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A case study on use of modified delphi technique for developing consensus on designing contents of a module for imparting sex education to adolescents in schools, in India

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ABSTRACT

In the year 2007, eleven (11) of India's 29 states suspended the federal initiative, 'Adolescence Education Program', under the name of School AIDS awareness education program (SAEP) designed for 15- to 17-year-olds in all state-run schools and devised by the Ministry of Human Resource Development (HRD) and National AIDS Control Organization (NACO) on grounds that the flip charts used for training teachers contained explicit images of male and female reproductive systems, conception, and contraception. The aim of the present study is to understand usefulness of Delphi technique as a tool to develop contents and make consensus over a suitable module that can be utilized for imparting Sex Education to the Adolescents in school. The study present below used Delphi technique in transaction of the module recommended by National Council of Education Research and Training (NCERT) for imparting Sex education under SAEP. Although the technique was successful in building consensus amongst different stake holders, within the limitations of Delphi like potential drop outs, loss to follow up and lack of clear verbal labels. It is concluded from the results of present study that Delphi technique, when rigorously administered, analyzed and reported, is a valuable method to help policy planners in developing the process for a suitable module that can be utilized for imparting sex education to adolescents in school.

Key words: Delphi, Adolescent, School AIDS awareness

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Introduction

The term "Adolescence" is derived from the Latin word "Adolescence", this literally means "Grow to maturity". WHO defines "adolescents" as individuals in the 10 to 19 year age group and "youth" as 15 to 24 year age group.¹ Government of India considers youth as age group between 13 to 35 years wherein age group from 13 to 19 years is regarded as a special group of adolescents.² In general terms, it is considered as a time of transition from childhood to adulthood, during which young people experience changes following puberty, but do not immediately assume the roles, privileges and responsibilities of adulthood.³ The nature of adolescence varies tremendously by age, sex, marital status, class, region and cultural context. As a group,

however, adolescents have sexual and reproductive health needs that differ from those of adults in important ways and which remain poorly understood or served in much of the world.³ Adolescents are increasingly spending more time in school, experiencing puberty at younger ages, marrying and having children later than in the past.³ In India, major programs for adolescents are under a broad heading of Family Life Education and or School AIDS Education Program (SAEP) implemented at school level with a focus on helping young people to plan productive lives. The course materials developed by NCERT discuss population growth and others topics such as personal health and nutrition, reproductive physiology, sexuality, and contraception.⁴ The modules and the methodology

used in schools are the ones recommended by NCERT. There was resistance reported from various quarters within the country about the contents of module, especially some of its graphics, as a result of this, whole scheme has been suspended temporarily in Gujarat with an idea to reintroduce this program by redesigning the modules and now incorporating the other aspects of health as well. Similar types of decisions have been taken by other state governments as well like Karnataka, Madhya Pradesh and Rajasthan. This controversy has given a setback to the whole program. This study utilized Modified Delphi technique amongst various stake holders to develop a consensus about topics that can be covered for imparting Sex Education to adolescents in school.

The Delphi method is a structured communication technique, originally developed as a systematic, interactive forecasting method which relies on a panel of experts.⁵ In the standard version, the experts answer questionnaires in two or more rounds. After each round, a facilitator provides an anonymous summary of the experts' forecasts from the previous round as well as the reasons they provided for their judgments. Thus, experts are encouraged to revise their earlier answers in light of the replies of other members of their panel. It is believed that during this process the range of the answers will decrease and the group will converge towards the "correct" answer. Finally, the process is stopped after a pre-defined stop criterion (e.g. number of rounds, achievement of consensus, stability of results) and the mean or median and hence scores of the final rounds determine the results.⁶ Other versions, such as the Policy Delphi, have been designed for normative and explorative use, particularly in the area of social policy and public health.⁷

Van Zoligen & Klaassen classify the Delphi technique into: the Classical Delphi - to establish facts; the Policy Delphi -to generate ideas; the Decision Delphi -to make decisions; and the Group Delphi -for group discussion.⁹ Very few or no studies are reported in the literature on the use of Delphi technique in developing consensus on a suitable module for dealing with a sensitive issue of imparting sex education to the adolescents. It has been used in other areas of healthcare such as identifying priorities in clinical guideline development mental health and in advocating tobacco control.¹⁰

Based on extensive review of literature, the five core criteria used in application of Delphi techniques were identified.

They are : a) *panel composition* ; b) *participant motivation* (response rate, written consent, clarity of

questions, reminders; c) *problem exploration*; d) *consensus definition* e.g. as percentage of agreement /medians ; and e) *format of feedback* e.g. individual responses, measures of tendency and spread of responses. Other criteria include - *number of rounds*, *anonymity* to encouraging open expression of opinions and sufficient *resources* which include time and administrative services.^{11,12}

Methodology:

The Delphi process, which was carried out over a period of three months, consisted of a pilot round, two written rounds and final round of data triangulation and feed back to all stakeholder.

