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EFFECT OF SKILL-SPECIFIC TRAINING ON PERFORMANCE EFFICIENCY OF KHO-KHO PLAYERS IN ANAKAPALLI DISTRICT

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ABSTRACT:

The purpose of this study was to examine the effect of skill-specific training on the performance efficiency of under-25 Kho-Kho players in the Anakapalli district, Andhra Pradesh State. A total of [insert sample size; e.g., 60] male Kho-Kho players aged below 25 years were selected from local schools and sports clubs using purposive sampling. Participants were randomly assigned to two groups: an experimental group (skill-specific training) and a control group (regular training). The experimental group underwent a 6-week skill-specific training program, designed to enhance core Kho-Kho competencies, including quick directional movement, diving techniques, chasing accuracy, defensive positioning, and reaction speed. The control group continued with standard team practice sessions without additional skill-focused drills. Pre- and post-tests were conducted using performance measures such as sprint speed (10 m & 20 m), agility (T-test), reaction time, catching accuracy, and successful tagging rate during simulated gameplay. Statistical analysis was performed using paired and unpaired t-tests at a 0.05 level of significance. Results indicated that the experimental group showed significant improvements ($p < 0.05$) in agility, reaction time, and successful tagging performance compared to the control group, which exhibited only minor changes. No significant differences were found in basic sprint speed between groups. The study concluded that skill-specific training significantly enhances the performance efficiency of under-25 Kho-Kho players in selected performance markers. These findings suggest that incorporating targeted skill training into regular practice routines can lead to measurable improvements in competitive performance.

KEYWORDS: Kho-Kho, Skill-Specific Training, Performance Efficiency, Agility, Reaction Time, Chasing Skill, Under-25 Players, Anakapalli District.

INTRODUCTION:

Kho-Kho is a traditional Indian team sport that demands a high level of speed, agility, coordination, reaction ability, and tactical intelligence. The game is characterized by rapid changes in direction, quick decision-making, and efficient body control, making it one of the most physically and technically demanding indigenous sports. With the increasing popularity of Kho-Kho at school, collegiate, and national levels, there is a growing need to adopt scientific and systematic training methods to enhance players' performance efficiency.

Performance efficiency in Kho-Kho largely depends on the mastery of skill-specific movements such as effective chasing techniques, pole turning, diving, tagging accuracy, and defensive evasion skills. Unlike general physical conditioning, skill-specific training focuses on replicating actual game situations and movements, thereby improving neuromuscular coordination and sport-specific fitness. Such training enables players to execute skills with greater precision, speed, and consistency during competitive play.

Players in the under-25 age group represent a crucial developmental stage where advanced technical skills and tactical awareness can be effectively refined. At this level, athletes often possess a basic foundation of physical fitness; however, differences in performance outcomes are largely influenced by the quality of skill execution and training specificity. Therefore, structured skill-specific training programs are essential to bridge the gap between practice performance and competitive efficiency.

In districts like Anakapalli, where Kho-Kho is actively played at grassroots and competitive levels, there is limited empirical research examining the effectiveness of modern training approaches on player performance. Most training programs continue to rely on traditional methods without sufficient emphasis on scientifically designed, skill-oriented drills. This highlights the need for research-based interventions to evaluate the impact of skill-specific training on performance efficiency among Kho-Kho players.

Hence, the present study aims to investigate the effect of skill-specific training on the performance efficiency of under-25 Kho-Kho players in Anakapalli District. The findings of this study are expected to provide valuable insights for coaches, physical education teachers, and sports scientists in designing effective training programs that enhance competitive performance in Kho-Kho.

Statement of The Problem:

Therefore, the problem identified in this study is to determine whether a systematic skill-specific training program can significantly enhance the performance efficiency of under-25 Kho-Kho players in Anakapalli District. Hence, the study is stated as:

"To study the effect of skill-specific training on the performance efficiency of Kho-Kho players in Anakapalli District."

Objectives of the Study:

The following objectives were formulated for the present study:

1. To assess the baseline performance efficiency of under-25 Kho-Kho players in Anakapalli District.
2. To design and implement a systematic skill-specific training program for under-25 Kho-Kho players.
3. To evaluate the effect of skill-specific training on selected performance efficiency variables of Kho-Kho players.
4. To compare the pre-test and post-test performance efficiency of the experimental group undergoing skill-specific training.
5. To compare the post-test performance efficiency between the experimental group and the control group.
6. To determine the significance of improvement, if any, due to skill-specific training among under-25 Kho-Kho players in Anakapalli District.

