

Activities developed by the committees of prevention of infant and fetal deaths: integrative review

Atividades desenvolvidas pelos comitês de prevenção do óbito infantil e fetal: revisão integrativa

Actividades desarrolladas por los comités de prevención de la muerte infantil y fetal: revisión integradora

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ABSTRACT

Objective: To systematize knowledge on the activities developed by the committees involved in the prevention of infant and fetal deaths.

Method: Integrated literature review conducted in November 2015 at PubMed, CINAHL, Scopus, LILACS, BDEnf and SciELO databases using keywords and descriptors of infant mortality, infant death, infant deaths, fetal death, fetal deaths, fetal mortality, neonatal mortality, professional committee, committees, advisory committees. The 34 selected studies were organized and analyzed using Microsoft Excel®.

Results: International, national, regional, state and local committees analyze the deaths and conduct activities aimed to qualify maternal and childcare and feed the health information systems.

Conclusion: The committees for the prevention of infant and fetal mortality collect, produce, analyze and disseminate information related to these deaths in order to reduce infant and fetal mortality rates.

Keywords: Professional committees. Infant mortality. Fetal mortality. Health management.

RESUMO

Objetivo: Sistematizar o conhecimento sobre as atividades desenvolvidas por comitês que atuam com a prevenção do óbito infantil e fetal.

Método: Revisão integrativa de literatura, realizada no mês de novembro de 2015, nas bases de dados PubMed, CINAHL, Scopus, LILACS, BDEnf e SciELO, utilizando as palavras-chave e descritores mortalidade infantil, óbito infantil, óbitos infantis, óbito fetal, óbitos fetais, mortalidade fetal, mortalidade neonatal, comitê de profissionais, comissões, comitês consultivos. Os 34 estudos selecionados foram organizados e analisados com auxílio do *Microsoft Excel*®.

Resultados: Há comitês de âmbito internacional, nacional, regional, estadual e municipal que analisam óbitos e realizam atividades para qualificar a assistência materno-infantil e alimentar os sistemas de informação em saúde.

Conclusão: Os comitês de prevenção do óbito infantil e fetal desenvolvem atividades de coleta, produção, análise e divulgação de informações relacionadas ao óbito com a finalidade de reduzir taxas de mortalidade infantil e fetal.

Palavras-chave: Comitê de profissionais. Mortalidade infantil. Mortalidade fetal. Gestão em saúde.

RESUMEN

Objetivo: Para sistematizar el conocimiento de las actividades desarrolladas por los comités que trabajan con la prevención del trabajo infantil y la muerte fetal.

Método: Revisión integrada de la literatura, que se celebró en noviembre de 2015, de las bases de datos PubMed, CINAHL, Scopus, LILACS, BDEnf y SciELO, usando las palabras clave y descriptores de mortalidad infantil,mortalidad fetal intrauterina, mortinatos, mortalidad fetal, la mortalidad neonatal, del comité profesional, comisiones, comités de asesoramiento. Se organizaron los 34 estudios seleccionados y se los analizó utilizando Microsoft Excel[®].

Resultados: Existen internacionalmente comités, nacional, regional, estatal y actividades escénicas locales para calificar los sistemas de información de salud materna e infantil y de los alimentos.

Conclusión: Los comités de prevención de la mortalidad infantil y fetal se desarrollan las actividades de recolección, producción, análisis y difusión de información relacionada con la muerte, a fin de reducir las tasas de mortalidad infantil y fetal.

Palabras clave: Comités de profesionales. Mortalidad infantil. Mortalidad fetal. Gestión en salud.

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INTRODUCTION

The Sustainable Development Goals (SDG) include 17 goals and 169 targets to be met by the countries by 2030. Ending preventable deaths of newborns and children under five years old in order to reduce neonatal mortality to less than 12 per 1,000 live births and mortality of children under five years to the less than 25 per 1,000 live births is one of the targets of the third sustainable development goal⁽¹⁾.

Brazil is one of the 62 countries that achieved the goal of reducing infant mortality, with a rate of decline of 73% in the 1990-2015 period. Such rate is higher than the global average of 53% of decline over the past 25 years (2).

Most infant deaths are preventable. Analyzes of preventable mortality allows assessing living and health conditions and support the implementation of interventions tailored to this population group (3).

