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INCIDÊNCIA DE LESÕES EM JOGADORES DA SELEÇÃO BRASILEIRA DE
VÔLEI MASCULINO: ANÁLISE RETROSPECTIVA

ARARANGUÁ

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**INCIDÊNCIA DE LESÕES EM JOGADORES DA SELEÇÃO BRASILEIRA DE
VÔLEI MASCULINO: ANÁLISE RETROSPECTIVA**

Artigo apresentado ao Curso de
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Trabalho de Conclusão de Curso II.

Orientador: Prof. Dr. Alessandro
Haupenthal.

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2022

DEDICATÓRIA

Este trabalho é dedicado a minha família, que não mediram esforços para que eu chegasse até aqui.

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INCIDÊNCIA DE LESÕES EM JOGADORES DA SELEÇÃO BRASILEIRA DE
VÔLEI MASCULINO: ANÁLISE RETROSPECTIVA

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RESUMO

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Objetivo: Analisar a incidência de lesões em jogadores de vôlei masculino da seleção brasileira. **Design:** Estudo epidemiológico observacional do tipo coorte retrospectivo. **Cenário:** Observacional. **Participantes:** vinte atletas convocados mais de duas vezes para seleção brasileira, durante temporadas competitivas no ano de 2018. **Principais medidas de resultados:** Os jogadores foram acompanhados e avaliados pelo médico e fisioterapeuta do time, em relação às queixas e lesões, e a partir disso foi realizada uma análise de dados secundários enviados pelo fisioterapeuta que acompanha a equipe. **Resultados:** Treze lesões foram relatadas, resultando em uma incidência por perda de tempo durante o jogo de 6,6/1.000 horas e 2/1.000 horas durante o treino. Os membros inferiores foram às regiões mais afetadas, representando 46% das lesões. A posição em quadra mais afetada foi o central, com 53% das lesões. **Conclusões:** O risco de lesão é significativamente maior durante o jogo e a extremidade inferior representa a região mais afetada, gerando maiores danos em jogadores na posição central. Para gerenciar esse risco, estratégias específicas de prevenção de lesões são necessárias e devem servir como componente essencial ao plano de treinamento para atletas de elite do vôlei.

1 **PALAVRAS-CHAVES**

2 Voleibol. Epidemiologia. Lesão. Atleta.

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1 DESTAQUES

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3 • O risco de lesões é significativamente maior durante o jogo.

4 • A extremidade inferior do corpo é a região mais lesionada.

5 • O central é a posição em quadra com maior índice de lesão.

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1. INTRODUÇÃO

O voleibol é um dos esportes mais conhecidos do mundo, com aproximadamente 200 países membros na Federação Internacional de Vôlei (BAHR; BAHR, 2007). É um esporte dinâmico, que abrange jogadas de alta intensidade, muitas vezes com tempo limitado de descanso entre as partidas (BISHOP, JONES & WOODS, 2008). Embora seja considerado um esporte sem contato entre os jogadores adversários, no qual as duas equipes estão separadas por uma rede, verificou-se que os jogadores apresentam riscos de sofrer lesões durante as partidas e treinos (BAUGH et al., 2018). Estudos anteriores relataram que entorse de tornozelo são responsáveis por até metade de todas as lesões agudas ocorridas no vôlei (VERHAGEN et al., 2004) e problemas de uso excessivo afetam o joelho, costas e ombro (BERE et al., 2015).

A maioria dessas lesões estão associadas ao elevado grau de exigência física dos jogadores nas tarefas específicas do esporte, como saltos e aterrissagens, bem como golpes e bloqueio na bola, (BENEKA et al., 2009) com riscos significativamente maiores durante os jogos do que durante os treinos (BERE et al., 2015). Essas lesões resultam em consequências sociais e econômicas de curto e longo prazo, (VERHAGEN et al., 2005) com custos diretos no tratamento e custos indiretos, devido à redução total ou parcial das atividades desportivas (KILIC et al., 2017). Um objetivo contemplado pela epidemiologia de lesões esportivas é fornecer informações sobre lesões que ocorrem com frequência e têm consequências graves (VERHAGEN et al., 2004). O que possibilita que medidas preventivas eficazes

1 sejam desenvolvidas, não só para reduzir a incidência de lesões no voleibol, mas
2 também os custos causados por essas lesões (SEMINATI & MINETTI, 2013).

