



## SCIENTIFIC ARTICLES

# Sexual education in school context: the efficiency of a training intervention

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### KEYWORDS

Weight status;  
Body image;  
Mother's perception;  
Overweight children

### Abstract

**Background:** Teenagers are a priority intervention group in sexual education.

**Objectives:** To promote a model of training intervention based on the debate and critical reflection about sexuality in the context of the classroom, to test its efficiency and characterize teenagers in the sexual context.

**Methods:** It is a field experimental study with a non probabilistic sample of 56 teenagers (28 in the control and experimental group, respectively) with an average of 15 years of age ( $sd = 1.191$ ). The evaluation protocol is the questionnaire which allows characterizing social demographic and sexual. It includes the scale of attitudes concerning sexuality,<sup>1</sup> attitudes concerning the birth control pill and condom,<sup>2</sup> scale of knowledge about family planning,<sup>3</sup> scale of knowledge about sexual transmitted infections<sup>4</sup> and scale of motivation to have or not to have sex.<sup>5</sup>

**Results:** Teenagers are an older experimental group, mostly of the male gender and live in a town. They have a dating relationship 39.3% mostly lasting between six months and one year, 35.7% has had sexual intercourse, 21.4% has sexual intercourse in their current dating relationship, 44.4% uses the birth control pill and 55.6% the condom, 67.9% has done emergency contraception and 92.9% considers to be important the use of condom. The training intervention was effective in the attitudes concerning the condom ( $p = 0.045$ ).

**Conclusion:** Educating to a conscious sexual life is the responsibility of everyone. The reflexive methodologies must be privileged, allowing the integration of knowledge and the change of attitudes, where the students' part is of maximum importance, being up to them, under supervision of the trainer, to post their doubts and collaborate in the pursuit of answers.

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## Introduction

Nowadays, there are few teenagers with proper information in the context of sexuality and reproduction, which makes them more vulnerable to sexual abuse and exploitation, unwanted pregnancy and sexual transmitted infections. The Global Report of ONUSIDA 2008 concerning the AIDS Epidemics, points out that only 40% of young people from 15 to 24 years old has accurate knowledge about HIV and its transmission.<sup>6</sup> These data, reveal teenagers to be a group of priority intervention in sexual life, not only of preventive and universal feature (school, family and life context), but also aiming the subgroups identified as priority.

It is understood that sexual education allows the development of attitudes and competences in young people, so that they feel informed and safe relating their choices.<sup>7-11</sup> This should integrate in a harmonious manner the several features of the human sexuality, promoting the acquisition of a responsible, flexible and fulfilling posture. According to this, it must be thought as an enabling instrument, used by individuals in order to acquire competences to know how to take care and improve their sexual health, enabling the acquisition of means that enhance the individual and social empowerment.<sup>6,12-15</sup>

Educating to a responsible sexuality is the responsibility of everyone. The main players in teenagers' sexual education at the construction level of a value system, attitudes and behaviours in the context of sexuality are family, friends, health professionals, media and school.<sup>16</sup>

A school that promotes health allows the development of behaviours oriented to the promotion of health and well-being.<sup>17</sup> Therefore, the school context is a privileged environment to the dynamization of interventions that promote the sexual and reproductive health. Portuguese schools, since 2012, include in a non disciplinary curricular area the education for sexuality, with proper curricular orientations to the different levels of teaching. This must be understood as an area of global training of the individual, integrated in a interdisciplinary logic, taking into maximum consideration the class space, appealing to autonomy, responsabilization and participation of the student, starting on the representations of their problems, their doubts, their speeches and personal paths, in a specific and distinguished interaction with the family, school and community. The training interventions, in school context, should allow the harmonious integration of the sexual dimension of the individual, through a culture of respect and responsibility in the field of sexuality.<sup>18</sup> It is through the active participation of teenagers, that they feel that sexual education is in fact of their concern.

The implemented projects, concerning sexual education in school context, are in need of evaluation through indicators that bring about a scientific base to evaluate the interventions. So far, only medical indicators have been used, such as the number of teenage pregnancies or the prevalence index of HIV, it would be important to also include social indicators, such as the well-being of young people.<sup>10</sup> These indicators may help to persuade politicians to create favourable conditions to an effective sexual education to teenagers.

