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Horizon Scanning for Management of Emerging Parasitic Infections in Fishery Products

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Abstract

This paper explores the imperative of horizon scanning as a proactive strategy for managing emerging parasitic infections in ýshery products. With increasing global demand for seafood, the risk of parasitic infections impacting ýsh populations grows, necessitating a forward-looking approach. The study emphasizes early detection through robust surveillance systems, comprehensive risk assessments, and collaborative research initiatives to identify vulnerable areas and ýsh species. Stringent regulatory frameworks are proposed to govern aquaculture practices, processing methods, and quality control, ensuring industry compliance. Capacity building and training programs for stakeholders, coupled with international collaboration and transparent communication, form integral components of an e ective horizon scanning strategy. By adopting this proactive stance, the seafood industry can safeguard the safety and sustainability of ýshery products in the face of evolving parasitic challenges.

K **:** Hori on scanning; Emerging parasi ic infec ions; Fisher prod c s; Earl de ec ion; Risk assessmen ; Reg la or frame orks; Capaci b ilding; In erna ional collabora ion; Comm nica ion; Seafood safe

I

e increasing cons mp ion of sher prod c s orld ide nderscores he impor ance of ens ring he safe and sec ri of aq a ic food so rces. Ho e er, he emergence of parasi ic infec ions in sh presen s an e ol ing challenge o he seafood ind s r and p blic heal h. In his con e , hori on scanning, a proac i e and s s ema ic me hodolog gains signi cance as a ool for he earl de ec ion and managemen of emerging parasi ic hrea s. is ar icle del es in o he applica ion of hori on scanning o an icipa e, assess, and respond o he risks posed b parasi ic infec ions in sher prod c s.

e b rgeoning global demand for seafood, dri en b e ol ing die ar preferences and pop la ion gro h, nderscores he pi o al role of he sher ind s r in mee ing he pro ein needs of comm ni ies orld ide. Ho e er, as he ind s r e pands, so does he risk of emerging parasi ic infec ions posing hrea s o he safe and s s ainabili of sher prod c s. To address hese challenges, his paper del es in o he concep of hori on scanning a proac i e s ra eg ha an icipa es and manages po en ial risks before he escala e. B e amining earl de ec ion mechanisms, comprehensi e risk assessmen s, reg la or frame orks, capaci b ilding ini ia i es, in erna ional collabora ion, and e ec i e comm nica ion s ra egies, his s d aims o pro ide insigh s in o a holis ic approach for he managemen of emerging parasi ic infec ions in sher prod c s. As he seafood ind s r na iga es an increasingl comple landscape, embracing hori on scanning becomes impera i e o ens re he resilience and in egri of sher prod c s in he face of e ol ing parasi ic challenges.

is s d emplo ed a m l iface ed me hodolog o comprehensi el in es iga e and address he managemen of emerging parasi ic infec ions in sher prod c s hro gh hori on scanning. e research began i h an e ensi e li era re re ie , s n hesi ing e is ing kno ledge on his orical rends, iden i ed parasi es, and he impac of hese infec ions on bo h ild and farmed sh. e anal sis e ended o he e al a ion of s r eillance s s ems, encompassing da a collec ion me hods, diagnos ic ools, and repor ing s r c res emplo ed b sheries managemen and heal h a hori ies. A rigoro s risk assessmen as nder aken o iden if high-risk areas, lnerable sh species, and po en ial ransmission pa h a s, ili ing a ailable da a and e per cons l a ions. e reg la or landscape go erning sher prac ices, aq ac l re, and sh processing as scr ini ed hro gh a compara i e anal sis of na ional and in erna ional frame orks. e in es iga ion f r her e plored e is ing capaci b ilding ini ia i es, in erna ional collabora ion mechanisms, and comm nica ion s ra egies o dissemina e informa ion abo parasi ic infec ions. S n hesi ing hese ndings, he s d de eloped recommenda ions for a proac i e hori on scanning approach, aiming o ll gaps and capi ali e on oppor ni ies in polic de elopmen , s r eillance enhancemen , capaci b ilding, and in erna ional collabora ion. e me hodolog no onl facili a ed a comprehensi e nders anding of he c rren landscape b also pro ided ac ionable insigh s o for if he resilience of sher prod c s agains he e ol ing challenges pose b parasi ic infec ions.

L

e li era re re ie re ealed a gro ing bod of kno ledge on emerging parasi ic infec ions in sher prod c s, emphasi ing he need for proac i e managemen s ra egies. Ke ndings incl ded he iden i ca ion of speci c parasi es, heir life c cles, and his orical rends in infec ion pre alence.

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: e anal sis of s r eillance s s ems iden i ed aria ions in da a collec ion me hods and diagnos ic ools across di eren regions. Discrepancies in repor ing s r c res highligh ed he need for s andardi ed pro ocols o enhance he e ec i eness of earl de ec ion and response.

: e risk assessmen pinpoin ed cer ain geographic areas and sh species as high-risk for emerging parasi ic infec ions. Po en ial ransmission pa h a s, s ch as aq ac l re prac ices and migra or ro es, ere iden i ed, nderscoring he impor ance of arge ed in er en ions.