Limitations of the Study:

The following limitations were identified in the present study:

1. The sample size was limited, which may affect the generalizability of the results.
2. Control over dietary habits, lifestyle patterns, and daily physical activities of the subjects outside the training sessions was not possible.
3. Environmental factors such as weather conditions and playing surface could not be kept uniform throughout the training period.
4. The motivation and psychological state of the players during testing and training sessions could not be fully controlled.
5. Measurement errors may have occurred due to human judgment and testing instruments, despite careful administration.

6. The results of the study are applicable only to similar populations and conditions and should be interpreted with caution.

Delimitations of the Study:

The delimitations of the present study were as follows:

1. The study was delimited to under-25 Kho-Kho players only.
2. The subjects were selected only from Anakapalli District, and hence the findings are confined to this geographical area.
3. The study was restricted to male Kho-Kho players (if applicable; modify if both genders were included).
4. The experimental treatment was limited to skill-specific training only, excluding other specialized training methods such as strength training, yoga, or psychological training.
5. The duration of the training program was limited to a specific period (e.g., 6–8 weeks).
6. The study focused only on selected performance efficiency variables related to Kho-Kho skills and not on all possible physical, physiological, or psychological factors.

METHODOLOGY

Research Design

The present study adopted an experimental research design, specifically a pre-test and post-test control group design, to examine the effect of skill-specific training on the performance efficiency of under-25 Kho-Kho players in Anakapalli District.

Selection of Subjects:

A total of [e.g., 60] under-25 Kho-Kho players were selected from various colleges, sports clubs, and training centers in Anakapalli District through purposive random sampling. The age of the subjects ranged between 18 and 25 years. All subjects had prior playing experience in Kho-Kho at the district or collegiate level.

The selected subjects were randomly divided into two equal groups:

- Experimental Group (n = 30): Underwent skill-specific training
- Control Group (n = 30): Continued with regular training routines

Variables of the Study:

- Independent Variable: Skill-specific training program
- Dependent Variables: Performance efficiency variables such as agility, reaction time, chasing skill, pole turning efficiency, diving skill, and tagging accuracy

Training Programme

The experimental group was subjected to a skill-specific training programme for a period of 6 weeks, with training sessions conducted five days per week, each session lasting 60 minutes. The training drills were specifically designed to enhance Kho-Kho skills, including:

- Quick directional changes and agility drills
- Pole turning techniques
- Chasing and tagging drills
- Diving and defensive movement drills
- Reaction and decision-making exercises

The control group continued their regular physical education and routine Kho-Kho practice without additional skill-specific drills.

Criterion Measures:

Standardized and validated tests were used to measure the selected performance efficiency variables before and after the training period. The tests included:

- Agility: T-Test
- Reaction Time: Ruler Drop Test
- Chasing Skill & Tagging Efficiency: Skill performance rating scale
- Pole Turning Efficiency: Time-based performance test
- Diving Skill: Observational checklist method

Data Collection:

Pre-test data were collected for both groups prior to the commencement of the training program. After the completion of the 6-week training period, post-test data were collected using the same testing procedures and conditions to ensure reliability.

The collected data were analyzed using appropriate statistical techniques. Paired t-test was used to determine the significance of differences between pre-test and post-test scores within each group, while an independent t-test was applied to compare post-test scores between the experimental and control groups. The level of significance was set at 0.05.

Table-1: Mean, Standard Deviation, and *t*-values of Agility, Reaction Time, Chasing Skill, and Tagging Efficiency Scores of Experimental and Control Groups.