Having into consideration the few research concerning the monitoring of field programs, particularly in the dimen-

sion of attitudes facing sexuality, we see as necessary the development of a study which allows the understanding of the needs of teenagers in this context and which tests the effectiveness of a training intervention.

## Material and methods

The approach of sexuality, in school context, should be different from the one which is developed by the family. This one is asystematic, transmitted according to family values. It is up to the school to discuss the diversity of the existing values in society and enlarge the acknowledgment.<sup>19</sup>

We have been witnessing an effort to define, clarify and analyze the procedures involved and understand how educational strategies fit in an embraced response to community health. Therefore, there must be given spaces which take into maximum consideration the open and honest discussion, because only in this way can we help to settle conflicts, clear doubts and overcome fears.<sup>20</sup> The information transmitted in the classroom must allow the discussion of the peers, where the part of the trainer is to coordinate and clear occasional doubts.

Facing this problem, training intervention in school context, still not much developed in the Portuguese context, we ask ourselves about its effectiveness in the context of teenage sexuality, in attitudes facing sexuality, birth control pill and condom, and knowledge concerning sexual transmitted infections, family planning and still on the motivation to have or not to have sex? We set up as objectives promoting a model of training intervention based on debate and critical reflection concerning sexuality in classroom context, testing its effectiveness and characterizing teenagers in their social context.

From the three criteria that the experimental drawings obey, only the random was not taken into consideration, so we define our study as field experimental. This situation is related to the fact that the school schedules don't allow the access to the sample in the normal working period of the school and social education in school context being directed to disciplinary curricular units. However, the control and experimental groups have similar characteristics as far as social demographic variables are concerned, such as age, gender, address and scholarship.

The study is composed by a non probabilistic sample of 56 teenagers studying in the 9<sup>th</sup> grade, divided in two groups: an experimental group, with 28 teenagers and a control group of equal number. The evaluation protocol consists on a questionnaire composed by questions that allow characterizing the sample as far as social demographic aspects and sexuality are concerned. Moreover, it includes the scales of attitude facing sexuality,<sup>1</sup> facing the birth control pill and condom,<sup>2</sup> scale of knowledge related to family planning,<sup>3</sup> scale of knowledge related to sexual transmitted infections<sup>4</sup> and the scale of motivation to have or not to have sex.<sup>5</sup>

Throughout the entire process of investigation, we aimed to have a strict conduct, we guaranty confidentiality, anonymity and willing participation of the teenagers after their parents or educational entrusted's consent to integrate this study. It was explained to the teenagers the intervention to be taken place, the objectives and the collaboration wan-

ted from them, appealed to honesty in its fluffiness. Previous to the training intervention and a week after, the ones who wanted to participate in the study filled in the evaluation protocol. A fill in code was given to the participants, being the same for the first and second moment (before and after the training intervention).

The training intervention was structured to ninety minutes, in three thematic areas inter-connected. We started by approaching, through an active and participative pedagogic method, the affectivity and attitudes facing the latter, dating relations and sexual intercourse while dating. The teenagers, thought about the new meaning that affectivity acquires in adolescence, leading to the discovery of the first love and passion. They seriously thought about the importance of dating as a commitment relation which implicates self knowledge and of the other, confidence, help, sharing, joy, feeling, respect, care, affectivity and responsibility. They discussed the biological and psychological implications of agreeing to have sexual intercourse without being prepared. In this subject, they discussed female and male masturbation, clearing some myths.

Previous to the beginning of the family planning subject, we did a small revision of the anatomy and physiology of the female and male reproductive system, to a better understanding of the contraceptive methods, then the contraceptive methods were spoken of, clearing with more detail the advantages and side effects of the hormonal and barrier methods. In order to do so we used the contraceptive KIT from the Association of Family Planning (AFP), which allows its visualization and handling. This KIT was considered by the teenagers as a positive aspect, because they referred to have direct contact with the contraceptive methods.

We ended the intervention by briefly referring the symptomatology associated to some sexual transmitted infections, reinforcing the need to consult a health professional in case of presenting that. As a conclusion and while moderators of the debate, we did a final wrap-up.

The data analysis was developed using SPSS 20.0 to Windows.