Based on operational feasibility, a purposive sample of 30 participants were used for applying into the first stage of modified Delphi which included 10 teachers of higher secondary schools , 5 Principals of higher secondary school , 5 Trustees of higher secondary schools and 10 parents (5 mothers & 5 fathers) of the students who were in Adolescent group. The sample size and sample selection was to ensure that the process is controlled and only those teachers / parents who had consented and agreed with the process were included. In fact the primary pre requirement for conducting a healthful Delphi is willingness of participants .⁸ After explaining the process a written consent was obtained from all the participants. They were provided with a sample copy of the module published by NCERT and was utilized under SAEP. ⁵ The modules were provided in the language of their choice from vernacular Hindi and English.

A pre tested draft questionnaire based on the responses from the external experts (n=3) and school teachers (n=2) was used to record the replies from the participants during the process. The questionnaires used a 9-point Likert-scale, in which verbal labels were used only for the extreme categories. The replies to the statements on 9-point Likert scale were grouped into three sub-categories for analysis (1 to 3 - completely disagree, 4 to 6- neither agree/nor disagree and 7 to 9 - completely agree) and consensus was defined as 75 % or more of replies falling either in the completely agree or completely disagree sub-category. The written comments (qualitative data) provided by the respondents were individually analyzed. The questionnaire for the 2nd round was based on the results and comments received in the 1st round. Questions which had reached consensus in the 1st round were excluded from the 2nd round. Unclear and confusing questions were either rephrased or new questions were formulated based on the comments received from participants.

During the first stage, all participants were requested to submit their opinion about the module in 2 weeks of time. A follow up phone call was made after one week of time to ensure the compliance in completing the task. After two weeks of time the participants were again met in person to receive their feedback. Responses hence gathered were analyzed under common headings. Relisting of the responses which were essential for final transaction of module but on which consensus of more than 75% could not be build was done. This of topics where consensus could not be build was re-circulated as second stage Delphi process. To ensure that the participants had a common starting point for next round, they were met again and were provided with feedback and summaries along with percentages of agreement within for each statement for the first round. The feedback of the written Delphi rounds given to the participants ensured that all the views were explicitly presented and common interpretations of the variables and responses were established. These procedures are often adopted to prevent unnecessary disagreement among participants.¹⁴ One week time frame was again allotted to the participants for second stage Delphi. Similar process of contacting by telephonically after 3 days was done to ensure response compliance within timeline. Responses were collected and were analyzed again to generate consensus. The entire process of Delphi and the final consensus statement was shared with the participants.

Results and Discussion

The major strength of the modified Delphi used in the present study was its ability to ascertain expert opinions and potential policy options, including new alternative ones from different stake holders. Anonymity in the written rounds provided an opportunity to express opinions openly without the pressure by others. This most probably ensured honest? Replies making the results more reliable as stated by Goodman¹¹ and Couper.¹² The use of 75 % cut off, which is in line with McKenna et al.¹³ and Kilroy & Driscoll et al.¹⁴, proved to clearly differentiate the consensus and non-consensus results. A 9-point Likert scale was utilized to measure the quantum of responses and its interpretation.

The topics on which more than 75% consensus could be made during the first round are narrated here below:

1. AIDS awareness Programs are required to be taught in schools.
2. Teachers / Schools are one of the ways to reach to the adolescents.
3. Learning on topics like HIV /AIDS are need of the day

4. Illustrations / Photographs used in the module are appropriate academically, but to avoid controversies better graphical representation would have been appropriate.
5. There is an urgent need to address the issues related to People living with HIV/AIDS
6. Sensitive topics as pregnancy should not be included in module to be used for adolescents.
7. There is the need of updating present module⁵ in terms of content and appropriateness with reference to sensitive issues such as contraceptives and condom.
8. Before introducing any module based learning in school especially with adolescent age group, course content should be shared with different stake holders such as parents, teachers and others.
9. Module should also contain information about Hypertension and Diabetes.

To generate a common consensus on the content of module, for topics enlisted by less than 75% percent of the participants were resend for the second round Delphi. The topics are enlisted below:

1. Present module⁵ by NCERT needs to be redesigned as topics on menstruation and menstrual hygiene are poorly covered and not described appropriately.
2. Present module⁵ lacks insight on traditional Indian values and culture, hence needs to be reframed.
3. For successful implementation of programs for adolescents based on sensitive issues like HIV, menstruation and contraceptives, different stake holders like Parents and teachers should be actively utilized.
4. Usefulness of SAEP with help of present module⁵ is not at all needed as it may lead to destructions of the entire social system.
5. Module can be made more handy, precise and colorful
6. Topics like condom and its use should be erased out as it may lead to adolescents more labile for risky behavior.
7. Module should include topics on healthy nutrition and healthy habits.
8. Module should include topics on how to cope up with stress of examination in particular
9. Module should deal with contraceptives as youth are prone for promiscuous behavior
10. Male & Female students should be taught the module separately
11. Political commitment for using such module is a must.
12. Supportive intervention from Families of Adolescents is a must.