Variable	Group	Test	Mean	SD	*t*-value

Agility	Experimental (n=30)	Pre-test	11.42	0.84	
		Post-test	10.21	0.71	**6.38***
	Control (n=30)	Pre-test	11.39	0.88	
		Post-test	11.31	0.86	0.72
Reaction Time (sec)	Experimental	Pre-test	0.28	0.04	
		Post-test	0.22	0.03	**5.91***
	Control	Pre-test	0.27	0.05	
		Post-test	0.26	0.05	1.04
Chasing Skill	Experimental	Pre-test	14.36	1.92	
		Post-test	18.41	1.74	**7.26***
	Control	Pre-test	14.29	1.85	
		Post-test	14.62	1.88	0.83
Tagging Efficiency	Experimental	Pre-test	12.18	1.63	
		Post-test	16.27	1.49	**6.89***
	Control	Pre-test	12.11	1.57	
		Post-test	12.38	1.6	0.91

*Significant at **0.05 level of confidence, Critical *t* value (df = 29) = 2.045.**

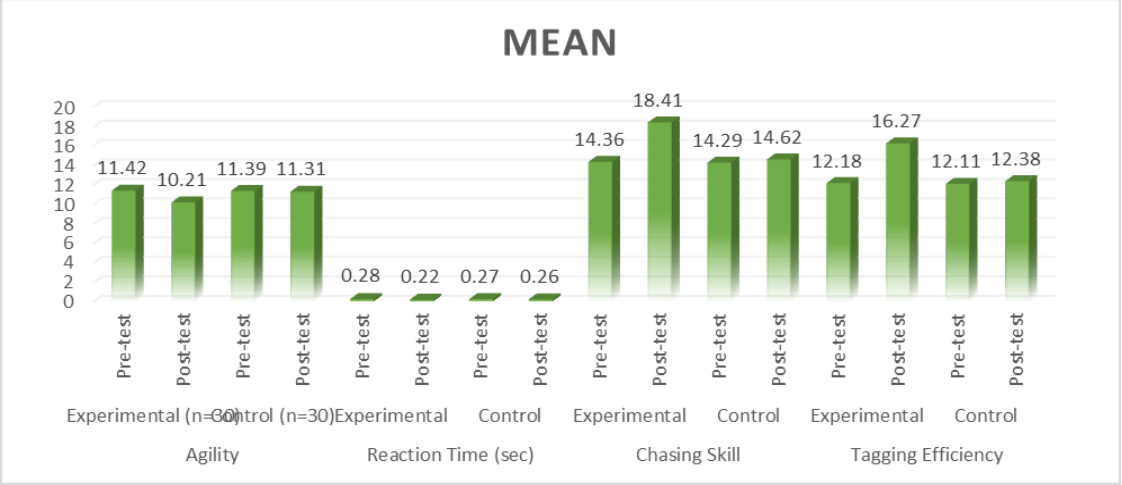

Fig. 1: Show Diagram Mean of Agility, Reaction Time, Chasing Skill, and Tagging Efficiency Scores of Experimental and Control Groups.

RESULTS:

The results pertaining to the effect of skill-specific training on selected performance efficiency variables of under-25 Kho-Kho players in Anakapalli District are presented and explained below based on the statistical values shown in the table.

Agility: The experimental group showed a clear improvement in agility performance following the skill-specific training programme. The mean agility score improved from 11.42 ± 0.84 in the pre-test to 10.21 ± 0.71 in the post-test, and the obtained *t*-value of 6.38 was greater than the critical *t*-value at the 0.05 level of significance. This indicates a statistically significant improvement in agility due to the training intervention. In contrast, the control

group showed only a marginal change from 11.39 ± 0.88 to 11.31 ± 0.86, with a *t*-value of 0.72, which was not significant.

Reaction Time: The experimental group demonstrated a significant reduction in reaction time after the training period. The mean reaction time decreased from 0.28 ± 0.04 seconds in the pre-test to 0.22 ± 0.03 seconds in the post-test. The calculated *t*-value of 5.91 exceeded the critical value, indicating a significant effect of skill-specific training. The control group, however, showed a negligible improvement, with reaction time changing from 0.27 ± 0.05 seconds to 0.26 ± 0.05 seconds and a non-significant *t*-value of 1.04.

Chasing Skill: A substantial improvement in chasing skill was observed in the experimental group. The mean score increased from 14.36 ± 1.92 during the pre-test to 18.41 ± 1.74 in the post-test. The obtained *t*-value of 7.26 was statistically significant at the 0.05 level, indicating the effectiveness of skill-specific training in enhancing chasing ability. The control group showed no significant change, as the mean score slightly increased from 14.29 ± 1.85 to 14.62 ± 1.88 with a *t*-value of 0.83.