Analysis of the preventability of these deaths should highlight the activities of the committees for prevention of infant and fetal deaths, which aim to give visibility, detect and monitor infant and fetal deaths and propose interventions to reduce these deaths. They consist in management tools that allow assessing the quality of care to pregnant women and children during the first year of life, in order to support public policies and intervention actions ⁽⁴⁾.

Given the target of infant mortality reduction established by the SDGs, and since the countries are getting prepared to monitor mortality indicators, it is important to gain insight on the way in which committees for the prevention of infant and fetal mortality and fetal operate, through the systematization of their activities, with the purpose of sharing experiences. Thus, the justification for conducting this review is its purpose to systematize the knowledge of activities developed by committees for the prevention of child and fetal deaths.

■ METHOD

This is an integrative literature review that allows the synthesis of relevant publications based on the results of these studies, resulting in a broader analysis and visualization of gaps (5). The study design observed the recommendations of the *Checklist of PRISMA Statement for Reporting Systematic Reviews And MetaAnalyzes Of Studies* and the development of a protocol of six methodological steps, validated by an expert (5).

In the first stage of the review, the following question was posed: How does the national and international scientific literature address the activities developed by committees for prevention of infant and fetal death?

The second stage involved literature search and selection of the studies. The descriptors were used in Portuguese, English and Spanish and comprised the 2005-2015 period. Results of studies, reports of experiences, critical reflections, reviews and management reports were included. Editorials, letters to the editor, comments, summaries of annals, essays, duplicate publications, dossiers, official documents, theses, dissertations, epidemiological bulletins and books and articles that did not meet the scope of this review were excluded.

The following electronic bibliographic databases of November 2015 were consulted in this literature review: (PubMed) Cumulative Index to Nursing & Allied Health Literature (CINAHL), Scopus, Latin American and Caribbean Health Sciences (LILACS), Nursing Database (BDEnf) and Scientific Electronic Library Online (SciELO). The following keywords and combined descriptors were selected: infant mortality, infant death, infant deaths, fetal death, fetal deaths, fetal mortality, neonatal mortality, committee of professionals, committee, committees, advisory committees, and their corresponding terms in English and Spanish. In total, 3,890 studies were identified in the six databases searched.

In the third stage, the studies were previously selected through the reading of the title, abstract, keywords or descriptors, with exclusion of duplicate publications, as well as publications that did not meet the scope of this review. Forty-five (45) articles were pre-selected. All the studies that met the scope of the review (34 studies) were read in full (Figure 1).

In the fourth stage, the data obtained was entered into Microsoft Excel® with and included the following items: database, journal, year, author, title, objective, method, location, type of committee, activities performed.

The fifth stage consisted of analysis and interpretation of the results and discussion, highlighting the activities performed by the committees for the prevention of infant and fetal death. In the last stage, a review and synthesis of the knowledge of the activities carried out by the committees for the prevention of infant and fetal death was prepared.

RESULTS

Of the thirty-four (34) selected studies, 17 were indexed in *Scopus*, nine in CINAHL, PubMed five No, two in SciELO, one in LILACS. No articles that met the objectives of this review were found in BDENF. Regarding the locations, the studies were originally from Brazil 14 studies; United States, 12; China, Japan, Ghana, Israel and Cuba, one study each. In Brazil, the state with the largest number of studies was

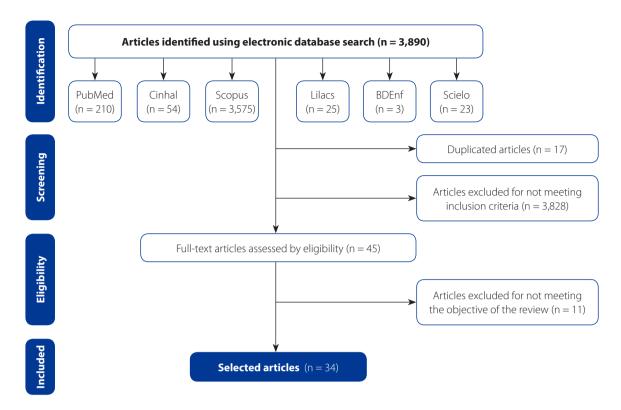


Figure 1 – Flowchart of the collection and selection of studies

Source: Research data, 2016.

Paraná (10) followed by São Paulo (4). Regarding the year of publication, six studies were conducted in 2009, five in 2011, four in 2006, three studies in 2008, 2013, 2014 and 2015, two studies in 2007, 2010 and 2012 and one study in 2005.