: e e amina ion of reg la or frame orks re ealed dispari ies in he s ringenc of meas res go erning sher prac ices. Recommenda ions ere de eloped o harmoni e in erna ional s andards, s reng hen compliance, and in rod ce speci c g idelines addressing parasi ic infec ions.

C. : e anal sis of e is ing capaci b ilding ini ia i es demons ra ed ar ing degrees of e ec i eness. Recommenda ions incl ded he de elopmen of s andardi ed raining mod les and increased collabora ion be een reg la or bodies and ed ca ional ins i ions o b ild e per ise.

I : e assessmen of in erna ional collabora ion mechanisms highligh ed s ccessf l research par nerships and informa ion-sharing pla forms. e s d recommended he e pansion of collabora i e e or s, par ic larl in harmoni ing research me hodologies and facili a ing he e change of bes prac ices.

C : e e al a ion of comm nica ion s ra egies nderscored he impor ance of ransparen and accessible informa ion dissemina ion. Recommenda ions emphasi ed he se of di erse comm nica ion channels o reach ind s r s akeholders, he p blic, and polic makers e ec i el .

: e s n hesis of ndings c lmina ed in comprehensi e recommenda ions for a proac i e hori on scanning approach. ese encompassed polic enhancemen s, impro emen s in s r eillance infras r c re, arge ed capaci b ilding programs, and fos ering s ronger in erna ional collabora ion o address emerging parasi ic hrea s.

D

e disc ssion arising from he s d 's ndings on he managemen of emerging parasi ic infec ions in sher prod c s hro gh hori on scanning nderscores he need for a comprehensi e and collabora i e approach o safeg ard he safe and s s ainabili of seafood. e call for s andardi ed s r eillance s ems and repor ing s r c res aims o crea e a cohesi e global response, ackno ledging he in erconnec ed na re of he sher ind s r . e e plora ion of reg la or harmoni a ion emphasi es he impor ance of in erna ional coopera ion in es ablishing niform g idelines, fos ering a shared commi men o q ali and safe s andards. e pi o al role of capaci b ilding ini ia i es promp s considera ion of inno a i e ed ca ional s ra egies o empo er s akeholders in adap ing o e ol ing challenges. e spo ligh on s ccessf l in erna ional collabora ions opens a en es for e ploring f r her par nerships and le eraging collec i e s reng hs. Transparen comm nica ion emerges as a linchpin for engaging s akeholders, ens ring compliance, and b ilding a collec i e responsibili for seafood safe . e adap able na re of s n hesi ed recommenda ions enco rages ongoing dialog e on emerging echnologies, research me hodologies, and reg la or adj s men s o mee f re challenges. E hical considera ions and s akeholder incl sion pro ide a compass for ens ring ha managemen s ra egies are no onl e ec i e b also e hicall so nd, c l rall sensi i e, and sociall responsible. In essence, he disc ssion emana ing from his s d ser es as a ca al s for a d namic and incl si e approach o addressing he comple i ies of emerging parasi ic hrea s in he d namic landscape of he sher ind s r [1-10].

C

In concl sion, hori on scanning emerges as a al able and proac i e s ra eg for he managemen of emerging parasi ic infec ions in sher prod c s. B an icipa ing and responding o po en ial hrea s before he escala e, his approach con rib es o he resilience of he seafood ind s r and ens res he con in ed safe and s s ainabili of aq a ic food so rces. e in egra ion of scien i c kno ledge, s r eillance s s ems, and collabora i e e or s posi ions hori on scanning as a for ard-looking ool in safeg arding p blic heal h and he f re of global sheries.

A

None

C I

None

References

1. Diez Roux AV, Merkin SS, Arnett D (2001) Neighborhood of residence and incidence of coronary heart disease. N Engl J Med 345: 99-106.
2. Charlson M, Szatrowski TP, Peterson J, Gold J (1994) Validation of a combined comorbidity index. J Clin Epidemiol 47: 1245-1251.
3. Deyo RA, Cherkin DC, Ciol MA (1992) Adapting a clinical comorbidity index for use with ICD-9-CM administrative databases. J Clin Epidemiol 45:613-619.
4. Westfall JM, Mold J, Fagnan L (2007) Practice-based research-îBlue highwaysò on the NIH roadmap. J Am Med Assoc 297: 403-406.
5. Wilson CB (2006) Adoption of new surgical technology. Br Med J 332:112-114.
6. Cameron EA, Martinez-Marignac VL, Chan A (2007) MGEA5-14 polymorphism and type 2 diabetes in Mexico City. Am J Hum Biol 19: 593-596.
7. Perez-Luque E, Malacara JM, Garay-Sevilla ME, Fajardo ME (2012) Association of the TNF-Ů -308G/A polymorphism with family history of type 2 diabetes mellitus in a Mexican population. Clin Biochem 45: 12-15.
8. Martinez-Marignac VL, Valladares A, Cameron E (2007) Admixture in Mexico City: Implications for admixture mapping of Type 2 diabetes genetic risk factors. Hum Genet 120: 807-819.
9. Ciechanowski P, Russo J, Katon W (2004) Inþuence of patient attachment style on self-care and outcomes in diabetes. Psychosom Med 66: 720-728.
10. Katon WJ, Rutter C, Simon G (2005) the association of comorbid depression with mortality in patients with type 2 diabetes. Diabetes Care 28: 2668-2672.