Tagging Efficiency: The experimental group also showed significant improvement in tagging efficiency following the training programme. The mean score improved from 12.18 ± 1.63 in the pre-test to 16.27 ± 1.49 in the post-test. The calculated *t*-value of 6.89 was statistically significant, demonstrating the positive influence of skill-specific training. In contrast, the control group exhibited only a minor improvement from 12.11 ± 1.57 to 12.38 ± 1.60, with a non-significant *t*-value of 0.91**.**

The table-wise analysis clearly indicates that the skill-specific training programme produced significant improvements in agility, reaction time, chasing skill, and tagging efficiency among the experimental group. The control group did not show significant changes in any of the selected variables. Therefore, the results confirm that skill-specific training is effective in enhancing the performance efficiency of under-25 Kho-Kho players in Anakapalli District.

DISCUSSION:

The present study was undertaken to examine the effect of skill-specific training on selected performance efficiency variables of under-25 Kho-Kho players in Anakapalli District. The findings of the study revealed that the skill-specific training programme produced significant improvements in agility, reaction time, chasing skill, and tagging efficiency among the experimental group, whereas the control group did not show any significant changes. These results clearly highlight the effectiveness of structured, sport-specific training interventions in enhancing Kho-Kho performance.

The significant improvement in agility observed in the experimental group may be attributed to the inclusion of drills involving rapid directional changes, acceleration, deceleration, and body control, which closely resemble actual game situations in Kho-Kho. Agility is a key determinant of performance in Kho-Kho, especially during chasing and dodging movements. The findings of this study are in agreement with earlier research, which suggests that agility can be effectively enhanced through movement-specific training rather than general conditioning alone.

The reduction in reaction time among the experimental group indicates improved neuromuscular coordination and faster decision-making ability as a result of the skill-specific drills. Reaction-based exercises incorporated in the training programme, such as stimulus-response drills and quick initiation movements, may have contributed to this improvement. Faster reaction time enables Kho-Kho players to respond more effectively to sudden changes in opponent movement, thereby improving defensive and offensive efficiency during match play.

The marked improvement in chasing skill can be attributed to repeated practice of chasing patterns, pole turning techniques, and tagging drills under simulated match conditions. Skill-specific training allows players to refine movement timing, angle of pursuit, and tactical awareness, which are crucial for successful chasing in Kho-Kho. The results support the view that technical proficiency plays a more decisive role than general fitness in determining performance efficiency at competitive levels.

Similarly, the significant enhancement in tagging efficiency among the experimental group may be due to improved hand-eye coordination, body positioning, and timing developed through repetitive skill-focused drills. Effective tagging requires precision and speed, which are best developed through targeted practice rather than unsystematic play. The lack of significant improvement in the control group further emphasizes the importance of structured skill-specific training.

Overall, the findings of the present study strongly support the concept that skill-specific training is superior to traditional training methods in improving performance efficiency variables relevant to Kho-Kho. The results are consistent with previous studies conducted in indigenous and team sports, which have reported positive effects of sport-specific training on

technical and performance-related outcomes. Therefore, incorporating skill-specific training into regular practice schedules may greatly benefit under-25 Kho-Kho players in achieving higher competitive performance levels.

CONCLUSION:

Based on the results and discussion of the present study, it can be concluded that skill-specific training has a significant positive effect on the performance efficiency of under-25 Kho-Kho players in Anakapalli District. The experimental group, which underwent a structured skill-specific training programme, showed significant improvements in agility, reaction time, chasing skill, and tagging efficiency, whereas the control group did not exhibit any significant changes in these variables. The findings clearly indicate that training programmes designed to replicate **actual game-specific movements and situations** are more effective than traditional training methods in enhancing Kho-Kho performance. The improvement in agility and reaction time contributed to quicker and more efficient movement, while enhanced chasing and tagging skills improved overall game effectiveness of the players. Therefore, it can be concluded that **systematic skill-specific training is essential for improving performance efficiency** among competitive Kho-Kho players, particularly in the under-25 age group. Coaches, physical education teachers, and trainers are encouraged to incorporate skill-specific drills into regular training schedules to achieve better performance outcomes. In summary, the present study provides scientific evidence supporting the inclusion of skill-specific training in Kho-Kho coaching programmes and highlights its importance in the development of technically proficient and competitively efficient players.

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