Regarding the design, the studies were as follows: descriptive and exploratory approach (19), report of experience (7), cross-sectional and descriptive (2), cross-sectional, descriptive and retrospective (1), retrospective descriptive exploratory (one), retrospective descriptive (1), ecological retrospective (1), analysis of agreement (1) and study with clustering approach (1).

Regarding their area of responsibility of these committees, they operate at the international, national, regional, state and municipal levels. The international committees include representatives of several countries, e.g. the Standing Committee on Perinatal Mortality and Morbidity (FIGO), of 1967, which includes representatives from Haiti, Kenya, Kosovo, Pakistan, Peru, Uruguay, Canada, United Kingdom, Spain and other countries (6-7). The Euro-Peristat network was established in 1999 as part of the European Union Health Surveillance Program, and is currently formed by 29 countries (8). The national committees are the top level in

the production of information on mortality where the main goals and policies to be achieved at the national, state and municipal levels are formulated ^{(9-13).} The regional committees are focused on the areas of greater vulnerability in the country, with specific characteristics and needs ^{(14-15).} The state and local committees are responsible for producing information through surveillance, investigation and analysis of infant and fetal deaths ⁽¹⁶⁻³⁹⁾. In Chart 1, the selected studies are grouped by scope, author, title and objective. A summary of the activities developed by the committees according to their level of responsibility is also included.

At all levels, the activities of the committees have a multidisciplinary team composed of nurses, pathologists, epidemiologists, obstetricians, gynecologists and health educators. They have an inter-institutional nature, with representatives of public and private institutions at the primary, secondary and tertiary level.

DISCUSSION

At the international level, the activities of FIGO (6-7) and Euro-Peristat (8) committees are focused on the production of statistical data on infant and fetal mortality, allowing a

Author	Title	Goal	Activities		
International					
Lalonde, Grellier, 2012 ⁽⁶⁾	FIGO Saving Mothers and Newborns Initiative 2006- 2011	To report the activities of the FIGO Committee for 2006-2011.	Produce statistical data on fetal and infant mortality; Analyze fetal and infant mortality rates; Analyze differences between countries; Create national perinatal mortality committees; Monitor perinatal mortality reports; Conduct guidance programs focused on the needs of each country.		
Dunn, 2007 ⁽⁷⁾	History of the FIGO Standing Committee on Perinatal Mortality and Morbidity 1979-1991	To report the activities of the FIGO committee in the years from 1979 to 1991.			
Mohangoo et al., 2011 ⁽⁸⁾	Gestational Age Patterns of Fetal and Neonatal Mortality in Europe: Results from the Euro-Peristat Project	To analyze the relationship between gestational age and differences in fetal and neonatal mortality among countries in order to assess which part of the inter-country variation is due to variations in the birth and death record and which part is due to real differences in health and quality of service.			
		National			
Sun et al., 2015 ⁽⁹⁾	Child health in China in the Millennium Development Goal Era	To report China's experience in achieving the Millennium Development Goal targets for reducing child mortality.	Integrate biological, psychological, social, cultural, economic and environmental aspects; Mitigate gaps between urban and rural areas; Acting on social determinants; Monitoring before, during and after birth; Make recommendations on the importance of vital records and statistics; Produce statistical data on infant and fetal mortality; Analyze infant and fetal mortality rates; Elucidate factors that influence infant and fetal mortality.		
American College of Obstetri- cians and Gynecolo- gists, 2015 ⁽¹⁰⁾	The Importance of Vital Records and Statistics for the Obstetrician- Gynecologist	To describe the process through which births, maternal deaths, and fetal deaths are recorded; the challenges faced by a decentralized communication system and the important role of gynecologists-obstetricians in improving the accuracy, reliability and timeliness of vital records.			
Lu, Johnson, 2014 (11)	Toward a National Strategy on Infant Mortality	To report the objectives and activities of the advisory committee related to infant mortality.			
Ponce et al., 2012 (12)	Mortalidad child en el Hospital Ginecoobstétrico Professor of Guanabacoa	To determine the behavior of the infant mortality rate in the Ginabobobetétrico Teaching Hospital of Guanabacoa from January 1st, 1998 to December 31, 2010.			
Itabashi et al., 2009 (13)	Mortality Rates for Extremely Low Birth Weight Infants Born in Japan in 2005	To investigate the neonatal mortality rate during ICU hospitalization of extremely low birth weight infants born in Japan 2005.			