## Results

The statistics concerning the age reveal that in the global group of students, they present a minimum age of 13 years old and a maximum of 18 years old, which corresponds to an average age of 15 years old with a standard deviation of 1.19 years. For the control group the minimum and maximum age is of 13 and 17 years old, respectively, with a standard deviation of 1.01 and in the experimental group a minimum and maximum age of 14 and 18 respectively, with a standard deviation of 1.301 years. It is clear that the teenagers of the experimental group, are in average older ( $M = 15.29$  years) than in the control ( $M = 14.71$  years).

It is noted by analyzing Table 2, in the control group and also the experimental, a prevalence on living in a town, with percentual values of 96,4% and 92,9% respectively. As far as gender is concerned, the data indicate that, to the control group a majority of the female gender (71.4%) and for the experimental group a majority of the male gender (64.3%).

Between the gender and the group, significant differences were found ( $p = 0.007$ ).

From the results presented in Table 3, we can see that 25.0% of the participants of the control group have a dating relationship, while, this percentile value is 39.3% to the experimental group. This dating relationship, concerning its duration, finds a greater percentual in the period of time between six months and a year to the control group (57.1%) and for the experimental (36.4%), respectively.

The preference interlocutors about sexuality are friends, in the control group and the experimental one, with percentual values of 75.0% and 53.6%, respectively. Then, there is the mother (46.4% vs 39.3%), the father with the same per-

**Table 1** Age statistic of teenagers by groups

Idade	N	Min	Max	Average	S.D.	CV (%)	Sk/error	K/error	K/S
Experimental	28	13	17	14.71	1.013	6.886	1.947	0.062	0.000
Control	28	14	18	15.29	1.301	8.508	1.403	-0.791	0.001
Total	56	13	18	15	1.191	7.94	2.520	-0.329	0.000

**Table 2** Social demographic characterization as a function of the group

Variables	Control (C)		Experimental (E)		Residuals		Chi-square test	
	Nº	%	Nº	%	C	E	$\chi^2$	p value
Residence								
Village	1	3.6	2	7.1	-0.4	0.4	0.352	0.5
Town	27	96.4	26	92.9	0.1	-0.1		
Gender								
Male	8	28.6	18	64.3	-1.4	1.4	7.179	0.007
Female	20	71.4	10	35.7	1.3	-1.3		

p = level of statistic significance.

**Table 3** Characterization of sexuality as a function of the group

Variables	Control (C)		Experimental (E)		Residuals		Chi-square test	
	N°	%	N°	%	C	E	$\chi^2$	p value
Dating relationship								
No	21	75.0	17	60.7	0.5	-0.5	1.310	0.252
Yes	7	25.0	11	39.3	-0.7	0.7		
Duration of the dating relationship							3.623	0.459
< 1 month	2	28.6	1	9.1	0.8	-0.6		
≥ 1 month < 6 months	1	14.3	3	27.3	-0.4	0.4		
> 6 months < 1 year	4	57.1	4	36.4	0.5	-0.4		
≥ 1 year < 2 years	-	0.0	2	18.2	-0.9	0.7		
≥ 2 years	-	0.0	1	9.1	-0.6	0.5		
Interlocutor about sexuality								
Mother	13	46.4	11	39.3	0.3	-0.3		
Father	8	28.6	8	28.6	0.0	0.0		
Boy/Girlfriend	5	17.9	8	28.6	-0.6	0.6		
Brother/Sister	3	10.7	4	14.3	-0.3	0.3		
Health professional	3	10.7	1	3.6	0.7	-0.7		
Teacher	4	14.3	3	10.7	0.3	-0.3		
Friends	21	75.0	15	53.6	0.7	-0.7		
Existence of sexual intercourse							9.164	0.002
No	27	96.4	18	64.3	0.9	-0.9		
Yes	1	3.6	10	35.7	-1.9	1.9		
Sexual intercourse in the current dating relationship							4.082	0.043
No	27	96.4	22	78.6	0.5	-0.5		
Yes	1	3.6	6	21.4	-1.3	1.3		
Used contraception							2.000	0.157
Birth control pill	-	0.0	4	44.4	-1.0	0.6		
Condom	3	100.0	5	55.6	0.7	-0.4		
Emergency contraception							4.595	0.032
No	17	60.7	9	32.1	1.1	-1.1		
Yes	11	39.3	19	67.9	-1.0	1.0		
Importance of the use of condom							0.000	1.000
No	2	7.1	2	7.1	0.0	0.0		
Yes	26	92.9	26	92.9	0.0	0.0		

centual value (28.6%) for both groups. The boy/girlfriend is referred by 17.9% in the control group and 28.6% in the experimental group.