13. Module should attempt to improve people's knowledge and skill, how to avoid risky situation, make positive choices and infuse positive attitudes.
14. More stress should be given on inter personal relationship
15. Module must try to develop supportive relationship with trusted caregivers like parents, community members and teachers.
16. Must include topics on gender issues & sex ratio
17. Must also include topics on livelihood linkages and educational opportunities
18. Must guide in carrier planning and carrier molding,
19. Module must help out in policy planning for social, health and Educational department.

Common topics after the second stage Delphi where consensus could be made:

1. Present module⁵ by NCERT needs to be redesigned as topics on menstruation and menstrual hygiene are poorly covered and not described appropriately.
2. Use of different stake holders is needed for success of any program related to adolescents and should be done.
3. Module should include topics on nutrition and health habits.
4. Module should include topics on how to cope with stress of examination in particular.
5. Political commitment for using such module is a must
6. Module should attempt to improve people knowledge and skill on how to avoid risky situation, make positive choices and have positive attitudes.
7. Module must try to develop supportive relationship with trusted caregivers like parents, community members and teachers.

Conclusions

From the results and observations of present study, Delphi technique can be a very helpful tool for the policy development process and it can be a versatile tool, which creatively collects expert opinions and suggestions in a new topic. Although the central criteria to be met for successful Delphi process include representative stake holder composition, high motivation level of the participants and effective but being so flexible administration and conclusion from Delphi process are very useful for policy planers and program managers. In this study six participants were lost to follow up during the process at different stages which reflects one of the limitations in the Delphi process. Successful Delphi requires highly motivated and willing participants. Due to very limited availability of literature on use of Delphi to derive consensus on content of module, 9 point Likert's scale was used to

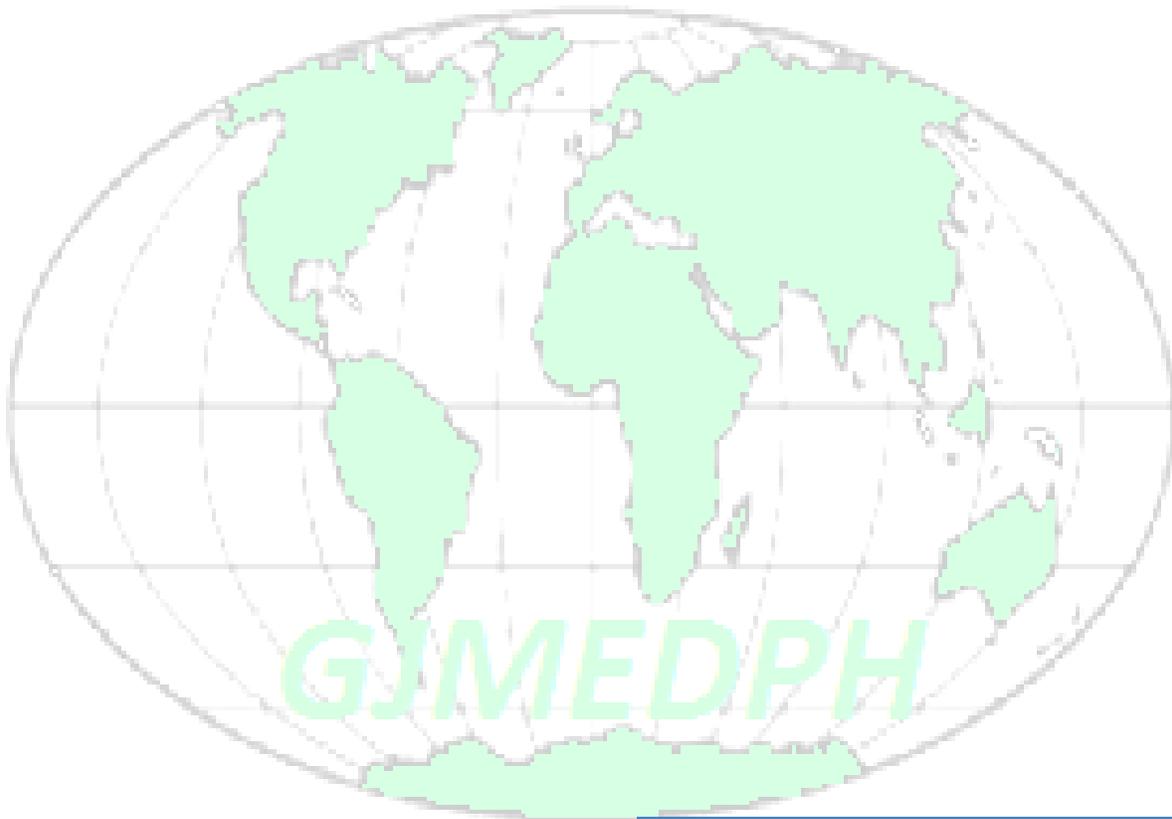
collect responses, it might sometimes, probably led to different interpretation of the categories. However, a more narrow scale with clear verbal labels might have been more informative. Based on the assessment of present study Delphi technique, it can be concluded that when rigorously administered, analyzed and reported, is a valuable method to develop recommendations for developing a module, even though discrepancies in its application existed. It can also be considered for making consensus in others for similar issues.

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