3 Para gerenciar esses riscos de lesões, estratégias específicas de prevenção são
4 necessárias e devem servir como um componente essencial para o plano de
5 treinamento de atletas de voleibol (JAMES, KELLY & BECKMAN, 2014). Apesar
6 disso, até o momento, não há estudos publicados sobre a incidência e gravidade dos
7 diferentes tipos de lesões que ocorrem na elite do vôlei. Portanto, o presente estudo
8 busca analisar a incidência de lesões em jogadores masculinos da elite brasileira de
9 vôlei e verificar quais lesões ocorrem com maior frequência.

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11 **2. MATERIAIS E MÉTODOS**

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13 **2.1 DESIGN DO ESTUDO**

14 Trata-se de um estudo epidemiológico observacional do tipo coorte
15 retrospectivo.

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17 **2.2 PARTICIPANTES**

18 Foi realizado o levantamento das lesões de atletas de elite convocados para
19 competir o Campeonato Mundial e a Liga das Nações de Voleibol (VNL), no ano
20 de 2018, pela seleção brasileira de vôlei. Foram incluídos no estudo todos os atletas
21 que participaram de treinamentos e jogos pela seleção masculina de vôlei adulto,
22 com idade entre 20 a 30 anos. Todos os atletas tinham experiência competindo pela
23 seleção brasileira em anos anteriores.

24

2.3 PROCEDIMENTO

Foi realizada uma análise retrospectiva de um ano de dados secundários enviados pelo fisioterapeuta que acompanha a equipe. Todos os dados foram coletados como parte de um programa de acompanhamento diário, durante os treinos e jogos, pelo fisioterapeuta e médico da seleção brasileira de vôlei masculino. A partir das queixas dos atletas, foi realizada uma avaliação pelos profissionais da saúde. Para cada lesão, foram registradas informações relacionadas à idade, posição na quadra, diagnóstico/queixa, mecanismo de trauma, localização, tipo de lesão e presença ou sintomas de lesões prévias. Caso houvesse necessidade, os atletas eram encaminhados para realização de exames de imagens.

2.4 ANÁLISE DE DADOS

O presente estudo definiu lesão como um incidente ocorrido durante uma partida de vôlei, treino ou outra atividade, que cause dano a uma parte do corpo e interfira no rendimento no esporte, (SOLGÅRD et al., 1995) com interrupção na participação do atleta em competições ou treinamento por pelo menos um dia (BAHR & REESER, 2003).

As horas de atividade relacionadas à prática de voleibol foram obtidas a partir de registros mantidos pela comissão técnica e administração esportiva do time. A incidência de lesões foi calculada dividindo o número de lesões pelo número total de exposição, apresentada como o número de lesão por 1.000 horas de jogo. Portanto, os incidentes de lesões foram expressos em relação às exposições totais,

1 incluindo todos os atletas e todas as atividades relacionadas ao treino e partida. Os
2 demais dados foram analisados utilizando estatística descritiva.

3

4 **3. RESULTADOS**

5

6 Ao longo de dois campeonatos realizados no ano de 2018, vinte atletas foram
7 acompanhados. No total, foram notificadas treze lesões, resultando em uma
8 incidência durante o jogo de 6,6 lesões/1.000 horas e 2 lesões/1.000 horas durante o
9 treino. As regiões do corpo mais afetadas foram tornozelo (15%), abdômen (15%),
10 cotovelo (15%), coxa (15%), joelho (15%), ombro (7%), antebraço (7%) e face
11 (7%). Representando 46% das lesões em membros inferiores, 30% em membros
12 superiores, 15% em tronco e demais lesões 7%.

13 Referente ao tipo de lesão, as que ocorreram com maior frequência foram às
14 lesões musculares (38%), seguida de lesões ligamentares (23%), tendíneas (23%) e
15 articulares (7%). Quando analisado o mecanismo de lesão, 84% foram
16 atraumáticas, ocorridas na ausência de contato direto, observada em modalidades
17 esportivas que exigem grande domínio na realização dos movimentos. E 15%
18 foram traumáticas, geradas por algum impacto externo. Em relação à posição em
19 quadra, o central representou 53% das lesões, ponteiros 30% e levantadores 15%,
20 as demais posições não relataram lesões no presente estudo.