In the control group 96.4% of the participants never had sexual intercourse, and a lower percentage (64.3%) was found in the experimental group with statistic differences between the groups ( $p = 0.002$ ). In the current dating relationship, 3.6% of the participants of the control group and 21.4% of the experimental group refers to have sexual intercourse.

Analyzing the contraception used, all the participants of the control group uses condom. However, in the experimental group 55.6% uses condom and 44.4% uses birth control pill. In the control group, 39.3% of the participants has done emergency contraception against 67.9% from the experimental group, with statistic significance between the groups ( $p = 0.032$ ). Both the control group and the experimental, 92.9% of the participants know the importance of the condom.

Table 4 allows analyzing the results obtained for the control and experimental groups with the variables that were

the aim of the training intervention. As far as family planning is concerned the control group before the training intervention revealed a higher index of knowledge than the experimental group, with statistically significant differences. After the training intervention the trend is the same, but the differences that were found between the groups didn't allow finding significances. In another analysis and only to the experimental group it is clear that the training intervention had effects, as the average arrangements are higher after the intervention ( $OM = 22.72$  vs  $OM = 24.71$ ).

As far as attitudes facing sexuality are concerned, the global value and the cultural, psychological and affective dimensions, indicate better attitudes from the experimental group before the training intervention, but without statistic significance. However, after the training intervention, when comparing both groups, a decrease of the average index is evident, concerning the attitudes about sexuality (global value) and in the affective dimension in the experimental group, which reveals lower indexes than the control group but without significant differences. When the experimental group was compared before and after the training interven-

Groups		Before the intervention			After the intervention		
		OM	UMW	p	OM	UMW	p
Knowledges about family planning	Experimental	22.72	223.500	0.008	24.71	286.000	0.112
	Control	33.72			31.41		
Attitudes facing sexuality (global)	Experimental	28.30	369.500	0.886	26.67	333.000	0.448
	Control	27.69			29.67		
Cultural dimension	Experimental	30.96	295.000	0.159	30.93	296.000	0.163
	Control	24.93			24.96		
Social dimension	Experimental	24.75	287.000	0.124	24.36	276.000	0.084
	Control	31.37			31.78		
Psychological dimension	Experimental	28.45	365.500	0.832	28.04	377.000	0.986
	Control	27.54			27.96		
Affective dimension	Experimental	30.50	308.000	0.218	26.18	327.000	0.367
	Control	25.41			29.89		
Attitudes facing condom (global)	Experimental	26.55	337.500	0.494	32.23	259.500	0.045
	Control	29.50			23.61		
Functionality dimension	Experimental	26.13	325.500	0.374	31.57	278.000	0.090
	Control	29.94			24.30		
Culpability dimension	Experimental	27.89	375.000	0.959	30.63	304.500	0.203
	Control	28.11			25.28		
Attitudes facing birth control pill (global)	Experimental	26.63	339.500	0.516	30.50	308.000	0.236
	Control	29.43			25.41		
Functionality dimension	Experimental	24.96	293.000	0.150	28.46	365.000	0.826
	Control	31.15			27.52		
Culpability dimension	Experimental	27.64	368.000	0.865	31.57	278.000	0.087
	Control	28.37			24.30		
Knowledges about sexual transmitted infections	Experimental	30.38	311.500	0.255	30.52	307.500	0.230
	Control	25.54			25.39		
Motivation to have sex (global)	Experimental	5.85	3.500	0.727	5.33	3.000	0.218
	Control	7.50			9.00		
Hedonism	Experimental	6.00	5.000	1.000	5.44	4.000	0.327
	Control	6.00			8.50		
Interdependence	Experimental	5.70	2.000	0.545	5.06	0.500	0.036
	Control	9.00			10.25		
Motivation not to have sex (global)	Experimental	22.03	225.500	0.839	21.03	209.500	0.506
	Control	22.83			23.62		
Conservativeness	Experimental	23.56	209.500	0.557	21.87	225.500	0.775
	Control	21.56			22.98		
Fear	Experimental	22.28	230.000	0.923	20.16	193.000	0.289
	Control	22.65			24.28		

tion, it seems to exist a perseverance of values presented in both moments of evaluation which may point out that the training intervention had no effects concerning this variable.

