributed positively to the development of fast-break performance among young basketball players. The significant improvement in dominant-arm dribbling suggests that repeated high-speed ball-control exercises helped players perform more efficiently during transition situations. This result is consistent with previous research showing that high-intensity basketball training can improve basketball-specific technical skills, including dribbling and movement performance(David J. Smith, 2003; McCormack, 2020; Vealey, 2024).

The improvement in layup scoring and layup accuracy also indicates that the training program successfully connected speed, coordination, and finishing actions. In fast-break situations, layup execution is often performed under time pressure and defensive disturbance. Therefore, repeated practice in high-intensity and game-like conditions may help players stabilize their motor patterns and improve scoring efficiency. Similar findings have been reported in basketball training studies showing that skill-based and small-sided training can enhance technical performance by exposing players to realistic movement and decision-making demands(Dudley et al., 2011; Yan et al., 2023).

The significant improvement in rebounding or follow-up performance is also important because defensive rebounding is often the starting point of a fast break. Players who can secure the ball quickly and transition immediately into attack provide their team with a tactical advantage. This supports the idea that fast-break training should not only emphasize sprinting but also include rebounding, first-pass actions, court spacing, and finishing(Hughes et al., 2018; Roth et al., 2021).

However, long passing did not improve significantly. This may be because long passing requires upper-body power, passing accuracy, timing, and coordination with receiving players. Although the training program included passing exercises, the stimulus may not have been sufficient to produce significant improvement in this specific skill. This finding is aligned with evidence that some high-intensity basketball interventions may improve dribbling and movement performance without producing equal gains in passing or shooting skills(Lee et al., 2017; Orçan, 2023).

Overall, the results suggest that high-intensity skill training is useful for improving fast-break performance, especially when exercises are designed to reflect actual game situations. For youth players, such training should be applied progressively, with attention to technical quality, adequate recovery, and proper execution under pressure.

Conclusions

High-intensity skill training significantly improved several fast-break-related skills among young basketball players, including dominant-arm dribbling, layup scoring, layup accuracy, rebounding/follow-up actions, and total fast-break execution time. However, long passing did not show a significant improvement. These findings suggest that fast-break training should combine technical repetition, game-like intensity, and tactical transition scenarios.

Recommendations

Coaches should integrate high-intensity skill drills into youth basketball training, especially exercises that combine rebounding, dribbling, passing, and layup finishing in fast-break situations. Future studies should use a control group, larger sample size, and additional measurements such as game performance analysis, passing accuracy under pressure, and physiological load monitoring.

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