Chart 1 – Characterization of the studies regarding scope, author/year, title, objective of the study and activities developed by the committees (continue)

Author	Title	Goal	Activities		
Regional					
Issah et al., 2011 ⁽¹⁴⁾	Maternal and neonatal survival and mortality in the Upper West Region of Ghana	Describe factors associated to health facilities affecting maternal/newborn health and the results of maternal death reports and audits in the Upper West Ghana Region.	Collect data on birth and death certificates and autopsy reports; Produce statistical data on infant and fetal mortality; Elucidate factors that influence infant and fetal mortality; Analyze the sequence of events that led to the death outcome; Classify deaths according to their preventability; Propose strategies to be implemented as preventive measures; Provide tools to improve the delivery of services by health institutions Make recommendations to health institutions; Conduct health education programs; Carry out prevention campaigns.		
Strulov, 2005 ⁽¹⁵⁾	The Western Galilee Experience: Reducing Infant Mortality in the Arab Population	Report the activities developed by the committee appointed by the Ministry of Health to reduce infant mortality.			
		State			
Wilson, Sideras, 2015 ⁽¹⁶⁾	Regional Infant and Child Mortality Review Committee- 2013 final report	To report the status of infant mortality in the state of South Dakota in 2013.	Establish a network of surveillance of infant and fetal deaths; Investigate the occurrence of infant and fetal deaths; Analyze the sequence of events that led to the outcome of death; Integrate biological, psychological, social, cultural, economic and environmental aspects; Make recommendations to health institutions; Propose strategies of intervention through educational and informative measures for prevention, promotion and reorganization of the health services; Mobilize partnerships.		
Wilson, Sideras, 2013 ⁽¹⁷⁾	Regional Infant and Child Mortality Review Committee-2012 final report.	Report the status of infant mortality in the state of South Dakota in 2012.			
Randall Wilson, 2011 ⁽¹⁸⁾	Regional Infant and Child Mortality Review Committee 2010 Final Report	To report the status of infant mortality in the state of South Dakota in 2010.			
Venancio, Paiva, 2010 ⁽¹⁹⁾	The process of implementation of the committees for the investigation of child deaths in the State of São Paulo	To assess the implementation of the Committees for Investigation of Infant Death (CIOI) in the State of São Paulo (SP).			
Randall, Wilson, 2010 ⁽²⁰⁾	Regional Infant and Child Mortality Review Committee – 2009 final report.	To report the status of infant mortality in the state of South Dakota in 2009.			
Randall, Wilson, 2009 ⁽²¹⁾	The 2008 annual report of the Regional Infant and Child Mortality Review Committee	To report the status of infant mortality in the state of South Dakota in 2008.			

Chart 1 – Characterization of the studies regarding scope, author/year, title, objective of the study and activities developed by the committees (continue)

Author	Title	Goal	Activities
Yao et al. 2009 ⁽²²⁾	System for the Investigation of Perinatal and Neonatal Deaths through Committees on Perinatal and Infant Mortality in the City of São Paulo	To disclose the flow of the investigation of infant deaths by the Committees on Perinatal and Infant Mortality (CMPI) in the city of São Paulo and submit the results of 2006.	Establish a network of surveillance of infant and fetal deaths; Investigate the occurrence of infant and fetal deaths; Analyze the sequence of events that led to the outcome of death; Integrate biological, psychological, social, cultural, economic and environmental aspects; Make recommendations to health institutions; Propose strategies of intervention through educational and informative measures for prevention, promotion and reorganization of the health services; Mobilize partnerships.
Fortuna et al. 2009 ⁽²³⁾	Neonatal Deaths: a work experience of the Regional Committee for Infant and Fetal Death Surveillance (CRVOIF) in the Regional Health Department of Campinas (DRS-VII), in 2005	To report the work experience of the Regional Committee for Infant and Fetal Death Surveillance (CRVOIF) in Campinas, in 2005.	
Orlandi, 2008 ⁽²⁴⁾	Committees for the Prevention of Maternal and Infant Mortality in Paraná: strategy of success in the surveillance of the health of women and children	To report the activities of the committees for the prevention of maternal and infant mortality in Paraná.	
Randall, Wilson, 2008 ⁽²⁵⁾	The 2007 annual report of the Regional Infant and Child Mortality Review Committee	To report the status of infant mortality in the state of South Dakota in 2007.	
Randall, Wilson, 2007 ⁽²⁶⁾	The 2006 annual report of the Regional Infant and Child Mortality Review Committee	To report the status of infant mortality in the state of South Dakota in 2006.	
Brenneman et al. 2006 ⁽²⁷⁾	Forty Years in Partnership: The American Academy of Pediatrics and the Indian Health Service	Provide the main aspects of this collaboration that formally began in 1965.	
Andrade et al. 2006 ⁽²⁸⁾	Living conditions and infant mortality in the State of Paraná, Brazil, 1997/2001	To check whether the living conditions and infrastructure of the cities of Paraná are related to the infant mortality rate and its components.	
Randall, Wilson, 2006 ⁽²⁹⁾	The 2005 Annual Report of the Regional Infant and Child Mortality Review Committee	To report the status of infant mortality in the state of South Dakota in 2005.	
		Municipal	
Santos et al. 2014 ⁽³⁰⁾	Agreement on basic causes of infant death between original records and after Research: analysis of two biennial periods in the years 2000	To check whether there is agreement between the basic cause of death reported in the Death Certificate (DO) and the cause detected after investigation by the Municipal Committee for the Prevention of Maternal and Infant Mortality (CMPMMI), in Londrina, Paraná, during the 2000/2001 and 2007/ 2008 biennials.	