Analyzing the results of the attitudes concerning condom and birth control pill the results indicate that the control group presents higher indexes in all dimensions of the scales than the experimental group before the training intervention. The training intervention had significant effects in the experimental group, whereas the obtained indexes are higher after the training and comparing to the ones from the control group but only with significance in the attitudes concerning condom (global value).

As far as knowledge related to sexual transmitted infections is concerned, before and after the training intervention the experimental group presents higher indexes than the control group, but without significance. We point out

that to the experimental group the results of both moments of the evaluation don't differ among themselves.

The reasons to have or not to have sex are the last variables that are a part of the analysis model of the training intervention. Therefore, as far as reasons to have sex are concerned, before the training intervention, the control group has more motivation to have sex (global value) and higher interdependence, but the differences are not significant. After the training intervention, it is still noted a greater motivation in the control group to have sex, with statistic significance for the experimental group to interdependence. Analyzing the results before and after the training intervention in the experimental group, it seems that the decrease of the obtained indexes are suggestive of a greater awareness of these teenagers to the risks of having sexual intercourse at such precocious ages.

However, as far as the reasons not to have sex are concerned, the conservativeness is more evident before the training intervention in the experimental group while the fear and global motivation in the control group. The average indexes after the training intervention decrease in the experimental group when compared to the control group, and the conservativeness is now of higher relevance in the control group. In both moments of the evaluation the differences between the groups are not significant.

## Discussion

As far as gender is concerned, we find in the control group a prevalence of the female gender (71.4%) and in the experimental group a prevalence of the male gender (64.3%). In both groups there is a prevalence of living in a town. The results of the investigation indicate that the expectations are different for men and women regarding their sexual behavior<sup>21</sup> and the knowledges and attitudes of teenagers, in the area of sexuality differ depending on their social cultural area.<sup>22</sup> It is noted that teenagers from the experimental group are, in average, older ( $M = 15.29$  years old) than the control ( $M = 14.71$  years old).

In the control group, 25% of the participants have a dating relationship; this value is 39.3% to the experimental group. The dating relationship lasts mostly between six months and one year in both groups, with percentual values of 57.1% and 36.4% respectively. Normally, young people start connecting with the opposite sex in average adolescence, around 14-15 years old. One of the most representative aspects of the affective relationship - sexual in adolescence is dating. The boys initiate their interest for girls and vice-versa, it is the so called stage of romance and idealization.<sup>23</sup> Dating, apart from being the most common affective relationship, is in such context that generally occurs in the beginning of the sex life.<sup>21</sup>

When approaching the opposite sex, sometimes, the first sexual experiences occur. In a society with a growing transformation of values and cultural patterns, we live with the reality of a more precocious sexual initiation among teenagers.<sup>24</sup> Studies developed in the context of sexual behaviours, considered young people as a priority group of intervention due to the ever more precocious beginning of sexual activity, duration of the relationships, existence of occasional partners and the inconsistent use of contraceptive methods and the condom.<sup>25</sup> A study developed by Anastácio,<sup>26</sup> concludes that 16.7% of teenagers are sexually active at the end of basic scholarship. In the control group 96.4% of the teenagers never had sexual intercourse and 64.3% in the experimental group didn't either. However, at their current dating relationship, 3.6% of the teenagers of the control group and 21.4% from the experimental group refers to having sexual intercourse. The totality of the teenagers, who have sexual intercourse, in the control group uses condom. In the experimental group, 55.6% uses condom and 44.4% the birth control pill. The majority knows of the importance of the use of condom. In the control group 39.3% of the participants have had emergency contraception against 67.9% in the experimental group.

