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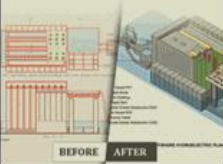
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Improving antibiotic prescribing in primary care: a cluster-randomized controlled trial

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Aiming to improve antibiotic prescribing and to diminish the misuse of antibiotics, an educational intervention was performed targeting physicians' attitudes, knowledge and perceptions about antibiotic prescribing and antimicrobial resistances.

Methods

The educational intervention was developed in the Centre Health Region of Portugal, with a sample size of 1168 primary care physicians. Clusters were randomly selected as control (4 clusters, 35 primary care facilities, n=862) and intervention (4 clusters, 25 primary care facilities, n=306) groups. The educational intervention consisted in (i) educational outreach visits (PowerPoint presentation) targeting physicians' attitudes and knowledge about antibiotic prescribing and resistances (identified in a previous cohort study); and (ii) in the distribution of educational materials targeting patients' education (leaflets and posters)

Results

A total of 25 interventions were made, one in each primary care facility of the intervention group clusters, with a physicians' participation rate of 56.7% (n=174). The follow-up analysis of the educational intervention includes the evaluation of the physicians' quality prescribing indicators, which allows us to understand specific improvements in antibiotic prescribing. We calculated the 12 ESAC-based quality indicators for outpatient antibiotic use in Europe, which are valuable indicators to describe the quality of antibiotic use in ambulatory care.

Conclusions

The development of educational interventions targeting physicians attitudes, knowledge and perceptions about antibiotic prescribing and resistances could be an excellent strategy to improve antibiotic prescribing itself, which is one of the main factors underlying antibiotic misuse and, consequently, antibiotic resistances. It is also important to refer that intervention follow-up using quality prescribing indicators reveals to be an excellent tool to characterize physician antibiotic prescribing and to define new strategies to improve this process.

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