**Discussion and conclusions**

Despite the widespread use of end- user communication devices as an educational tool in schools, no guidelines for educated use have been found at the national level.As to guidelines for Wi-Fi use in schools, there were centers that examined the health risk of the use, in the radiation aspect and even took measures and their conclusion was that according to the available information and the measurements, the exposure to RF fields from Wi-Fi equipment are extremely low, there is no evidence of risk and therefore there are no guidelines .No policies were reported regarding other health implications. In addition, no ministerial collaboration have been found for dealing with health aspects of digital technology besides consultation regarding the use of Wi-Fi. There are centers that noted that the Ministry of Education in accordance with the position of the Ministry of Health, according to which there is no risk in using Wi-Fi in schools and that present levels of WiFi exposure do not pose harm to students in schools.

A comparison with the Israeli agenda on the use of digital technology in school show a different situation. In Israel, health implications are discussed at various levels and are taken into consideration when determining policy of technology integration and use of end-use devices in schools. This policy follows the adoption of the precautionary principle and is determined through collaboration between various government ministries (education, health, environmental protection, science and more). Moreover, on 2015 an inter-ministerial committee was nominated by the ministry of education to evaluate the existing policy regarding radiation and safety in the schools and to update the guidelines if necessary. This collaboration aims to provide balanced solutions for integrating technology within the school setting, taking into account the health aspect and applying the precautionary principle. For example, in respect of Wi-Fi use in schools, the CEO's circular of the ministry of education noted various ways for reducing and minimizing exposure to radiation (such as limiting the number of hours and days that wireless network can be used according to the age of the student, installing a point for wired access in the teacher's standpoint, and prioritizing teaching through computer applications that do not require wireless networking) (19). On 2016 a Ministry of Education General Director Statement took effect regulating the use of end user devices such as laptop and desktop computers, tablets etc. by teachers and students for instructional, educational and assessment processes. As part of the guidelines for integrating end user devices, the directive set guidelines concerning the duration for which end user devices should be used for instructional and educational purposes, and the types of end user devices that are approved for use. Regarding the type of end user devices, the directive states that educational activities will be performed on computers or tablets and at this stage, the use of other end user devices, such as smartphones, etc., is not approved for educational activities until the ministry completes its evaluation of the subject. This was based on the fact that the precautionary principle cannot be applied when it comes to a significant radiation source that is close to the body.

Along with the technology integration in learning Israel, there is also public debate on the use of the wireless network (Wi-Fi) in schools. In August 2012, the leaders of the national parents' association and other groups, appealed to the High Court of Justice against the Minister of Education and others, to instruct the Ministry of Education not to install or operate wireless internet networks in schools. The court has ruled that it did not find any cause to intervene in the Ministry of Education's Policy on the use of Wi-Fi in schools; according to the Court, such policy is a clear matter of professional expertise and it could not determine if the policy, upon which the CEO Circular is based, is unreasonable in such a way that would justify its intervention.

It should be mentioned that, although the survey findings did not contain national-level guidelines or concerns regarding potential health risks, international organizations addressed the need to consider the health aspect when digital technology is used by children.

A UNESCO (2013) Recommendation report for Policymakers regarding mobile Learning notes that there are concerns about potential health risks related to mobile technology use, including eye strain caused by the use of small screens and exposure to electromagnetic radiation. They recommended to "Stay abreast of research surrounding potential health risks associated with mobile technologies" (16). The European Commission in 2019 determined that one of the challenges of implementing personal devices for school learning is weighing the risks involved, including health risks (20). The OECD report of 2019 stated that In order to develop healthy attitudes towards children and technology, as well as comprehensive and well-informed guidelines, there is a need for more high-quality research in this field (21). WHO Guidelines about excessive screen use and gaming considerations during COVID19 noted that excessive screen time or gaming is associated with the health risks like- replacing healthy behaviours and habits such as physical activity and sleep, harmful habits such as reduced sleep or day-night reversal, malnutrition, headaches, neck pain, etc.

**Drawing up policy under conditions of uncertainty**

Translating scientific facts into policy is a very complex process especially under conditions of uncertainty which characterize the field of health and environment (22,23). Although the use of scientific information is a key factor in most policy models, numerous barriers can influence the use of scientific evidence to inform policy making; research that is not relevant or packed appropriately, knowledge gaps, uncertainty and lack of sources of support and incentives for scientists ( 23,24,25). The uncertainty of the health effects of non-ionizing radiation, as well as the health effects of the use of digital technology by children makes it difficult for centres to translate this risk into practical guidelines. This difficulty is intensified by the rapid pace of technological development and its increasing presence in everyday life, including at school. במיוחד נוכח יתרונות השימוש בטכנולוגיה ככלי לימודי בבית הספר והנגישות למכשירים השונים There are different strategies dealing with uncertain risk (26). Some believe that no action should be taken until more solid and definite data on health effects will accumulate. An alternative strategy is through the immediate application of the precautionary principle. An international review published in 2011 on the use of cell phones in the general population (27) revealed that most countries have adopted the precautionary principle as a guideline by using recommendations and instructions, regulations and legislation. For example- guidelines calling for reducing the exposure to radiation emitted from cell phones, while preference for technology that does not emit radiation and removal of radiation sources from the body and especially

From the head ( using a speaker, headphones and text messages). In any case, from the survey data we conducted, it does not appear that there is an extension to this reference to the introduction of the use of technological means in schools.