Friends are the preference interlocutors when it comes to sexuality, both in the control and experimental groups, fo-

llowing the mother and the father. The boy/girlfriend is referred by 17.9% and 28.6% in the control and experimental group respectively. These results, similar to (4.27) reinforce the importance of the group of peers in this stage of life by the proximity when it comes to age, interests and doubts which favours the mutual identification and enables the approach of the sexual questions among them, but on the other hand, reveals the vulnerability of the informations, contributing, many times, to the maintenance of wrong beliefs, myths and dispersion of not much reliable information in the group of friends.<sup>27</sup>

Living a healthy sexuality assumes the development of personal and interpersonal competences. Therefore, sexual education should allow the development of these competences, enabling the adoption of favourable attitudes favouring sexual and reproductive life.

Through inferential analysis it was noted that the training intervention had effects in the knowledge about family planning, as the average arrangements are higher after the intervention ( $OM = 22.72$  vs  $OM = 24.71$ ), however without statistic significance. Identical results were obtained by Nelas.<sup>28</sup> In the training intervention, the use of the contraceptive KIT from the Association of Family Planning (AFP), allowed the visualization and handling of the contraceptive methods. It is noted that this KIT was considered by the teenagers as a positive aspect, because it made possible the direct contact with the contraceptive methods, training the placement and removal of the condom, in the pedagogic model. Before the training the measures of preserving the condom were reinforced. An experimental field study, developed by Nelas<sup>28</sup> about the impact of a training intervention on the knowledge about family planning, it was noted that it was effective ( $p = 0.000$ ).

Through the analysis of the attitudes facing condom and birth control pill the results indicate that the training intervention had significant effects, for the obtained indexes are higher after the training, but only with significance in the attitudes facing condom (global value). The results can also be explained by the use of contraceptive KIT because it allows a participative methodology.

The attitudes, in spite of being able to be considered as good predictors of a manifest behaviour, weren't always so. These are influenced by the significant people, by the ones who daily spend time with the individual and experiences lived. In this way, the attitudes are not static; they are formed throughout life, resulting from learned experiences and behaviours in the relations with others. The attitudes about sexuality may be understood as a hardware which guides the behaviours in this field, as to different attitudes should be in the base of different patterns of sexual behavior, particularly when it comes to the adoption of risk behaviours.<sup>27</sup> When comparing the experimental group before and after the training intervention it seems to exist a prevalence of values presented in both moments of evaluation, which may point out that the training intervention had no effects concerning the attitudes regarding sexuality. We consider that to promote more favourable attitudes, more hours of training are needed using dynamic situations, where the part of the students is of most importance, being up to them, while supervised by the trainer, to post their doubts and collaborate in the pursuit of answers. Only through their active participation,

can they consider that sexual education is really of their concern.

As far as the knowledge of sexual transmitted infections is concerned the results of both moments of evaluation don't differ among themselves. We think that this subject should be more detailed through an interdisciplinary and multiprofessional intervention. In the current social and legal context in which the sexual education of teenagers é framed, it is also up the health technicians a main role in this area, whether it is on the working places, or in the collaboration with the school.<sup>16</sup>

On their daily routine, teenagers experience an intricate group of contexts that motivates the discovery of themselves and others. In this path, they come across a new way of expressing their sexuality. The motivations to have or not to have sex vary with the reasons. Hedonism and health and relation interdependence are seen as reasons to having sex, while fear, conservativeness/lack of interest and morality, as reasons not to having sex, according to Leal.<sup>5</sup>

Several studies<sup>29-31</sup> say that there are differences between both genders concerning sexual motivation. Boys value more the personal reasons, while girls value more the reasons related to the relation interdependence.<sup>32</sup> When we talk about motivation to have sex and analyzing the results before and after the training intervention, it seems that the decrease of the obtained indexes, are suggestive of a greater awareness of these teenagers to the risks associated to precocious sexual intercourse. Regarding the reasons not to have sex, in both moments of evaluation the differences between the two groups are not significant.

Educating to an affective, active and conscious sex life is the responsibility of everyone. The methodologies and reflexive must be privileged, allowing the integration of the knowledge and change of attitudes, where the role of the students is of maximum importance, being up to them, under the supervision of the trainer, to place their doubts and collaborate on the pursuit of answers.

## Conflict of interests

The authors declare that there are no conflicts of interests.

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