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22 **4. DISCUSSÃO**

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1 O objetivo desta análise retrospectiva foi analisar a incidência de lesões em
2 jogadores masculinos da elite brasileira de vôlei e verificar quais lesões ocorrem
3 com maior frequência nesses atletas. Descobriu-se que o risco de lesão é
4 significativamente maior durante o jogo do que durante o treinamento,
5 provavelmente devido à duração das partidas e maior intensidade durante o jogo.
6 O presente estudo trouxe uma incidência de 6,6 lesões/1000 horas durante o jogo e
7 2 lesões/1000 horas durante o treino. Verhagen et al., também encontraram dados
8 semelhantes em uma temporada com jogadores da segunda e terceira divisão
9 holandesa de voleibol, apresentando uma incidência geral de lesões relacionada ao
10 treinamento de 1,8 por 1000 horas de jogo e para lesões relacionadas à partida, 4,1.
11 O mesmo ocorreu com Bahr e Bahr em um estudo com atletas em uma temporada
12 na liga da Federação Norueguesa de Voleibol, no qual documentaram uma
13 incidência de lesão de 3,5 lesões/1000 horas durante o jogo e 1,5/1000 horas
14 durante o treinamento.

15 Relacionada à região do corpo, o presente estudo mostrou que a extremidade
16 inferior foi a mais afetada, corroborando com estudos publicados anteriores. Nesic
17 et al., mostraram que o tornozelo (33%) foi a região mais lesada, seguido pelo
18 joelho (20%), dedos (17%) e ombro (16%). Em outro estudo realizado com
19 jogadores da Liga Nacional Escocesa, a região do corpo mais afetada foi joelho
20 (30%), tornozelo (26%), dedos (22%) e costas (17%) (Watkins e Green, 1992).
21 Bahr e Bahr trouxeram que o tornozelo foi à região mais frequentemente lesionada
22 (54%), seguida pela parte inferior das costas (11%), joelhos (8%), ombros (8%) e
23 dedos (7%). Verhagen et al., relataram que as entorses de tornozelo foram
24 responsáveis pela maioria das lesões agudas (83%) e lesões nos ombros mostraram

1 maiores índices por lesões de uso excessivo (32%), seguida de lesões nas costas
2 (32%) e nos joelhos (20%). Essas lesões podem estar relacionadas às jogadas
3 específicas do voleibol, que utilizam movimentos repetitivos de saltos, aterrissagens
4 de alta força e golpes aéreos, ou então, de jogadas em contato direto com outro
5 jogador, adversário ou da mesma equipe.

6 Em um estudo de lesões em jogadores de um time alemão de vôlei profissional,
7 observou que a posição em quadra com maiores lesões ocorre perto da rede,
8 relacionada aos jogadores da frente de cada equipe, o atacante externo (42%),
9 seguido do bloqueador intermediário (31%) (Pastor et al., 2015). Já em outro
10 estudo baseado em dados de quatro anos obtidos através do Sistema de Vigilância
11 de Lesões (ISS) da Federação Internacional de Voleibol (FIVB), Bere et al.,
12 relataram uma incidência de lesões maior para jogadores centrais, o qual vai de
13 encontro com o presente estudo que mostra que jogadores na posição central
14 tiveram uma incidência de lesão maior do que outras funções dos jogadores. Os
15 jogadores centrais são encarregados de realizar o bloqueio do ataque adversário e
16 precisam ser ágeis para receber as bolas rápidas, que são lançadas pelo levantador
17 com velocidade, isso explica a razão para os maiores índices de lesões.

18 Ao discutir as incidências de lesões, as diferenças na metodologia do estudo,
19 população de jogadores, número de temporadas, definição de lesão e cálculo de
20 exposição entre o presente estudo e estudos anteriores complicam a comparação
21 das taxas de incidência e por isso devem ser abordadas com cautela. Há ainda
22 como limitação, o número final de jogadores participantes do estudo, que se
23 mostra pequeno para análise definitiva desses índices, sendo necessário realizar
24 estudos posteriores com um grupo maior de jogadores. Outro ponto importante é a

1 delimitação de pesquisas voltadas a população que apresenta um alto grau de
2 exigência física, por se tratar de atletas de elite é importante realizar mais estudo
3 analisando os dados somente com jogadores de alto nível, diferente do que foi
4 realizado no presente estudo.

5

6 **5. CONCLUSÃO**

7

8 O risco de lesão é significativamente maior durante o jogo e a extremidade
9 inferior representa a região mais afetada, gerando maiores danos em jogadores na
10 posição central. Para gerenciar esse risco, estratégias específicas de prevenção de
11 lesões são necessárias e devem servir como componente essencial ao plano de
12 treinamento para atletas de elite do vôlei.

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14 **Conflito de interesses**

15 Nenhum declarado

16

17 **Aprovação ética**

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New guidance for randomised controlled trials

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