Chart 1 – Characterization of the studies regarding scope, author/year, title, objective of the study and activities developed by the committees (continue)

Author	Title	Goal	Activities
Careti et al. 2014 ⁽³¹⁾	Profile of infant mortality based on the investigation of deaths	To analyze the profile of infant mortality in Ribeirão Preto-SP, between 2009 and 2011, based on data from the Committee on Maternal and Infant Mortality.	Feed the databases to statistics; Establish a surveillance network for infant and fetal death; Raise professionals' awareness on the importance of the proper completion of the Death Certificate; Investigate the occurrence of infant and fetal death; Conduct a home interview; Discuss the cases of death with a multidisciplinary team; Analyze the sequence of events leading to the outcome of death; Classify the deaths according to their preventability; Determine the real cause of death; Correct the basic cause of death; Make a situational diagnosis; Make recommendations to health institutions; Discuss with professionals involved in care; Propose strategies of intervention through educational and informative measures for the prevention, promotion and reorganization of health services.
Fernandes et al. 2013 ⁽³²⁾	Infant mortality and classification of preventability of deaths: research involving cities comprised by the 15th regional health unit, in Paraná	To assess the profile of infant mortality and the preventability of deaths of children under the age of 1 year in cities of the 15th Regional Health Unit.	
Jodaset al., 2013 ⁽³³⁾	Analysis of preventable deaths of children under the age of 5 years in the city of Maringá-PR	To analyze the deaths of children under the age of 5 caused by preventable diseases in 2008 in the city of Maringá, PR.	
Ferrari, Bertolozzi, 2012 ⁽³⁴⁾	Maternal age and characteristics of newborns in deaths during the neonatal period (2000-2009)	To identify the relationship between maternal age and the characteristics of newborns who died in the neonatal period in the city of Londrina, Paraná.	
Santana et al. 2011 ⁽³⁵⁾	Aspects of infant mortality, according to information from the death investigation	To analyze some characteristics of infant mortality of residents in the area comprised by the 15th Regional Health Unit of Paraná, from 2005 to 2008.	
Mathias et al. 2009 ⁽³⁶⁾	Extension activities in the committee Prevention of infant mortality and health statistics	To describe the activities developed under the University Extension Project, and in particular, highlight the joint work of the participants in the Regional Committee for the Prevention of Child Mortality of the 15th Regional Health Unit of the State of Paraná (CRPMI).	
Nabhan, Oliveira, 2009 ⁽³⁷⁾	Infant deaths, maternal and care characteristics in a city in the northwestern region of Paraná, Brazil, 1999 to 2006	To characterize infant deaths, according to variables related to children, mothers and care.	
Mathias et al. 2008 ⁽³⁸⁾	Infant deaths investigated by the Committee for the Prevention of Infant Mortality in a region of the state of Paraná	To analyze children's deaths in the 15th Regional Health Unit of Paraná using the results of the investigations of the Committee for the Prevention of Infant Mortality.	
Eaglestaff et al. 2006 ⁽³⁹⁾	Infant Mortality Reviews in the Aberdeen Area of the Indian Health Service: Strategies and Outcomes	To determine the cause and type of death of children in the Aberdeen Area of the Indigenous Health Service from 1998 to 2002 and identify risk markers for infant mortality.	