Our findings showed that בכל הקשור להטמעת תכניות תקשוב בבתי ספר במרבית המדינות countries have explored the possible health risk posed by the school Wi-Fi network in the radiation aspect but as for the use of the end -user devices, there were limited reference (( התייחסותto health implications. This can be explained by different risk perception of using the Wi-Fi network in schools than that of use of end-users devices, leading to differences in policy makers' attitudes about the health aspect in both cases. Studies examining risk perception for non-ionizing radiation sources have found that there are differences depending on the radiation source (28,29). Personal radiation sources such as cell phones and microwave appliances were perceived as less dangerous than environmental sources for communal use, such as power lines and antennas. A study that was conducted in Israel and reviewed appeals to courts found that there was public opposition to placing and operating base stations, as opposed to almost lack of legal proceedings in respect to personal devices such as cell phones (30). In respect to public risk, the element of control and choice affects the perception of the risk :In cases of forced exposure, such as base stations and power lines, the risk is perceived to be higher, unlike in cases of personal exposure, such as cell phones, where the risk perception is low (31). A low risk perception is also associated with the benefits and convenience of use of the device. It has been found that people who use their cell phones frequently perceive it as less hazardous than those who use it less (32). This behaviour can also be explained by the Affect Heuristic. When people see the benefits of technology and have a pleasant feeling about it, they will evaluate the risk as lower than when they have a negative or less positive feeling about the technology.

Difference in risk perception can explain parental responses as well. As shown in the survey, parental resistance to the use of end-user devices was low, compared to known existence of base stations or power lines near educational institutions, as well as with regard to the Wi-Fi network that sometimes raises concerns among parents (in Israel, even a petition to the High Court has been filed (33)). In order to promote the health aspect in the process of establishing policy under conditions of uncertainty and in view of the public's and policy makers' risk perceptions, explaining and presenting the complete and up-to-date information are needed. In various studies, it has been proposed to make scientific knowledge accessible to the decision-making process and to mediate it to various audiences - decision makers and the general public (23, 34, 35). In addition, since there are different levels of research certainty regarding the health effects of digital technology use by children and a need to formulate policy on the subject, further research in the field is needed.

**Inter-ministerial cooperation in decision making of health promotion**

Health and environmental issues are essentially inter-ministerial issues involving the responsible (סמכויות) of some government ministries. The fact that a number of regulators control the same field (regulatory decentralization) and the lack of teamwork between government ministries may lead to suppression of health considerations in the policy-making process (36). Such exclusion of health considerations in decision-making in government ministries on health and the environment, as observed in the current survey, may be partially caused by the fact that health issues are promoted in a system other than the health system, due to economic considerations and the absence of inter-ministerial mechanisms requiring inclusion of the health sector in decision-making (37).

Policy making in the field of Introduction of advanced technologies into the educational system for educational needs, requires a balance between the benefits of using advanced technologies and protection of student health while collaborating with the relevant government ministries. Pleae insert the word multidisplinary One way of promoting health issues in establishing public policy through collaboration is the "Health in all policies" approach. This approach takes into account health issues across sectors, systematically, and seeks to collaborate and prevent adverse health effects in order to improve the public health and health equity. There are different models for health inclusion in any policy such as inter-sectoral collaboration to promote specific health issues, inter-ministerial committees, inter-sectoral working groups, and a joint budget (38). An example of a health issue that "fell between the cracks" in Israel is the use of tanning beds. Although exposure to UV radiation is a certain risk, only in recent years many centres have begun to impose restrictions on the use of various tanning facilities, especially for young people under 18. The very fact that this field is under the authority of a number of government ministries (the Ministry of Economy, the Ministry of the Environment), and that economic and commercial interests are involved, led to the fact that it took a while to move from risk to determining policy and legislation in this field. In 2011 Israel initiated a national plan for improving health and quality of life in an inter-ministerial effort to address the obesity problem (Israel National Program for Active and Healthy Living "Efsharibari"). This program has many "health in all policies" characteristics. The program includes joint planning, implementation and funding between the ministries - the Ministry of Health and the Ministry of Education. It should be noted that within the program, one of the issues raised for promoting health habits is reducing screen time. This is a possible example of considering health implications from the use of end user devices by children in a national program as part of an overall health policy.

The current survey has a number of limitations. Participating countries were not selected randomly, only developed countries were selected, and it is not clear how representative these countries are. In addition, the answers were provided by government ministries, but the policy as it emerges from the survey, is set at the local level, therefore it is necessary to expand the survey also to the local level in order to get a more תמונת מצב מדויקת Nevertheless, the survey illustrates the problem of establishing health policy in the field of implementation of technology with which safety is unclear. The use of technology by children and adolescents had expanded to all aspects of life and spread to the education environment. During the COVID-19 pandemic, schools were closed, and the use of digital technology - for both leisure and online learning - increased significantly, and was even forced due to the closure requires. All this raises and emphasizes the need and importance of **establishing a policy balanced between** **technology with its benefits and protection of student's health.**