Chart 1 – Characterization of the studies regarding scope, author/year, title, objective of the study and activities developed by the committees (conclusion)

Source: Research data, 2016.

thorough analysis of changes in mortality rates between the countries. They are responsible for the establishment of national committees and monitor their perinatal event reports. Based on statistical data and the reports, the international committees prepare projects targeted to the particularities of each country, addressing the clinical training of the professionals and the development of treatment protocols, as well as the implementation of clinical audits and legislative and policy changes. Regional differences in the notification of vital events can reveal the underestimation of fees, precisely in areas of lower socioeconomic level and difficult access to health care. On the other hand, increased coverage of information systems affects the evolution of infant mortality estimates and may lead to underreporting (40). In Brazil, the vital signs are consistent with the recommendations of international bodies, being suitable for the construction of development indicators and to the assessment of health policies (40).

At the national level, the committees of Cuba (12) and Japan (13) are concerned with the investigation of infant mortality rates, and attempt to elucidate the influence of biological, psychological, social, cultural, economic and environmental factors on these rates. In China (9), the committee also seeks to mitigate the gaps between rural and urban areas to reduce infant mortality. In the United States (10-11), the national committee seeks to optimize care during pregnancy and childbirth, focusing primary prevention, and makes recommendations to the gynecology and obstetrics service on the relevance of statistics and the quality of vital records.

Considering the context of the death means reflecting on the reduction of inequalities and social injustices, including, in the actions proposed by the committee, the biological, socioeconomic services, recognized as determinants of infant and fetal mortality (41). In Brazil, a study showed that increase in mortality is related to lower human development index, lower per capita income and insufficient health facilities. Thus, increase in mortality correlates with the worst socioeconomic and health investment indicators, suggesting a direct relationship of social determination and the influence of the context in which the deaths occurred (42-43).

The actions of the regional committees are focused on the specific circumstances of a particular geographic region, such as in Ghana (14) and Israel (15). The committee of the western region of Ghana (14) provides tools to improve the work process in health services, and also documents the deaths and analyzes the related factors in each case. In the region of Galilee in Israel (15), the committee introduced an online real-time computer system for monitoring and

analyzing information. It also implemented a program for health prevention and education, aimed to reduce mortality by seasonal infections.

Due to the significant differences in the profiles of the regional populations, and considering the maternal circumstances of infant death, it is necessary to understand the distribution of social risk factors, the regional variation of these factors and the profile of perinatal morbidity and mortality closely related to the quality of care. Thus, mortality monitoring makes it possible to assess health care quality (44-45). A study conducted in Brazil (46) revealed the importance of regional analysis for the organization of services and the establishment of care networks targeted to mothers and newborns. The study also demonstrated the importance of mapping the current health care status and its evolution, to assist the managers (46).

The actions of state and municipal (local) committees are focused on the monitoring and analysis of preventability of infant and fetal deaths, with direct participation in the process of surveillance, investigation and analysis of deaths and the living conditions and health status of families, by issuing reports on the number of deaths and making recommendations for the community.

There are similarities and specificities regarding the activities carried out by the different committees. At the international level, the committees monitor statistical data and develop targets to be met by countries. The main responsibility of the national committees is to support the state committees. These, in turn, support the municipal committees. The municipal level is a central axis, as it is the basis of the collection, production and analysis of the data that feeds the information systems of the other levels.

At all levels, the committees are composed of multidisciplinary teams that contribute to the development strategies to prevent new deaths (4).

CONCLUSION

Some studies showed that the activities developed by all the committees are complementary, and involve collection, production, analysis and dissemination of information. Regardless of its level, the committees ultimately aim to reduce infant mortality.

The present study contributes to the systematization of knowledge of the activities developed by the committees, allowing the sharing of experiences, which is in accordance with the targets set by the SDG. Furthermore, it provides a reflection on the organizational strategies and actions for the prevention of infant and fetal mortality and

qualification of care. However, this integrative review failed to obtain a high level of evidence, which is one limitation. Thus, given the technical, scientific and social relevance of the referred committees for the prevention of infant mortality, further studies on this topic are needed.

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